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Childhood Gender Nonconformity and Harassment as Predictors of Suicidality among Gay,
Lesbian, Bisexual, and Heterosexual Austrians

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RUNNING HEAD: Childhood Gender Nonconformity and Harassment

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ABSTRACT

The role of childhood gender role nonconformity (CGNC) and childhood harassment (CH) in explaining suicidality (suicide ideation, aborted suicide attempts, and suicide attempts) was examined in a sample of 142 lesbian, gay, and bisexual (LGB) adults and 148 heterosexual adults in Austria. Current and previous suicidality, CGNC, and CH were significantly greater in LGB participants compared to heterosexual participants. After controlling for CGNC, the effect of sexual orientation on CH diminished. CGNC correlated significantly with current suicidality in the LGB but not in the heterosexual group, and only non-significant correlations were found for CGNC with previous suicidality. Controlling for CH and CGNC diminished the effect of sexual orientation on current suicidality. Bayesian multivariate analysis indicated that current suicidality, but not previous suicidality, depended directly on CGNC. CH and CGNC are likely implicated in the elevated levels of current suicidality among adult LGB participants. As for previous suicidality, the negative impact of CGNC on suicidality might be overshadowed by stress issues affecting sexual minorities around coming out. The association of CGNC with current suicidality suggests an enduring effect of CGNC on the mental health and suicide risk of LGB individuals.

KEY WORDS: child abuse; gender role nonconformity; homosexuality; sexual orientation; suicide

INTRODUCTION

Many studies report higher rates of suicide attempts among lesbian, gay, and bisexual (LGB) individuals compared to their heterosexual counterparts (Bagley & Tremblay, 2000; de Graaf, Sandfort, & ten Have, 2006; McDaniel, Purcell, & D'Augelli, 2001; Meyer, 2003). An elevated risk for suicide was also reported by a Danish study: individuals in registered same-sex partnerships had about 3-times greater risk for having committed suicide than those in opposite-sex marriages (Qin, Agerbo, & Mortensen, 2003). Reasons for this vulnerability remain to be identified, but various negative life experiences culminating in “minority stress” have been suggested by Meyer (2003). Such problems may have begun in childhood, especially if LGB individuals were gender nonconforming (Harry, 1983a). The potential predisposing role of childhood gender nonconformity (CGNC) on suicidality will be examined in this article.

Childhood Gender Nonconformity and Sexual Orientation

Lesbian, gay, and bisexual individuals were more gender nonconforming in childhood than their heterosexual counterparts as reported in a meta-analysis of 48 retrospective studies (Bailey & Zucker, 1995). This might be explained by invoking the concept of biased recall of childhood experiences (i.e., the feeling of being different) through the stereotypic belief that being homosexual implies being gender atypical (e.g., Gottschalk, 2003; Ross, 1980). This critique, however, lacks empirical support (Zucker, 2005), and the validity of retrospective self reports is supported by findings from prospective studies: boys with gender identity disorder have grown up to be homosexual or bisexual at rates far exceeding those in the general population (Bailey & Zucker, 1995). Furthermore, in the Bailey, Dunne, and Martin (2000) twin study, some individuals did not know that their co-twin was gay, but these gay co-twins were judged to have been more gender nonconforming compared to judgments made by individuals who knew

(correctly) that their co-twins were heterosexual.

Negative Consequences of Childhood Gender Nonconformity in Childhood

Multiple studies have found a link between CGNC and mental health problems. Children who perceive themselves to be gender nonconforming expressed more distress and were judged by their peers to have more internalizing problems (Carver, Yunger, & Perry, 2003). Moreover, gender nonconforming children demonstrated a decline in self-esteem, as revealed by a 1-year follow up study (Yunger, Carver, & Perry, 2004). Gender atypical adolescent girls and boys were more likely to report that peer stressors mattered to them compared to gender typical adolescents (Washburn-Ormachea, Hillman, & Sawilowsky, 2004). Impaired peer relationships were also found among children referred to clinics with marked gender atypicality. For example, boys were more often voluntary loners or rejected by peers, as judged by their parents, relative to a control group (Green, 1976). Impaired peer relationships, in return, were a strong predictor of behavior problems among boys and girls referred to clinics both in Canada and The Netherlands (Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003).

For gay men, CGNC was significantly correlated with maternal, paternal, and peer rejection: .19, .26, .37, respectively (Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004). Grossmann (2002) classified German gay men according to their responses to several scales measuring CGNC. Men who recalled having been very effeminate more often reported having been teased when playing team sports and to have been loners, compared to gay men classified as very masculine. Effeminate men were also less likely to fight back in case of an attack and more likely to have reported rejecting fathers. CGNC was associated with parental physical abuse among gay men (Harry, 1989), and Corliss, Cochran, and Mays (2002) highlighted the possible role of CGNC as a causal factor in parental child abuse. In their sample, LGB

individuals reported more parental maltreatment during childhood compared to heterosexual individuals, with the odds ratios increasing from emotional to severe physical maltreatment: ORs, men = 2.1 to 3.2; ORs, women = 1.7 to 8.4.

In an observational study of teacher and peer reactions to the gender atypical behavior of preschool children, moderate gender atypicality in boys was associated with negative reinforcement while the same in girls was generally ignored. Pronounced gender atypicality in boys was met with more negative and less positive feedback from peers, and these boys more often played alone. Responses to pronounced gender atypicality in girls were less consistent (Fagot, 1977). This gender difference has been replicated in cross-sectional studies where attitudes and reactions towards nonconforming boys were found to be more negative than towards nonconforming girls (Blakemore, 2003; Carver et al., 2003; Cohen-Kettenis et al., 2003; D'Augelli, Grossman, & Starks, 2006; McCreary, 1994; Zucker, Bradley, & Sanikhani, 1997).

Childhood Gender Nonconformity as Precursor of Later Suicidality

Longitudinal studies suggest a long-term association between CGNC and mental health problems and suicidality. For men, in the Aubé and Koestner (1992) study, femininity (California Personality Inventory) at the age of 12 was associated with poorer social/personal adjustment, lower relationship satisfaction, lower leisure satisfaction, and lower parenting satisfaction at the age of 31, and with more psychological strain and negative feelings at the age of 41. Reversed associations were not reported for women, but this might be explained by the weak reliability of the femininity-scale among women (a related masculinity scale was not used). Another longitudinal study reported that early gender nonconformity attributes (i.e., aggressiveness in girls and dependence in boys) at the age of 5 were predictive of suicide ideation at age 15 (Reinherz et al., 1995). For boys, dependence was predictive of later suicide

ideation independent of other risk factors, including onset of DSM-III-R disorders by age 14. However, dependence may not constitute a valid marker for gender nonconformity.

Traumatic stress in childhood is a well-known precursor of suicidal behavior (Mehlum, 2005). If Blum and Pfetzing (1997) are correct in asserting that the childhood of proto-gay children is traumatic, partly because of negative reactions to their marked CGNC, then the association of CGNC with later suicidality might be even stronger for LGB compared to heterosexual individuals. In a sample of homosexual or bisexual adult men, childhood femininity, as measured with Part A of the Feminine Gender Identity scale (Freund, Nagler, Langevin, Zajac, & Steiner, 1974), correlated with current depression/dejection: $r = .23$ (Weinrich, Hampton, McCutchan, Grant, & the HNRC Group, 1995). Skidmore, Linsenmeier, and Bailey (2006) found that the association of CGNC with psychological distress was substantial among gay men ($r = .38$), but not as strong among lesbians ($r = .18$). Harry (1983a) reported that CGNC was associated with suicidality ($r = .41$, gamma coefficient) among men, but only weakly associated with lifetime suicidality ($r = .15$) among women in bivariate analysis. In a sample of LGB youth (D'Augelli et al., 2006), the impact of CGNC on mental health (trauma symptoms and posttraumatic stress disorder) was comparable between the sexes. Furthermore, parental discouragement of CGNC behavior was characteristic for both GB and LB suicide attempters compared to non-attempters (D'Augelli, Grossman, Slater, Vasey, Starks, & Sinclair, 2005).

Hypotheses

Given the above evidence and the lack of such studies in German-speaking regions, several hypotheses were formulated and tested empirically among Austrian adults.

1. Recalled CGNC should be more common among LGB than heterosexual participants.

2. Childhood harassment (CH) should be more common among LGB than heterosexual participants. We expected this difference to be stronger for men than for women, similar to American studies.
3. If CH is a consequence of CGNC, then differences in CH between LGB and heterosexual participants should disappear after controlling for CGNC.
4. Suicidality should be elevated in participants who are LGB (compared to heterosexuals), who recalled increased CGNC, and who reported increased CH.
5. We expected the impact of CGNC on suicidality to be stronger for LGB compared to heterosexual individuals.
6. After controlling for CGNC and CH, the difference in suicidality between LGB and heterosexual participants should disappear or decrease, as we anticipate that CGNC and CH are partially responsible for increased suicidality in LGB individuals.

METHOD

Participants

The study sample included 142 LGB and 148 heterosexual participants, with women accounting for 51% ($n = 72$) and 49% ($n = 73$) of the LGB and heterosexual groups, respectively. The mean age of the total sample was 35.87 years ($SD = 12.32$; range = 16 to 70 years), with women being significantly younger than men: $M = 32.06$ years, $SD = 10.47$ versus $M = 39.67$ years, $SD = 12.88$, $t(288) = 5.52$, $p < .01$. Differences in educational attainment by gender and sexual orientation were non-significant. The highest completed level of education for the total sample was: regular schooling (36%, $n = 103$), A-level (38%, $n = 111$), university degree (22%, $n = 64$), with 4% ($n = 11$) missing related data.

Measures

Sexual Orientation

Sexual orientation was assessed with three items: “in your sexual fantasies there are...”, “you would like to have sex with...” (*only women/mostly women/men and women/mostly men/only men*); and “how do you describe yourself?” (*heterosexual/mostly heterosexual/bisexual/mostly homosexual/homosexual/transsexual/not sure*). The first two items were recoded according to the gender of the participants. Cronbach’s alpha for the three items was high for both men ($r_\alpha = .98$) and women ($r_\alpha = .94$). Participants were classified as bisexual if their self-description was between exclusively heterosexual and homosexual on any of the three items. Transsexual individuals were removed from the analysis, and those “not sure” of their sexual orientation were classified based on the other two items. For the analyses, sexual orientation was dichotomized as heterosexual vs. bisexual/homosexual because only ten men were classified as bisexual. More women ($n = 43$) were classified as bisexual.

Childhood Gender Nonconformity

We used the Recalled Childhood Gender Identity Scale (Zucker et al., 2006) to assess childhood gender nonconformity (CGNC) to the age of 12 years. The scale covers a range of gender-typed behavior for which there are well established differences between the sexes and which are used as indicators of gender identity disorder in children. The questionnaire was translated into German by the first author in collaboration with a native English speaker. A factor analysis by Zucker et al. identified two factors. For our study, only factor 1 (gender identity/gender role) entered into the analysis because factor 2 (closeness to mother and father) had no analytical value. The 18 items of factor 1 were rated on a 5-point response scale; for example (male version): “as a child, I had the reputation of a ‘sissy’” (*all of the time/most of the*

time/some of the time/on rare occasions never). Some items included an additional response option, treated as a missing value, to indicate that the behavior did not apply (e.g., “in fantasy or pretend play, I took the role”, with “*usually I did not do this type of pretend play*” as additional option). The items were recoded so that higher scores reflect greater gender conformity.

The reliability of factor 1 was high ($r_{\alpha} = .92$) and the discriminant validity was supported given that the scale differentiated the responses of men from women, homosexuals from heterosexuals, and women with congenital adrenal hyperplasia from controls (Zucker et al., 2006). In our sample, the reliability of the scale was high in both the male and the female versions ($r_{\alpha} = .95$ for both versions). The scores were significantly lower for women than men (Table 1), thus requiring a z -transformation of the scale within men and women.

Present and Past Suicidality

Questions taken from Paykel, Myers, Lindethal, and Tanner (1974) assessed suicide ideation (“have you ever thought of taking your life, even if you would not really do it?”), serious suicide ideation (“have you ever reached the point where you seriously considered taking your life, or perhaps made plans how you would go about doing it?”), and suicide attempts (“have you ever made a suicide attempt?”). The items covered the last 12 months (current suicidality) and previous years (previous suicidality). Age of all suicidality-measures in previous years was also collected. A question related to aborted suicide attempts was included: “I was already trying to kill myself but stopped the attempt at the last minute” (Barber, Marzuk, Leon, & Portera, 1998). In order to weigh the severity of suicidality (Bagley & Tremblay, 1997; Bagley, Wood, & Young, 1994; Meneese & Yutrzecka, 1990), a summary score of current and previous suicidality was calculated as follows: suicide ideation (non-weighted), serious suicide ideation (non-weighted), aborted suicide attempt (multiplied by 2), and suicide attempts

(multiplied by 4). Cronbach's alpha was $r_{\alpha} = .77$ for present and $r_{\alpha} = .75$ for previous suicidality.

Childhood Harassment

Translated items similar to those recommended by Herek and Berrill (1990) assessed CH through to the age of 12 years: verbal insult, being threatened with physical violence, damaged property, having objects thrown, being chased, spat upon, kicked/beaten, threatened with a weapon, assaulted with a weapon, sexually harassed with or without assault and school absence because of fear (e.g., "as a child, have you been spat upon?" or "as a child, have you been sexually harassed?"). Items related to more subtle forms of discrimination experienced were included: being ignored, nonverbal signaling of exclusion/rejection, being mocked, being the subject of lies or rumors, experiencing unfair treatment (e.g., "as a child, have you been ignored?" or "have lies/rumors been spread around about you?"). All items had five multiple-choice options, ranging from 1 (never) to 5 (often). Summary scores of the items assessing subtle CH ($r_{\alpha} = .81$), verbal CH (including subtle CH and verbal CH, $r_{\alpha} = .77$), physical CH ($r_{\alpha} = .81$), and total CH ($r_{\alpha} = .88$) were calculated.

Procedure

Lesbian, gay, and bisexual adults were sampled via address lists of LGB organizations located throughout Austria. The study questionnaires and related protocol were sent to list members and study volunteers returned the completed questionnaire in a pre-paid stamped envelope. To increase the number of women in the sample, an electronic version of the questionnaire was placed on the website of a large Viennese gay/lesbian organization (HOSI-Wien). Fifteen LB women returned the completed electronic questionnaire to the first author by e-mail or as a printout by regular mail. The exact return rate could not be calculated because a few participants from the control group may have moved to the LGB group because of their non-

heterosexual status, and the reverse also applied, but it was estimated at 49% for the 290 questionnaires sent to list members of LGB organizations.

The heterosexual control group was obtained via snowball sampling in the social network of students enrolled in social psychology courses taught by the first author. The completed questionnaires were returned either by the students or by regular mail. Each heterosexual participant was matched with the LGB sample on the basis of sex, age, and education, and over-sampled heterosexual participants were reduced in number by the random sampling required for matching with homosexual participants.

Statistical Analysis

Data were analyzed with *R 2.0.0* (R Development Core Team, 2004). To examine which multivariate model best fits the data, Bayesian networks (directed, acyclic graphs) were fitted using the “deal” R-package (Bøttcher & Dethlefsen, 2003). Correlation effect sizes, denoted by r^* , were calculated as outlined by Rosenthal, Rosnow, and Rubin (2000). Effect sizes up to .20 are considered small, with medium effect sizes ranging from .21 to .35, and large ones are greater than .35 (Cohen, 1988).

RESULTS

Childhood Gender Nonconformity

A two (sexual orientation: LGB vs. heterosexual) by two (sex) analysis of variance (ANOVA) for the untransformed scores revealed significant main effects for sexual orientation, $F(1, 286) = 106.31, p < .01$, and sex, $F(1, 286) = 96.54, p < .01$. The main effects indicated that women recalled significantly more CGNC compared to men, and LGB participants recalled more CGNC compared to their heterosexual counterparts. The effect sizes of the differences were large for sexual orientation, $r^* = .52$, and for gender, $r^* = .50$.

Insert Table 1 about here

Current Suicidality

Weighted current suicidality scores, log-transformed to reduce skewness, were subjected to a two (sexual orientation: LGB vs. heterosexual) by two (sex) ANOVA. There was a significant main effect for sexual orientation, $F(1, 280) = 13.31, p < .01$. It showed that LGB participants reported significantly more current suicidality than heterosexuals (Table 2), with the effect being of a medium size, $r^* = .22$.

Insert Table 2 about here

For most of the different current suicidality variables (Table 2), LGB participants tended to report higher levels than heterosexuals. Mann-Whitney tests for ordinal variables and Fisher's test for dichotomous variables revealed a significant difference for suicide ideation between LGB and heterosexual men ($p < .05$). Among women, the differences were significant for suicide ideation and serious suicide ideation. Detailed statistical results (rank-sums, odds ratios) are not reported here but can be obtained from the corresponding author upon request.

Previous Suicidality

Similar ANOVA analysis were carried out for weighted previous suicidality scores (log-transformed to reduce skewness). This produced a significant main effect for sexual orientation, $F(1, 281) = 46.28, p < .01$. It showed that LGB participants reported significantly more previous suicidality than their heterosexual counterparts (Table 3). The effect size was large, $r^* = .36$.

Insert Table 3 about here

A closer look at the different suicidality variables revealed that LGB participants reported greater previous suicidality than heterosexuals (Table 3). Similar statistical tests produced significant differences for nearly all variables. The only non-significant difference were found

for aborted suicide attempts and for suicide attempts among women.

Childhood Harassment

For the total CH summary scores (log-transformed to reduce skewness), a two (sexual orientation: LGB vs. heterosexual) by 2 (sex) ANOVA produced a significant main effect for sexual orientation, $F(1, 286) = 8.77, p < .01$. It showed that LGB participants recalled significantly more CH than heterosexuals (Table 4). This difference was of a small effect size, $r^* = .17$.

Insert Table 4 about here

Similar ANOVAs for the different types of CH produced significant sexual orientation main effects for subtle CH, $F(1, 286) = 9.86, p < .05$, verbal CH, $F(1, 286) = 8.93, p < .01$, and physical CH, $F(1, 286) = 5.37, p < .05$. The effect sizes were .18, .17, and .14 for subtle, verbal, and physical CH, respectively, and are thus to be considered small.

Association of Childhood Gender Nonconformity and Suicidality

In the total sample, CGNC was significantly correlated with weighted present suicidality ($r_s = -.21, p < .01$) and weighted previous suicidality ($r_s = -.26, p < .01$). The association of CGNC with weighted present or weighted past suicidality did not increase or decrease with the age of the participant given that the interaction terms were far from significant in regression models with weighted suicidality as the dependent variable and CGNC, age, and the interaction term $CGNC \times Age$ as predictors.

Correlations between CGNC and the age when previous suicidality occurred were non-significant for suicide ideation, serious suicide ideation, aborted suicide attempts, but high and marginally significant for suicide attempts ($r_s = .48, p = .08$), indicating that participants with high CGNC attempted suicide at a younger age.

Analyses separated by gender and sexual orientation (Tables 5, 6) revealed CGNC to be significantly correlated with present weighted suicidality for GB men and nearly significant for LB women ($p = .06$), but not for their heterosexual counterparts. This difference in sexual orientation was expressed as a significant interaction term (CGNC \times Sexual Orientation) in a regression analysis with current weighted suicidality as the dependent variable, and CGNC and sexual orientation as predictors (interaction term: $\beta = .08$, $SE = .04$, $t = 2.07$, $p < .05$).

Insert Tables 5, 6 about here

Contrary to the total sample calculation, CGNC and past weighted suicidality were not significantly correlated in any of the subgroups, and no significant CGNC \times Sexual Orientation interaction term was found in a regression model as described above. However, for GB and heterosexual men treated as one sample, CGNC and past weighted suicidality were again significantly correlated, and a similar significant association was found for women. Visual inspection of the scatterplots revealed that the heterosexual subgroup clustered in one corner of the plot (low suicidality, low CGNC), thus inflating the correlation for the total sample.

Association between Childhood Gender Nonconformity and Childhood Harassment

In the total sample, CGNC was significantly associated with total CH ($r_s = -.28$, $p < .01$). For GB men, CGNC correlated significantly with subtle and verbal CH and the total CH score, but significant associations were not found for heterosexual men (Table 5). This resulted in a significant interaction term in a regression model with CGNC as the criterion variable and with log total CH, sexual orientation, and the interaction term as predictor variables (interaction: $\beta = .99$, $SE = .49$, $t = 2.04$, $p < .05$). For both LB and heterosexual women, the associations of CGNC and CH increased from subtle to verbal to physical CH, but only the association of physical CH with GGNC reached statistical significance (Table 6). In contrast to men, the association of

CGNC and CH was not different in LB and heterosexual women given that the interaction term $CGNC \times Sexual\ Orientation$ was non-significant in a regression model described above.

The results in Tables 5 and 6 suggest that CGNC was less tolerated in men than in women, i.e., the correlations of CGNC with CH were generally larger for men. However, in regression models with different forms of log CH as dependent variables and with CGNC and sex as predictors, the $CGNC \times Sex$ interaction was non-significant.

To test the hypotheses that greater CH in LGB participants was due to differences in CGNC by sexual orientation, regression analyses were conducted with and without controlling for CGNC before sexual orientation was entered into the model and with different forms of CH (log-transformed because of skewed distribution) as criterion variables. For total CH, sexual orientation lost its significant contribution after controlling for CGNC (from $\beta = -.10, SE = .04, t = -2.97, p < .01$ to $\beta = .00, SE = .04, t = -0.11, ns$). Similar results were produced by regression analysis for each gender or for different forms of CH (data not shown).

Association between Childhood Harassment and Suicidality

For the whole sample, total CH was significantly associated with weighted present suicidality ($r_s = .22, p < .01$) and with weighted previous suicidality ($r_s = .43, p < .01$). In analyses separated by sexual orientation and gender, current suicidality was not significantly associated with any form of CH, except among heterosexual men for subtle CH ($r_s = .29, p < .05$). For previous suicidality, the associations with CH were all significant ($p < .05$) for LB and heterosexual women (r_s ranged from .27 to .49). Among GB men, previous suicidality correlated significantly only with physical CH ($r_s = .26, p < .05$) and among heterosexual men with physical and total CH (both $r_s = .24, p < .05$). The lower associations found among men than women were also detected as a significant interaction of $CGNC \times Sex$ in a regression model with

weighted previous suicidality as criterion variable and log total CH and gender as predictor variables ($\beta = .28$, $SE = .14$, $t = 2.07$, $p = .04$). CGNC \times Gender interaction effects were also (marginally) significant for subtle ($p = .06$), verbal ($p = .04$), and physical CH ($p = .10$) in similar regression models (detailed regression results not shown).

Multivariate Analysis

If increased suicidality in LGB participants was caused by both increased CGNC and CH, a difference by sexual orientation should disappear after controlling for CGNC and CH.

Regressions were performed with weighted current and weighted previous suicidality as criterion variables. Sexual orientation was entered as the only predictor in the first step. In the second step, CGNC, total CH, the interaction of CGNC \times CH, and sexual orientation were entered into the regression model.

Insert Table 7 and Table 8 about here

For weighted current suicidality, sexual orientation was a significant predictor in the first step (Table 7). In the second step, CGNC and total CH were marginally significant, their interaction term was the significant predictor, and sexual orientation lost its significant contribution. The CGNC \times CH interaction term was expressed via a low correlation of CGNC with weighted current suicidality for total CH below the median, compared to a higher correlation for total CH above the median ($r_s = -.13$, $p = .12$ vs. $r_s = -.28$, $p < .01$). In regression analyses conducted for the different forms of CH (data not shown), the interaction between CGNC and total CH was significant for all forms of CH, and sexual orientation always lost its significant contribution after controlling for CGNC and CH.

For weighted previous suicidality, sexual orientation was significant in the first step (Table 8). In the second step, CGNC was not associated with weighted previous suicidality nor its

interaction with total CH. Total CH remained significant, as did sexual orientation. The results remained the same if regression models were run separately for each gender or for other forms of CH (data not shown).

Bayesian networks with the highest model fit are depicted in Fig. 1a, b. Arrows should not be interpreted as indications of causal influence but statistical dependency. Weighted previous suicidality depended directly on CH only. Weighted current suicidality depended directly on both CGNC and sexual orientation.

Insert Figures 1a and 1b about here

DISCUSSION

Recalled childhood gender nonconformity (CGNC) was, as expected based on numerous study results, much more prevalent in LB women ($r^* = .52$, $d = 1.22$) and GB men ($r^* = .53$, $d = 1.25$) than their heterosexual counterparts. The effect size in our study was comparable to results from a meta-analysis of predominantly American and Canadian studies for men ($d = 1.31$), although the effect size was somewhat lower for women ($d = 0.96$) (Bailey & Zucker, 1995).

Recalled subtle CH, verbal CH, and physical CH were significantly higher in LGB participants than their heterosexual counterparts. After controlling for CGNC, the difference for all forms of CH (subtle, verbal, physical) by sexual orientation diminished, thus indicating that the elevated CH of LGB individuals might be a result of their CGNC. Harry (1983a) reported that being an adolescent loner, adolescent unhappiness, and feeling left out (not accepted by one's peers) were more strongly associated with CGNC in men than in women; similar but only non-significant trends were found in our study: the association of CGNC with total CH was marginally higher for men than for women. This is consonant with McCreary's (1994) summary of many studies reporting greater tolerance of gender role nonconformity among girls/women

than boys/men. For physical CH, however, the associations with CGNC were comparable for men and women. The association between CGNC and CH was stronger for GB men than for heterosexual men. A closer analysis revealed that the association between CGNC and CH increased for levels of CGNC at least one *SD* from the mean. No heterosexual man had scores within this range, and this might explain the weaker correlation between CH and CGNC among heterosexual men.

In line with results from North America (Bagley & Tremblay, 2000; McDaniel et al., 2001) and recent Austrian studies (Plöderl & Fartacek, 2005a, 2005b), all measures of previous suicidality (suicide ideation, serious suicide ideation, aborted suicide attempts, suicide attempts) were elevated for LGB compared to heterosexual participants. The same applied for current suicide ideation and a summary measure of current suicidality.

Childhood gender nonconformity was significantly associated with current suicidality of LGB participants, but not for their heterosexual counterparts. The associations among LGB participants may seem small (.29 for GB men and .22 for LB women). More reliable measures of suicidality may increase these correlations. However, compared to a similar study (Plöderl & Fartacek, 2005a, Table 2) that included a wide range of suicide-related risk factors (e.g., depression, victimization, social support), the association between CGNC and suicidality was high. In addition, the correlations of sexual orientation-specific risk factors (e.g., internalized homophobia, homophobic victimization) with current suicidality were all lower (Plöderl, 2005, Table 2.50).

Contrary to our expectations, CGNC did not correlate significantly with past suicidality, except for the total sample. Perhaps the impact of CGNC on previous suicidality was overshadowed by the stress related to one's newly recognized and likely stigmatized sexual

minority status. LGB adolescents who experienced anti-LGB harassment and those who did not are both reported to have similar higher rates of attempted suicide (Reis & Saewyc, 1999).

Indeed, suicidality risk is reported to peak between one's awareness of homosexual feelings and coming out (D'Augelli, Hershberger, & Pilkington, 2001), and minority stress (Meyer, 2003) might also reach a maximum during this period. Thus, the potentially harmful effects of anti-LGB abuse or gender nonconformity might not be able to worsen the situation.

A limitation of our study was that we did not assess gender nonconformity after childhood and its impact on suicidality. After the difficult coming out stage experienced by many LGB people, those who remain gender atypical given that being anything like a "dyke" or a "sissy" is devalued in society may continue to experience negative social reactions, especially men who manifest feminine attributes. For men, this is corroborated by the results of Harry (1983b): gay men who defeminized from childhood to adulthood had better self-esteem compared to those who remained effeminate. Furthermore, among gay men (but not among lesbian women), current gender nonconformity was associated with psychological distress (Skidmore, Linsenmeier, & Bailey, 2006). An additional reason may be in gay/lesbian communities, gender typical sexual partners are most desirable (Bailey, Kim, Hills, & Linsenmeier, 1997), whereas gender atypical men especially are discriminated and least desired as sex partners (Bergling, 2001; Boney, 1996; Taywaditep, 2001). It is, therefore, possible that childhood rejection/abuse because one is gender nonconforming is followed by disapproval/rejection even after one has ventured into gay/lesbian communities. Indeed, the associations between psychological distress and CGNC on the one hand and adult gender nonconformity on the other were comparable, at least among gay men and for some forms of nonconformity (Skidmore, Linsenmeier, & Bailey, 2006). However, a negative impact was not evident for observer-rated gender atypicality and was low for gender

atypical occupational/hobby preferences. Further research is necessary to explore the different impacts of CGNC and adult gender nonconformity with suicidality across the life course.

In multivariate analysis, predictors of previous suicidality were CH and sexual orientation, but not CGNC. A possible explanation for this, as mentioned above, is that previous suicidality likely occurred during around coming out, and the effect of CGNC might have been overshadowed by the stress of the coming out process. For current suicidality, CGNC and total CH remained as nearly significant predictors, but sexual orientation did not. The nearly significant CGNC \times CH interaction resulted from a stronger association of CGNC and current suicidality for those with more CH compared to those with less CH. In our study, the greater current suicidality in LGB compared to heterosexual individuals was statistically accounted for by CH, CGNC, and their interaction term. The association of CGNC with current but not past suicidality was also replicated in Bayesian analysis of the data without assuming an a priori model as in multivariate regression.

Little is known about the lifetime negative outcomes associated with CGNC for individuals of different sexual orientations. Parental awareness of a child's homosexual orientation occurs at an earlier age for gender nonconforming individuals. Such individuals are also at greater risk for parental verbal victimization (D'Augelli et al., 2005) which might increase the socially-induced damage done to the self-esteem of gender atypical children (Aubé & Koestner, 1992; Egan & Perry, 2001). Longitudinal research could differentiate the negative impact of harassment based on CGNC alone, harassment based on (presumed) homosexuality, and the impact of both forms together. Gender nonconformity is frequently perceived as an indicator of an individual's homosexuality (McCreary, 1994) and perpetrators of homophobic violence use gender atypical traits to identify lesbians and gay men (Namaste, 1996). This may

explain why victimization around one's sexual orientation can start even before coming out to others (D'Augelli, Grossman, & Starks, 2006). McCreary (1994) found that the association between gender atypicality and homosexuality increases with the age of the boy/man being targeted. More research is needed to ascertain when and how the association between gender nonconformity and homosexuality develops. Of note, the assumption that children start to question their heterosexual identity because of being gender atypical was not supported by a recent study (Carver, Egan, & Perry, 2004).

The cross-sectional study design precludes establishing causality between examined variables and the suicidality of individuals. Furthermore, there is possible recall bias given that the solicited information was retrospective in nature. The study sample was also not large enough to produce sufficient numbers of heterosexual individuals classified as having marked childhood gender nonconformity. Therefore, lifetime suicidality of such individuals, as possibly related to CH and CGNC, remains unknown. Future studies should solicit adolescent and adult gender nonconformity so that associations between gender nonconformity and suicidality can be examined in greater detail and interpretations improved, with the likelihood that other life events are also implicated. Finally, had our study sample been more homogenous with respect to age and if soliciting information related to "previous suicidality" has been done in greater detail, results would have been more conclusive. Despite the caveats of the study, it supports the important, enduring role of CGNC and related childhood harassment experiences on the suicidality risks of Austrian LGB individuals.

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AUTHOR NOTE

We thank Pierre Tremblay for his valuable contributions to an earlier version of the article, for his critical discussions, and for smoothing out the English. We also thank Jen Wang and Cayce McCain for their assistance in the revision process as well as the gay and lesbian organizations throughout Austria for distributing the questionnaires.

Table 1

Childhood gender nonconformity (CGNC) among LGB and heterosexual women and men

CGNC	Men		Women	
	Gay/bisexual	Heterosexual	Lesbian/bisexual	Heterosexual
untransformed				
<i>M</i>	3.64	4.19	2.84	3.66
<i>SD</i>	0.59	0.22	0.79	0.55
<i>N</i>	70	75	72	73
z-Transformed				
<i>M</i>	-0.55	0.51	-0.52	0.51
<i>SD</i>	1.14	0.43	1.00	0.70

The absolute values of the untransformed scale ranged from one to five. Higher scores indicate greater childhood gender conformity.

Table 2

Current suicidality among LGB and heterosexual women and men

Suicidality	Men		Women	
	Gay/bisexual	Heterosexual	Lesbian/bisexual	Heterosexual
Suicide Ideation				
<i>n</i>	28	18	29	16
<i>%</i>	40	24	40	22
Serious suicide ideation				
<i>n</i>	11	10	19	6
<i>%</i>	16	13	26	8
Aborted suicide attempts				
<i>n</i>	1	1	3	1
<i>%</i>	1	1	4	1
Suicide attempts				
<i>n</i>	1	1	3	0
<i>%</i>	1	1	4	0
Weighted suicidality				
<i>M</i>	0.23	0.13	0.36	0.11
<i>SD</i>	0.43	0.27	0.65	0.26

Suicidality variables were dichotomized in the table, i.e., response options indicating any suicidality (*rarely/sometimes/often*) were collapsed.

Table 3

Previous suicidality among LGB and heterosexual women and men

Suicidality	Men		Women	
	Gay/bisexual	Heterosexual	Lesbian/bisexual	Heterosexual
Suicide Ideation				
<i>n</i>	50	36	56	39
<i>%</i>	71	48	78	53
Serious suicide ideation				
<i>n</i>	41	16	40	24
<i>%</i>	59	21	56	33
Age of serious ideation (year)				
<i>M</i>	21.89	20.71	17.73	18.17
<i>SD</i>	7.41	10.01	5.40	8.94
Aborted suicide attempts				
<i>n</i>	7	1	13	6
<i>%</i>	10	1	18	8
Suicide attempts				
<i>n</i>	5	0	9	3

Suicidality	Men		Women	
	Gay/bisexual	Heterosexual	Lesbian/bisexual	Heterosexual
%	7	0	13	4
Age of suicide attempts				
(year)				
<i>M</i>	16.50	-	18.00	15.00
<i>SD</i>	2.12	-	3.91	3.00
Weighted suicidality				
<i>M</i>	0.76	0.24	0.87	0.42
<i>SD</i>	0.72	0.30	0.84	0.76

Suicidality variables were dichotomized in the table, i.e., response options indicating any suicidality (*rarely/sometimes/often*) were collapsed. To save space, age of occurrence is not shown in the table for suicide ideation and aborted suicide attempts.

Table 4

Different forms of childhood harassment among LGB and heterosexual women and men

Childhood Harassment	Men		Women	
	Gay/bisexual	Heterosexual	Lesbian/bisexual	Heterosexual
Subtle				
<i>M</i>	10.41	8.65	10.88	9.43
<i>SD</i>	4.19	2.70	4.68	3.63
Verbal				
<i>M</i>	16.84	14.80	17.85	15.33
<i>SD</i>	6.38	3.93	6.97	5.05
Physical				
<i>M</i>	11.11	9.96	11.40	10.00
<i>SD</i>	4.99	2.61	4.91	4.45
Total score				
<i>M</i>	27.96	24.76	29.25	25.33
<i>SD</i>	10.79	5.87	11.04	8.75

The absolute values of the total childhood harassment score ranged from 1 to 80. The ranges for subtle, verbal, and physical childhood harassment scores were 1-25, 1-45, and 1-35, respectively.

Table 5

Correlation of childhood gender nonconformity with suicidality and childhood harassment among men

Sexual Orientation	Suicidality		Childhood Harassment			
	Current	Previous	Subtle	Verbal	Physical	Total
Gay / bisexual	-.29*	-.15	-.35**	-.38**	-.21	-.33**
Heterosexual	.04	.11	-.08	-.16	-.22	-.22
All men	-.24**	-.26**	-.28**	-.28**	-.17*	-.26**

All entries are Spearman rank correlation coefficients.

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

Table 6

Correlation of childhood gender nonconformity with suicidality and childhood harassment among women

Sexual Orientation	Suicidality		Childhood Harassment			
	Current	Previous	Subtle	Verbal	Physical	Total
Lesbian / bisexual	-.22	-.11	-.19	-.21	-.26*	-.26*
Heterosexual	-.14	-.05	-.06	-.10	-.26*	-.23
All women	-.19*	-.24**	-.21*	-.24**	-.30**	-.30**

All entries are Spearman rank correlation coefficients.

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

Table 7

Regression model for childhood gender nonconformity, childhood harassment, and sexual orientation predicting current suicidality

Variable	β	SE	t	p
Step 1				
Intercept	.20	.02	9.28	.00
Sexual orientation	-.11	.03	-3.65	.00
Step 2				
Intercept	-0.11	.17	-0.68	.50
CGNC	.21	.13	1.64	.10
Total CH	.09	.05	1.66	.10
CGNC \times total CH	-.08	.04	-1.97	.05
Sexual orientation	-.05	.03	-1.59	.11

Total CH and current suicidality were log-transformed to reduce skewness. R^2 -values were adjusted. $R^2 = .04$ for Step 1, $R^2 = .09$ for Step 2. The change in explained variance in Step 2 was significant, $F(3, 279) = 5.68, p < .01$.

Table 8

Regression model for childhood gender nonconformity, childhood harassment, and sexual orientation predicting previous suicidality

Variable	β	SE	t	p
Model 1				
Intercept	-.52	.03	17.60	.00
Sexual orientation	-.28	.04	-6.78	.00
Model 2				
Intercept	-0.75	.22	-3.42	.00
CGNC	.06	.17	0.35	.73
Total CH	.38	.07	5.69	.00
CGNC \times total CH	-.02	.05	-0.43	.67
Sexual orientation	-.22	.05	-4.91	.00

Total CH and previous suicidality were log-transformed to reduce skewness. R^2 -values are adjusted. $R^2 = .14$ for Step 1, $R^2 = .23$ for Step 2. The change in explained variance in Step 2 was significant, $F(3, 297) = 13.06, p < .01$.

Figure Caption

Figure 1. Best fitting Bayesian-networks with past weighted suicidality (a) and current weighted suicidality (b). Arrows should not be interpreted as indicating causal direction but rather statistical association. Total CH and suicidality were log-transformed to reduce skewness. Sexual orientation and gender entered as parent nodes. Complexity was set to 200, number of re-computing was set to 100; thus, about half of all possible networks were analyzed.

