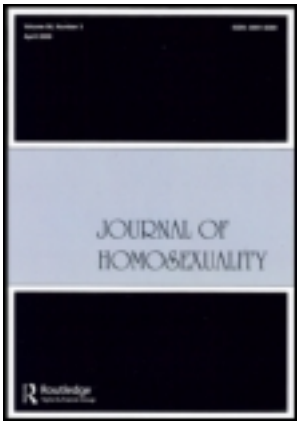

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Attempted Suicide Among Transgender Persons

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Attempted Suicide Among Transgender Persons: The Influence of Gender-Based Discrimination and Victimization

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ABSTRACT. To determine the independent predictors of attempted suicide among transgender persons we interviewed 392 male-to-female (MTF) and 123 female-to-male (FTM) individuals. Participants were recruited through targeted sampling, respondent-driven sampling, and

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agency referrals in San Francisco. The prevalence of attempted suicide was 32% (95% CI = 28% to 36%). In multivariate logistic regression analysis younger age (<25 years), depression, a history of substance abuse treatment, a history of forced sex, gender-based discrimination, and gender-based victimization were independently associated with attempted suicide. Suicide prevention interventions for transgender persons are urgently needed, particularly for young people. Medical, mental health, and social service providers should address depression, substance abuse, and forced sex in an attempt to reduce suicidal behaviors among transgender persons. In addition, increasing societal acceptance of the transgender community and decreasing gender-based prejudice may help prevent suicide in this highly stigmatized population. doi:10.1300/J082v51n03_04

KEYWORDS. Transgender, transsexual, suicide, discrimination, victimization, stigmatization, independent risk factors

BACKGROUND

Population-based studies have demonstrated that lesbian, gay, and bisexual (LGB) individuals are more likely to attempt suicide than their heterosexual counterparts (Cochran & Mays, 2000; Faulkner & Cranston 1998; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Remafedi, French, Story, Resnick, & Blum, 1998). The prevalence of attempted suicide among LGB populations ranges from 23% to 42% for youth (D'Augelli, Hershberger, & Pilkington, 1998; D'Augelli, Hershberger, & Pilkington, 2001; Faulkner & Cranston, 1998; Garofalo et al., 1999; McBee-Strayer & Rogers, 2002; Remafedi et al., 1998; Remafedi, 2002; Safren & Heimberg, 1999; Waldo, Hesson-McInnis, & D'Augelli, 1998) and 12% to 19% for adults (Cochran & Mays, 2000; Paul et al., 2002). Such results highlight the need to identify risk factors among sexual minority populations that may be amenable to intervention.

The best predictors of attempted suicide in the general population (personal and parental substance abuse, physical and sexual abuse, depression, and other affective disorders) are also strong risk factors for attempted suicide in LGB populations (Garofalo et al., 1999; Herrell et al., 1999; McBee-Strayer & Rogers, 2002; Paul et al., 2002; Remafedi,

Farrow, & Deisher, 1991; Safren & Heimberg, 1999). However, these risk factors do not sufficiently account for the disproportionate rates of suicidal behaviors among LGB persons (Herrell et al., 1999; McDaniel, Purcell, & D'Augelli, 2001). Because LGB individuals encounter a greater degree of discrimination and victimization compared with heterosexuals (D'Augelli, 1992; Herek, Gillis, & Cogan, 1999; Mays & Cochran, 2001), several investigators have hypothesized that pervasive societal prejudice underlies the elevated rates of LGB suicidal behaviors (Hershberger & D'Augelli, 1995; Kulkin, Chauvin, & Percle, 2000; McDaniel et al., 2001; Meyer, 1995; Paul et al., 2002; Waldo et al., 1998).

Research has shown that discrimination and victimization are related to several measures of psychological distress such as anxiety and depression (Diaz, Ayala, Bein, Henne, & Marin, 2001; Herek Gillis, Cogan, & Glunt, 1997; Herek et al., 1999; Hershberger & D'Augelli, 1995; Mays & Cochran, 2001; Waldo et al., 1998) that in turn, may increase one's risk of attempting suicide. In addition, two studies demonstrated that the relationship between discrimination and victimization and psychological symptoms, including suicidal behaviors, is mediated by self-esteem (Waldo et al., 1998; Diaz et al., 2001). However, only one study has shown that the combined effect of discrimination and violence (prejudice events) is directly related to suicidal ideation and/or behavior (Meyer, 1995).

Studies investigating suicidal behaviors and predictors of suicide among transgender persons are needed (McDaniel et al., 2001). To date, only one study using a small Internet sample of transgender persons recruited from Canada (n = 61) and the United States (n = 12) has been published (Mathy, 2002). This study found that transgender individuals were more likely to attempt suicide than heterosexual females and males, psychosocially matched females and males, and homosexual males. Mathy (2002) hypothesized that the higher prevalence of suicidal behaviors among transgender persons may be due to societal oppression. However, multivariate analyses were not conducted to determine the underlying factors associated with suicidal behaviors and little was known about the characteristics of the transgender respondents such as their race or ethnicity (Mathy, 2002).

To address these limitations, we assessed the independent predictors of attempted suicide among 392 male-to-female (MTF) and 123 female-to-male (FTM) transgender persons. Given the pervasive discrimination and victimization that transgender persons experience (Lombardi, Wilchins, Priesing, & Malouf, 2001), we investigated whether these factors

were independently associated with attempted suicide after controlling for known risk factors such as substance abuse, physical and mental abuse, and depression, as well as hypothetical mediators of suicide risk such as self-esteem.

METHODS

Subjects and Recruitment

We used targeted sampling (Watters & Biernacki, 1989), respondent-driven sampling (Heckathorn, 1997), and agency referrals to recruit transgender persons over a six-month period in San Francisco in 1997. The sample selection and study procedures are described in detail elsewhere (Clements-Nolle et al., 2001). Recruited or referred persons who were interested in participating called a 1-800 number and were screened for eligibility. Individuals were eligible for the study if they (1) were 18 years of age or older, (2) lived, worked, or socialized in San Francisco, (3) spoke English, Spanish, Vietnamese, Tagalog, or American Sign Language, and (4) self-identified as transgender.

Transgender is an umbrella term used to describe individuals who do not conform to the societal gender norms associated with their physical sex. To be inclusive of transgender identities, we interviewed individuals who stated that their *primary* gender was transgender, the opposite gender from that observed at birth, transsexual, bigender, transvestite, cross-dresser, or intersexed. However, as previously reported, most participants self-identified as transgender (37%), the opposite gender from that observed at birth (34%) or transsexual (24%).

We screened 645 individuals, of whom, 586 (91%) were eligible. Of the eligibles, 523 (89%) completed the interview. Eight intersexed individuals (born with ambiguous or both male and female genitalia) were excluded from this analysis because they could not be classified as MTF or FTM, resulting in a final sample of 515 (392 MTF and 123 FTM). The most common (non-mutually exclusive) ways that participants were recruited for the study were respondent driven-sampling (39%), outreach by study staff (38%), flyer recruitment (14%), and referrals from agencies (10%). MTFs were more likely to report respondent driven-sampling recruitment (42% vs. 32%; $p = .04$) and FTMs were more likely to be recruited by interviewers (58% vs. 32%; $p < .001$). There were no other differences in demographics by recruitment type.

Trained research associates conducted all interviews at one of eight community-based organizations. Written informed consent was obtained before each interview and a counseling/referral session followed. Participants were compensated $40.00 for the interview and $5 per eligible subject (up to five) referred to the study through respondent driven sampling. All study protocols and materials received approval from the Committee on Human Research at the University of California, San Francisco.

Measures

Participant characteristics. Previous research investigating attempted suicide among LGB individuals informed our choice of measures (McDaniel et al., 2001). We gathered data on age, race/ethnicity, sexual orientation, education, recent employment (past 6 months), history of incarceration, and knowledge of HIV status. Because research consistently shows higher prevalence of attempted suicide among white populations compared to non-white populations (Garrison, McKeown, Valois, & Vincent, 1993; Moscicki et al., 1988), and LGB youth (those less than 25 years) compared to adults (Cochran & Mays, 2000; Paul et al., 2002), we dichotomized race/ethnicity to white versus non-white and age to <25 years versus >25 years. We assessed participants' history of attempted suicide by asking, "Have you ever tried to kill yourself or commit suicide?"

Mental health and substance abuse. We used the 20-item Center for Epidemiology Studies Depression scale (CES-D) to screen for depression (Radloff, 1977); a scale with high sensitivity and specificity for major depression among primary care patients (Mulrow et al., 1995). We used the standard cut-off (>16) to classify depression (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). We used the Rosenberg Self-Esteem Inventory (RSEI), a 10-item measure using a 4-point Likert scale, to measure self-esteem (Rosenberg, 1965, 1979). Items were coded 1-4 and were summed; higher scores represented higher self-esteem. The reliability and validity of the RSEI is well documented (Demo, 1985; Goldsmith, 1986). We also asked participants whether they had ever received treatment for alcohol or other drug use.

Discrimination and victimization. Discrimination and victimization were measured separately as has been done in research with gay males (Dean, Wu, & Martin, 1992). Gender discrimination was measured by asking clients if they ever (1) were fired from a job, (2) experienced problems getting a job, (3) were denied or evicted from housing, and

(4) experienced problems getting health or medical services due to their gender identity or presentation. For each type of discrimination, a description of the last discrimination event was given and these open-ended responses were reviewed to ensure that gender discrimination was accurately captured. Each discrimination item was significantly associated with attempted suicide, but highly correlated with other discrimination items. Therefore, participants who reported one or more types of discrimination were coded as having experienced gender discrimination.

Verbal gender victimization was measured by asking participants whether they had ever been verbally abused or harassed because of their gender identity or presentation. Physical gender victimization was measured by asking participants whether they had ever been physically abused or beaten because of their gender identity or presentation. We also asked participants whether they had ever been physically forced to have sex or raped. The victimization items were not highly correlated.

Data Analysis

Associations between attempted suicide and categorical characteristics were examined using chi-square analyses; the median test was used for self-esteem. To identify factors independently associated with attempted suicide, we conducted multivariate logistic regression using simultaneous entry with covariates that were significantly associated ($p < .05$) with attempted suicide in the bivariate analyses. Interactions between societal factors (discrimination and victimization) and individual risk factors (depression, self-esteem, and substance abuse) were assessed for model inclusion; none was significant (all p-values were > .10). Initially, analyses were conducted separately for MTF and FTM individuals. However, the bivariate and multivariate results for MTFs and FTMs were so similar that we combined the samples in the final analysis.

Unadjusted correlation analyses indicated possible collinearity between self-esteem and depression ($r = .44$). However, tolerance testing did not detect serious collinearity when both measures were left in the multivariate model (Menard, 1995). Collinearity among the other predictor variables was not detected. Deviance and Pearson residuals from the logistic model were calculated and plotted; over 99% of the deviance and over 95% of the Pearson residuals were between -2 and 2, indicating good model fit (Hosmer & Lemeshow, 1989; Menard, 1995). All analyses were conducted using SAS (SAS Institute, Cary, NC version 6.0) and all reported p-values are two-sided.

RESULTS

Sample Characteristics

As shown in Table 1, the sample was culturally diverse with only 37% self-identifying as white. Sixty-one percent identified as heterosexual, 24% as bisexual, and 14% as lesbian or gay. Thirteen percent of participants were less than 25 years of age, about half were unemployed in the past six months, 23% had less than a high school level of education, and over half had been incarcerated. Low self-esteem was common among participants (median score on the Rosenberg Self-Esteem Inventory = 32). Sixty percent of participants were classified as depressed (CES-D > 16), 28% had been in alcohol or drug treatment, 59% had been physically forced to have sex or raped, 62% experienced gender discrimination, 83% experienced verbal gender victimization, and 36% reported physical gender victimization. The prevalence of attempted suicide was 32% (95% CI = 28%-36%); suicide prevalence was identical for MTF and FTM participants (Table 1).

Factors Associated with Attempted Suicide

In bivariate analyses we found that a history of attempted suicide was significantly higher among transgender individuals who were white (38% vs. 29%; $p = .04$), less than 25 years of age (47% vs. 30%; $p = .006$), recently unemployed (37% vs. 28%; $p = .03$), and had been incarcerated (38% vs. 25%; $p = .002$). Attempted suicide was also significantly associated with depression (CES-D > 16 = 40% vs. 20%; $p < .001$), a low self-esteem score (mean RSEI = 30 vs. 33; $p < .001$), and a history of alcohol or drug treatment (50% vs. 25%; $p < .001$), forced sex or rape (41% vs. 19%; $p < .001$), gender discrimination (42% vs. 16%; $p < .001$), verbal gender victimization (34% vs. 21%; $p = .02$), and physical gender victimization (49% vs. 23%; $p < .001$). There were no significant differences between suicide attempters and non-attempters with regard to sexual orientation or education (Table 2).

Because MTFs were more likely than FTMs to be infected with HIV (35% vs. 2%) (Clements-Nolle et al., 2001), we only assessed the relationship between knowledge of being HIV-positive and attempted suicide for MTFs. The prevalence of attempted suicide did not differ based on knowledge of being HIV-positive (30% vs. 34%; $p = .44$) (results not shown).

TABLE 1. Characteristics of 515 Transgender Participants, San Francisco 1997 (N = 515)

	Median (Range)	N	(%)
Gender			
Male-to-female		392	(76)
Female-to-male		123	(24)
Race/Ethnicity			
African American		116	(23)
Asian/Pacific Islander		58	(11)
Latino/a		120	(23)
Native American		24	(5)
Other		5	(1)
White		188	(37)
Age			
<25 years		66	(13)
≥25years		449	(87)
Sexual Orientation			
Heterosexual		314	(61)
Bisexual		122	(24)
Lesbian/Gay		73	(14)
Unemployed (past 6 months)			
Yes		265	(51)
No		250	(49)
Education			
<High School		118	(23)
≥High School		396	(77)
Incarceration (ever)			
Yes		291	(57)
No		223	(43)
Depression Score [a]			
CES-D ≥ 16		310	(60)
CES-D < 16		198	(38)
RSEI Self-Esteem Score[b]	32 (16-40)		
Alcohol or Drug Treatment (ever)			
Yes		146	(28)
No		369	(72)

TABLE 1 (continued)

Median (Range)	N	(%)
Forced Sex or Rape (ever)		
Yes	303	(59)
No	209	(41)
Gender Discrimination (ever)		
Yes	319	(62)
No	196	(38)
Verbal Gender Victimization (ever)		
Yes	429	(83)
No	80	(16)
Physical Gender Victimization (ever)		
Yes	184	(36)
No	327	(63)
Attempted Suicide (ever)		
Yes	165	(32)
No	350	(68)

Note. Columns do not always add to 100% due to missing data: Race/Ethnicity (4); Sexual Orientation (6); Depression Score (7); Forced Sex or Rape (3); Verbal Gender Victimization (6).
[a]CES-D = The 20-item Center for Epidemiology Studies Depression scale.
[b]RSEI = The 10-item Rosenberg Self Esteem Inventory; range = 10-40.

In the multivariate analysis (Table 2), younger age (<25 years) [adjusted Odds Ratio (AOR) = 2.17; 95% CI (1.17,4.01)], depression [AOR = 1.96; 95% CI (1.17,3.26)], a history of alcohol or drug treatment [AOR = 2.36; 95% CI (1.46,3.81)], forced sex or rape [AOR = 1.73; 95% CI (1.07,2.80)], gender discrimination [AOR = 2.39; 95% CI (1.45,3.94)], and physical gender victimization [AOR = 1.77; 95% CI (1.12,2.80)] were independently associated with attempted suicide.

DISCUSSION

Attempted suicide is a complex behavior with multiple, co-occurring risk factors (Moscicki, 1995). Identifying primary risk factors for diverse populations is the first step in developing appropriate suicide prevention strategies. Although previous research has assessed the independent risk factors for attempted suicide among LGB populations, ours is the first study to do so with MTF and FTM transgender persons. Our re-

TABLE 2. Factors Independently Associated with Attempted Suicide Among Transgender Participants

	Bivariate (N = 515)		Multivariate (N = 491)
	Suicide Attempt Row # (%)	No Attempt Row # (%)	AOR (95% CI)[a]
Gender			
Male-to-female	127 (32)	264 (68)	1.07 (0.59, 1.92)
Female-to-male	39 (32)	84 (68)	1.0
Race/Ethnicity			
White	71 (38)	117 (62)*	1.50 (0.92, 2.44)
Non-white	93 (29)	230 (71)	1.0
Age			
< 25 years	31 (47)	35 (53)**	**2.17 (1.17, 4.01)****
≥ 25 years	135 (30)	314 (70)	1.0
Sexual Orientation			
Heterosexual	96 (31)	217 (69)	–
Bisexual	45 (37)	77 (63)	
Lesbian/Gay	20 (27)	53 (73)	
Unemployed (past 6 months)			
Yes	97 (37)	168 (63)*	0.96 (0.59, 1.56)
No	69 (28)	181 (72)	1.0
Education			
< High School	33 (28)	85 (72)	–
≥ High School	132 (33)	264 (66)	
Incarceration (ever)			
Yes	110 (38)	181 (62)**	1.44 (0.87, 2.38)
No	56 (25)	167 (75)	1.0
Depression Score[b]			
CES-D ≥ 16	123 (40)	187 (60)†	**1.96 (1.17, 3.26)****
CES-D < 16	39 (20)	159 (80)	1.0
Self-Esteem Score[c]			
RSEI median (range)	30 (16-40)	33 (17-40)†	0.97 (0.92, 1.01)
Alcohol or Drug Treatment (ever)			
Yes	73 (50)	73 (50)†	**2.36 (1.46, 3.81)**†
No	93 (25)	276 (75)	1.0
Forced Sex or Rape (ever)			
Yes	125 (41)	178 (59)†	**1.73 (1.07, 2.80)***
No	40 (19)	169 (81)	1.0
Gender Discrimination (ever)			
Yes	135 (42)	184 (58)†	**2.39 (1.45, 3.94)†**
No	31 (16)	165 (84)	1.0

TABLE 2 (continued)

	Bivariate (N = 515)		Multivariate (N = 491)
	Suicide Attempt Row # (%)	No Attempt Row # (%)	AOR (95% CI)[a]
Verbal Gender Victimization (ever)			
Yes	147 (34)	282 (66)*	0.84 (0.44, 1.61)
No	17 (21)	63 (79)	1.0
Physical Gender Victimization (ever)			
Yes	90 (49)	94 (51)†	**1.77 (1.12, 2.80)****
No	76 (23)	251 (77)	1.0

Note. Multivariate analysis = logistic regression (24 missing values). The last category is the referent category for all variables.
[a]AOR = Adjusted Odds Ratio. CI = Confidence Interval.
[b]CES-D = The 20-item Center for Epidemiology Studies Depression scale.
[c]RSEI = The 10-item Rosenberg Self-Esteem Inventory; range = 10-40. RSEI was entered as a continuous variable in the multivariate model because it had a linear relationship with attempted suicide.
*p ≤ .05.
*p ≤.01;
†p ≤ .001.

sults confirm the importance of many of the individual risk factors identified in the LGB suicide literature (younger age, depression, substance abuse, and a history of forced sex). However, we also found that societal risk factors such as gender-based discrimination and victimization are independently associated with attempted suicide.

The fact that nearly half of the youth in our sample had attempted suicide is particularly troubling and supports similar findings from LGB research (Cochran & Mays, 2000; Hershberger, Pilkington, & D'Augelli, 1997; Paul et al., 2002; Remafedi et al., 1991; Savin-Williams, 2001). Previous studies have shown that gender nonconformity, interpersonal conflict regarding sexual orientation, recent disclosure of sexual identity, and lack of support from family members are important risk factors that may partially explain the elevated rates of attempted suicide among LGB youth compared to adults (D'Augelli et al., 1998, 2001; Hershberger & D'Augelli, 1995; Paul et al., 2002; Proctor & Groze, 1994; Remafedi et al., 1991; Remafedi, 1994; Savin-Williams, 1994; Waldo et al., 1998). It is likely that these risk factors are also common among transgender youth that struggle with *both* sexual and gender identity. Mental health professionals and agencies serving LGBT youth should make a special effort to provide counseling, suicide assessment, and re-

ferrals for gender questioning youth. In addition, peer-based outreach interventions may be particularly useful for reaching this highly stigmatized and hidden population of young people.

As with LGB populations, we found that attempted suicide was significantly more prevalent among individuals who reported symptoms of depression, substance abuse, and a history of forced sex (Garofalo et al., 1999; Herrell et al., 1999; McBee-Strayer & Rogers, 2002; Paul et al., 2002; Remafedi et al., 1991; Safren & Heimberg, 1999). In addition, bivariate analyses in a previous study with transgender persons found that suicide attempters were more likely than non-attempters to report psychiatric medication use, psychotherapy, and difficulties with both alcohol and drugs (Mathy, 2002). Because many transgender persons enter the medical system in pursuit of hormones (Clements-Nolle et al., 2001; White & Townsend, 1998) health care providers have the opportunity to screen for known suicide risk factors and provide appropriate referrals for counseling and treatment (Rihmer, 1996).

Although many investigators have hypothesized that societal factors such as discrimination and victimization are partially responsible for the elevated prevalence of attempted suicide among LGBT populations, most studies have not shown this relationship directly (Hershberger & D'Augelli, 1995; McBee-Strayer & Rogers, 2002; Paul et al., 2002; Remafedi et al., 1991; Waldo et al., 1998). However, our findings support Meyer (1995) and demonstrate strong independent effects for both gender discrimination and physical victimization after controlling for known confounders. In addition, the relationship between discrimination, victimization, and attempted suicide in our study was not mediated by self-esteem or other measures of psychological distress as has been shown in previous research (Diaz et al., 2001; Waldo et al., 1998). It may be that societal prejudice is a stronger risk factor for suicide among transgender persons than LGB individuals. According to Herek (1992a) transgender populations experience more intense discrimination and victimization than LGB populations because they challenge cultural norms related to both sexuality and gender.

Transgender persons are socially stigmatized, regardless of their sexual identity, which may explain why there was not a relationship between suicidal behaviors and transgender sexual orientation in our study or previous research (Mathy, 2002). The high prevalence of gender-based prejudice experienced by MTF and FTM transgender persons in our study and its' association with attempted suicide suggest an immediate need for strategies to increase societal acceptance of transgender populations. Such efforts should include the addition of gender identity to all legisla-

tion that protects sexual minority populations from discrimination and hate crimes as such legislation appears to have had an impact on the suicide rates of adolescent white males (Jesdale & Zierler, 2002).

Our results should be interpreted in the context of limitations in methodology. Use of a cross-sectional study design does not allow us to establish temporality and we cannot make conclusions about causality. We are also unable to determine whether reported events such as attempted suicide happened before or after participants started their gender transition. Our use of non-probability sampling techniques also limits the generalizeability of our findings. However, traditional random sampling techniques would likely be ineffective given the hidden nature of this population. The measurement of our outcome variable, attempted suicide is also problematic. Although we specifically asked participants whether they had ever tried to kill themselves rather than only asking about "suicide attempts," we did not ask follow-up questions about the severity of the attempt, such as whether the attempt resulted in injury or the need for medical treatment (Meehan, Lamb, Saltzman, & O'Carroll, 1992; O'Carroll et al., 1996; Savin-Williams, 2001). Finally, although a strength of our study is the separate measurement of gender-based discrimination, verbal victimization, and physical victimization, we did not use some of the measures that have been developed for LGB populations (Dean et al., 1992; Herek, 1992b; Von Schulthess, 1992). Future studies with LGB and transgender populations should continue to explore the possible direct and indirect relationships between different forms of societal prejudice and suicidal behaviors using standardized measures.

Despite the aforementioned limitations, this study identifies important individual and societal risk factors for attempted suicide among transgender persons that should be addressed through future prevention efforts. There is a particular need to reach gender questioning youth with culturally appropriate suicide prevention interventions including peer-based outreach, counseling, and referrals. Medical, mental health, and social service providers who work with transgender individuals should be prepared to address issues related to depression, substance abuse, and a history of forced sex in an effort to prevent future suicidal behaviors. In addition, decreasing gender-based prejudice through community awareness campaigns as well as discrimination and hate crime legislation may help prevent suicide in this highly stigmatized population.

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