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### Gender Nonconformity, Sexual Orientation, and Dutch Adolescents' Relationship with Peers

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#### Abstract

Same-sex attraction and gender nonconformity have both been shown to negatively affect the relationships of adolescents with their peers. It is not clear, though, whether same-sex attracted adolescents are more likely to have negative peer relationships because they are same-sex attracted or because they are more likely to be gender nonconforming. It is also possible that both stressors affect peer relationships independently or amplify each other in their impact. We explored these questions in a sample of 486 Dutch adolescents (M age = 14.02 years). We found that same-sex attraction and gender nonconformity both had an independent effect and that gender nonconformity moderated, but not mediated, the associations between same-sex attraction and peer relationships at school. Same-sex attraction was more strongly associated with poorer relationships with peers in adolescents who were more gender nonconforming. These findings indicate the importance of including gender nonconformity in the understanding of same-sex attracted adolescents' relationships and suggest that in order to improve same-sex attracted adolescents' social position at school, acceptance of gender diversity should be promoted as well.

#### Keywords

Sexual orientation; gender nonconformity; gender role; adolescent peer relationships; Netherlands

### INTRODUCTION

Having a same-sex sexual orientation has been shown to negatively affect relationships with peers (e.g., Ueno, 2005). Among same-sex attracted adolescents, those who do not conform to gender-normative behaviors, activities, appearance, and characteristics or traits (gender nonconformity) (Lippa, 2002, 2005) are more likely to have problematic relationships with peers compared to adolescents who conform to their gender (e.g., Pilkington & D'Augelli, 1995). Gender nonconformity has also been shown to affect adolescents' peer relationships regardless of their sexual orientation (e.g., for an overview, see Collier, Van Beusekom, Bos, & Sandfort, 2013). It is not clear, however, whether sexual orientation and gender nonconformity independently impact on adolescents' relationships with peers. It is also not

#### Sexual Attraction and Peer Relationships

The association of sexual orientation with peer relationships and social well-being has been studied by comparing older adolescents with sexual or romantic feelings toward the same sex (e.g., Russell & Joyner, 2001; Russell, Seif, & Truong, 2001; Ueno, 2005) and adolescents who self-identify as lesbian, gay, or bisexual (LGB) (e.g., Grossman & Kerner, 1998; Rosario, Rotherman-Borus, & Reid, 1996) with heterosexual adolescents. These studies showed that lesbian, gay, and bisexual (LGB) adolescents experience more rejection in their relationships with peers than their heterosexual counterparts do.

Most of the negative experiences of same-sex attracted and self-identified LGB adolescents with peers are likely to occur in school (e.g., D'Augelli, Grossman, & Starks, 2006). For example, in a U.S. study in which 91,888 9<sup>th</sup> through 12<sup>th</sup> -grade students participated, 10.1% of the lesbian and bisexual girls (n = 119) and 24.0% of the gay and bisexual boys (n = 196) had been victimized at school at least 10 times in the previous year. The same proportion of heterosexual students was significantly lower: 1.1% of the girls and 2.7% of the boys (Bontempo & D'Augelli, 2002).

Although most of these studies used convenience samples (Savin-Williams, 2005), a few were based on probability samples. In these latter studies, participants were categorized based on reported feelings of sexual or romantic attraction to someone of the same sex. This was done, for example, in the National Longitudinal Study of Adolescent Health (Add Health study); this study also found that same-sex attracted adolescents experienced more problems with peers at school than their peers without same-sex attraction (Russell, Seif, & Truong, 2001; Ueno, 2005). A recent Dutch study among young adolescents ( $M_{age}$  13.61 years) showed that same-sex attracted adolescents experienced higher levels of peer role strain than their peers without same-sex attraction (Bos, Sandfort, de Bruyn, & Hakvoort, 2008); same-sex attracted adolescents also rated their relationships with peers less positively than adolescents without these feelings did.

#### Sexual Attraction and Gender Nonconformity

Homosexual adults are, on average, more gender nonconforming compared to heterosexual persons of their own sex. This has been found in relation to feelings, behaviors, and interests, such as speech pattern (Gaudi, 1994), motion (Johnson, Gill, Reichman, & Tassinary, 2007), and occupational and recreational interests (Lippa, 2000, 2005). Over the years, studies have investigated the relation between gender variance during childhood (recalled gender nonconformity) and having a lesbian, gay, or bisexual orientation as an adult. Adult homosexual men seemed to be more likely to report that they had been more feminine during childhood in their play behavior, activities, and attire than heterosexual men, while lesbian women reported that they had been relatively masculine on these aspects during their childhood (for review, see Bailey & Zucker, 1995; see also Lippa, 2008).

Most of these studies were based on retrospective reports, which could be biased because LGB people might, for example, be more willing to acknowledge gender nonconformity

during childhood than heterosexual persons (Rieger, Linsenmeier, Gygax, & Bailey, 2008). Because memories can be biased, some scholars are skeptical regarding findings of significant associations between recalled childhood gender nonconformity and sexual orientation during adulthood (e.g., Gottschalk, 2003). Other scholars, however, have argued that this relationship between sexual orientation and gender nonconformity was not only found in retrospective studies (e.g., Zucker, 2005).

Indeed, prospective studies also reported an association between childhood gender nonconformity and sexual orientation (Drummond, Bradley, Peterson-Badali, & Zucker, 2008; Green, Roberts, Williams, Goodman, & Mixon, 1987; Singh, 2012; Wallien & Cohen-Kettenis, 2008; Zucker & Bradley, 1995). These studies were, however, primarily based on clinical samples of persons who showed extreme forms of cross-gender behavior and expressed feelings of gender dysphoria during their childhood and/or met the criteria for gender identity disorder, as described in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). These studies found that a large proportion of clinically referred gendervariant children reported a homosexual or bisexual orientation as adolescents and young adults.

Using a prospective design, Steensma et al. (2013) studied the association between childhood gender nonconformity (measured with 2 items from the Child Behavior Checklist, rated on a 0–2 point scale by one of the parents or another primary caregiver) and adult homosexual or bisexual orientation, using a large, non-clinically referred sample. Consistent with the prospective studies with clinically referred groups, they found that gender nonconformity during childhood was associated with a homosexual orientation as an adult. They also found that this association was less strong in their non-clinical sample compared to what was found in clinically referred groups.

#### Gender Nonconformity and Peer Relationships

Behaving in gender nonconforming ways often has negative consequences for a person's social relationships (Serbin, Powlishta, & Gulo, 1993). Children expect already at a young age that their peers display sex-typed behavior (behavior viewed as normative for the child's biological sex); they are more tolerant to gender conforming peers and react more negatively to peers who do not exhibit gender stereotyped behavior, activities, appearance, or traits (e.g., Carver, Egan, & Perry, 2004; Egan & Perry, 2001; Ruble, Martin, & Berenbaum, 2006). There are also sex differences in regard to appraisals of sex-typed behavior: For example, boys more often preferred other boys who showed masculine behavior as friends while girls preferred male friends who showed feminine behavior (Zucker, Wilson, Kurita, & Stern, 1995).

Negative opinions about cross-sex-typed features increase with children's age (Carter & McCloskey, 1984). Gender norms and conventions regarding behavior, interests, and appearance play an even stronger role during adolescence and gender nonconformity is often negatively sanctioned by peers (Alfieri, Ruble, & Higgins, 1996). Adolescents monitor their peers' gender expressions and respond negatively to those who are gender atypical (e.g., Ewing Lee & Troop-Gordon, 2011a, 2011b; Washburn-Ormachea, Hillman, & Sawilowsky, 2004). The resulting lack of safety in a social environment might also contribute to the

increased reports of psychological problems for youth who are gender-nonconforming (Rieger & Savin-Williams, 2012).

#### Sexual Attraction, Gender Nonconformity, and Peer Relationships

Several studies examined the role of gender nonconformity in experiences with rejection and victimization among LGB adults. Sandfort, Melendez, and Diaz (2007), for example, found that Latino self-identified gay and bisexual adult men who considered themselves effeminate more frequently reported verbal and physical abuse compared to adults who saw themselves as non-effeminate.

In other studies, LGB adults were asked about their current gender nonconformity and their experiences with victimization during childhood. These studies showed that higher levels of self-reported gender nonconformity were associated with more school victimization at a younger age (Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004; Toomey, Ryan, Diaz, Card, & Russell, 2010). Few studies asked LGB adolescents about their current gender nonconformity and experiences with peer rejections. Pilkington and D'Augelli (1995) found that LGB adolescents who were more gender nonconforming had experienced more victimization than those who conformed to stereotypical gender norms.

Because these studies only included adults or adolescents with same-sex feelings or people who identified as LGB, they could not disentangle whether experiences with rejection were a response to the adult or adolescent's gender nonconformity or their same-sex attraction. There is, however, one study that assessed the impact of gender nonconformity and same-sex attraction among adolescents with and without same-sex attraction (Rieger & Savin-Williams, 2012). In this study, Rieger and Savin-Williams focused on psychological well-being and not on social relationships. They found that childhood gender nonconformity (measured retrospectively and including behaviors and feelings) and present gender nonconformity (defined as current interest in typically opposite sex hobbies and activities) were better predictors of the well-being of late adolescent youth than sexual orientation; the latter was not significantly associated with any of the studied measures of well-being. The association of gender nonconformity with well-being was similar for male and female participants and for participants with different sexual orientations. Harry (1983) also found in a study among adult men and women that (childhood) gender nonconformity was negatively associated with psychological well-being in both gay and heterosexual people.

The relation between childhood and present gender nonconformity and adolescents' wellbeing can be understood from the perspective of the minority stress model (Logie, Newman, Chakrapani, & Shunmugam, 2012; Meyer, 2003). It could be that peers are more likely to perceive gender nonconforming youth to be LGB. Prevalent homonegative attitudes might result in harassment and gender nonconforming youth will consequently experience more stress, leading to a lower sense of psychological well-being. It could also be that gender nonconformity is a stressor independent of sexual orientation.

Rieger and Savin-Williams' study (2012) showed that gender nonconformity was associated with psychological well-being in adolescents with and without a sexual minority orientation. In the present study, we build upon their work and Meyer (2003) by more directly exploring

the impact of gender nonconformity and same-sex attraction on various aspects of adolescents' relationships with peers.

#### Aim of the Present Study

Having romantic and sexual feelings toward persons of the same sex has been shown to have negative consequences for relationships with peers, including higher scores on victimization and lower scores on quality of peer relationships. Gender nonconformity, more present among persons with same-sex attraction, has also been shown to affect adolescents' peer relationships regardless of sexual orientation. It is possible that the association between same-sex attraction and peer relationships is mediated by gender nonconformity. Second, we hypothesized that gender nonconformity moderates the association between same-sex attraction and adolescents' relationships with peers. More specifically, we expected that the associations between same-sex attraction and peer victimization, peer role strain, and quality of peer relationships will be significant for those adolescents who also report high levels of gender nonconformity, but not for those with low levels of gender nonconformity. Finally, we tested whether sexual attraction and gender nonconformity both have independent effects and whether they amplify each other.

#### METHOD

#### Participants

Our questionnaire was completed by 518 Dutch students. Because there were 32 missing values on same-sex attraction and/or gender nonconformity, the final sample comprised 486 students. The mean age of the students was 14.02 years (SD = 1.08); 217 (44.7%) of the students were male and 269 (55.3%) were female. The ethnic composition of the sample was 54.3% (n = 264) Dutch and 24.5% (n = 119) non-Dutch (44 adolescents were Surinamese, 38 were Moroccan, 27 were Turkish, and 10 were Antillean); the ethnic background of 21.2% (n = 103) participants was unknown. Of the students, 35.0% were attending prevocational secondary school, 7.4% general secondary school, and 57.1% pre-academic secondary school.

#### Procedure

Data were collected at eight secondary schools in Amsterdam, including schools with prevocational, general, and pre-academic education. Only students in years 1, 2, and 3 were invited to participate. Before students were invited, the school boards informed parents about the purpose and nature of the study, and the topics that would be included in the questionnaire. Seven parents did not allow their children to participate.

Students completed a questionnaire during regular class time and in the presence of a research assistant from the University of Amsterdam. Students were told that the study was about personal feelings (such as romantic feelings) and relationships with peers. They were also informed of the voluntary nature and confidentiality of their participation. All students present at the time of data collection (except those whose parents had refused to give their consent) agreed to participate and subsequently completed the questionnaire. In order to create sufficient privacy and to prevent students influencing each other while completing the

questionnaire, seating in the classrooms was arranged as though the students were taking an exam.

#### Measures

**Same-Sex Attraction**—Same-sex attraction was assessed with the question "Do you feel sexually attracted to someone of your own sex?" (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = very often). This question has been used successfully in previous studies among youth in the Netherlands (e.g., Bos, Sandfort, de Bruyn, & Hakvoort, 2008; Kersten & Sandfort, 1994; Sandfort, Bos, Collier, & Metselaar, 2010). Table 1 shows the distribution and frequency of the scores on this variable, separately for boys and girls.

**Gender Nonconformity**—Gender nonconformity was assessed with an adapted version of the Childhood Gender Nonconformity Scale, originally developed by Rieger, Linsenmeier, Gygax, and Bailey (2008). The original scale was designed to query adults about childhood experiences; we adapted the scale to measure adolescents' current gender nonconformity. There was a version for boys and a version for girls (each 7 items). Examples of items of the gender nonconformity scale for boys include: "I am a feminine boy" and "I often feel I have more in common with girls than boys." Participants responded to the items using a 7-point scale (1 = *does not describe me at all*, 7 = *describes me completely*). A mean score was computed across the 7 items, with higher scores indicating greater gender nonconformity. The scale demonstrated good internal consistency: Cronbach's alpha was .79.

**Relationships with Peers at School**—Three aspects regarding peer relationships at school were assessed: victimization, peer role strain, and quality of relationships with classmates. Adolescents' experiences of victimization were measured with a scale from the Inventory of School Climate (ISC-S) (Brand, Felner, Shim, Seitsinger, & Dumas, 2003). The experiences with victimization scale of the ISC-S consists of 6 items. Adolescents were asked how frequently (1 = never, 4 = six or more times) they had been victimized in school (e.g., "Has anyone actually beaten you up or really hurt you in school?"). Cronbach's alpha was .76.

To measure peer role strain, students completed a 6-item subscale of the Early Adolescent Role Strain Inventory (EARSI) (Fenzel, 1989a, 1989b, 2000). This Peer Role Strain subscale examines the extent to which peers are perceived as a potential source of strain (Bos et al., 2008; de Bruyn, 2005). Students were asked to indicate how frequently their peers expressed specific negative behaviors toward them (e.g., "Classmates ignore me," "Classmates laugh about me," or "Classmates do not want me on their team"; 1 = not at all, 5 = a lot). Cronbach's alpha was .89.

The quality of relationships with classmates was assessed with the 10-item peer relationship subscale of the revised Dutch version of the Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1987). However, questions asked about relationships with classmates instead of referring to friends. Items (e.g., "Most classmates accept me as I am" or "I can tell some classmates about my problems or troubles") were rated on a scale of 1

(*almost never true* or *never true*) to 5 (*almost always true* or *always true*). Cronbach's alpha was .72.

#### Analyses

To investigate whether gender nonconformity mediated the expected association between same-sex attraction and the variables related to peer relationships at school (victimization, peer role strain and quality of the relationship with classmates) bootstrapped mediation analyses were conducted through the Indirect macro (Hayes, 2013). The bootstrapped mediation analysis was done separately for victimization, peer role strain, and quality of the relationship with classmates as dependent variables. Age, education, and biological sex were used in each analysis as covariates.

Bootstrapping generates random samples of the original data. In the current analysis, the bootstrapped mediation was done with 10,000 resamples. Mediation effects were computed for each random sample. The distribution of these effects was then used to obtain 95% confidence intervals (CI) for the size of indirect effects of gender nonconformity on the relation between same-sex attraction and the peer relationships variables. The indirect effect for a mediator is significant when the obtained CI does not contain the value 0 (Hayes, 2013). Using bootstrapping CI reduces power problems that might occur when the distribution of an indirect effect is asymmetric (MacKinnon, Lockwood, & Williams, 2002).

We subsequently conducted a set of hierarchical analyses to examine whether gender nonconformity moderated the relationship between same-sex attraction and each of the peer relationship variables. Analyses were conducted separately for victimization, peer role strain, and quality of relationship with classmates. Same-sex attraction and gender nonconformity and the interaction between both variables were entered in Step 1 of each regression analysis (after entering age, education, and biological sex as control variables). To assess whether findings of Step 1 were influenced by biological sex, we entered biological sex in interaction with same-sex attraction and gender nonconformity in Step 2, as well as the interaction between these three variables.

#### RESULTS

#### **Descriptive Analyses**

Means and SD of age, education, same-sex attraction, gender nonconformity, victimization, peer role strain, and quality of relationships with classmates are shown in Table 2. Boys and girls did not significantly differ on age; however, boys were more likely to attend a higher level of education than girls. Boys and girls did not differ in terms of same-sex attraction, but girls scored significantly higher on gender nonconformity than boys. Compared to girls, boys scored higher on victimization and peer role strain, and lower on quality of the relationship with classmates.

Table 2 also shows the correlations between the studied variables. It can be seen that age was associated with same-sex attraction with both boys and girls who were older scoring higher on same-sex attraction. Boys and girls who reported more gender nonconformity also scored higher on victimization and peer role strain and lower on quality of relationships with

classmates. The associations between the three studied peer relationships variables were also significant for boys and girls: those who reported more peer role strain also had more victimization experiences, while the quality of their relationships with classmates was lower. Lower quality of relationships with classmates was also significantly related to higher scores on victimization.

There were also some differences between boys and girls. The correlation between same-sex attraction and gender nonconformity was only significant for boys: the stronger boys experienced same-sex attraction, the more gender-nonconforming they were. Fisher *z* test showed that this sex difference in the association between same-sex attraction and gender nonconformity was also significant (Fisher z = -2.95, p = .003).

The correlation between same-sex attraction and victimization was only significant for boys: boys with more same-sex attraction reported more victimization. This is in contrast with the two other peer relationship variables: boys and girls with stronger same-sex attraction reported high levels of peer role strain and low levels of quality of relationships with classmates.

Two other sex differences were observed. We found only for boys that those who attended lower level education were older. For girls, we found that lower level of education was associated with lower quality of relationships with classmates.

#### Gender Nonconformity as a Mediator

Table 3 shows the mediation model examining the effect of same-sex attraction on victimization, peer role strain, and quality of relationships with classmates via gender nonconformity. Age, education, and biological sex were entered in the model as control variables. In the bootstrapping analyses, same-sex attraction was significantly related to all three peer relationships variables, without taking gender nonconformity into account: Adolescents who scored high on same-sex attraction scored high on victimization and peer role strain and low on quality of the relationships with classmates. The indirect effect of same-sex attraction on the three peer relationships variables was also significant (see Table 3). In the bootstrapped analyses, for victimization the 95% CI for gender nonconformity was 0.00, 0.06. For peer role strain the 95% CI was 0.00, 013, and for quality of the relationship with classmates –0.07, 0.00. The bootstrapping CIs for all these three variables included a zero, indicating that no support was found that gender nonconformity mediated the relationships between same-sex attraction and victimization, peer role strain, and quality of relationships with classmates.

#### Gender Nonconformity as Moderator

As shown in Table 4, age, education, biological sex, same-sex attraction, gender nonconformity, and same-sex attraction x gender nonconformity, entered in Step 1 of the hierarchical regression analysis, explained 13% of the variance in victimization and 17% of the variance in peer role strain; the two R<sup>2</sup>'s were significant as well (see Table 4). Entering the two-way interaction terms biological sex x same-sex attraction and biological sex x gender nonconformity, as well as the three-way interaction of these variables in Step 2 did not produce a significant R<sup>2</sup> for victimization and peer role strain. For quality of

relationships with classmates, however, both  $R^2$  and  $R^2$  in Step 2 were significant and, after entering the interaction terms in Step 2, all variables in the equation accounted for 17% of the variance.

As shown in Table 4, same-sex attraction and gender nonconformity were both positively related to victimization and peer role strain, and negatively to quality of relationships with classmates. Fisher z – tests showed that the beta's for same-sex attraction and gender nonconformity did not differ significantly (victimization: Fisher z = -0.31; peer role strain: Fisher z = 1.73; quality of relationships with classmates: Fisher z = -.15).

The effect of the interaction between same-sex attraction and gender nonconformity for victimization and peer role strain was significant in Step 1 of the hierarchical regression analysis. For quality of relationship with classmates, the effects of the interactions between same-sex attraction x gender nonconformity and same-sex attraction x biological sex in Step 2 were significant. To illustrate these findings, we graphed the relationship between samesex attraction and victimization, peer role strain and quality of the relationship with classmates (see Figs. 1–4). Additionally, we examined simple slopes using the method described by Aiken and West (1991), Jaccard and Turrisi (2001), and Holmeck (2002). Simple slopes for participants with a high score on gender nonconformity (M+1 SD) were 0.16 (p < .0001) for victimization, 0.21 (p < .0001) for peer role strain, and -0.14 for quality of relationship with classmates. For adolescents with a low score of gender nonconformity (M-1 SD), simple slopes were not significant. The results of the simple slopes indicate that the effect of same-sex attraction on victimization, peer role strain, and quality of relationship with classmates was particularly significant for adolescents with higher scores on gender nonconformity. Simple slopes for boys and girls showed that the association between samesex attraction and quality of the relationship with classmates was significant for both sexes; however, the slope for girls (simple slope: -0.29, p < .0001) was stronger than that for boys (simple slope: -0.09, p < .0001).

#### DISCUSSION

Our findings showed that adolescents' relationships with classmates were less positive for adolescents who experienced more same-sex attraction and higher levels of gender nonconformity. Furthermore, gender nonconformity did not seem to mediate but moderated the associations between same-sex attraction and the peer relationships variables. These findings suggest that schools are less safe, especially for gender nonconformity affects the relationships with classmates independent of same-sex attraction it can be concluded that gender nonconforming heterosexual youth are also affected by their gender nonconformity.

Our findings were in agreement with studies that examined the role of gender nonconformity exclusively among same-sex attracted adolescents. These studies showed that same-sex attracted adolescents who conformed to gender norms had more positive relationships with peers than same-sex attracted adolescents who were more gender atypical (e.g., Toomey et al., 2010).

The results in the present study complement those of Rieger and Savin-Williams who studied gender nonconformity in heterosexual and non-heterosexual youth but focused on well-being rather than on relationships with peers. They found that the negative association between gender nonconformity and well-being was stronger than the relation between sexual orientation and well-being; they did not find an interaction effect of same-sex attraction and gender nonconformity. Similar to the results of Rieger and Savin-Williams (2012), we found that gender nonconformity was significantly related to the outcome variables, which in our study focused on relationships with classmates. In contrast to Rieger and Savin-Williams, however, we found significant effects of same-sex attraction and the interaction between same-sex attraction and gender nonconformity. A possible explanation for the difference in findings between the study of Rieger and Savin-Willims and our study could be that wellbeing, the outcome variable in the Rieger and Savin-Williams study, is a different construct than relationships with classmates and that the association with same-sex attraction and gender nonconformity therefore shows different patterns. Another explanation for the different outcomes could be that the participants in our study were younger (M = 14.02 years compared to M = 17.3 years in the study of Rieger and Savin-Williams). That the adolescents in our study were younger might also explain the observed differences in the association between same-sex attraction and gender nonconformity. Rieger and Savin-Williams found a significant correlation between same-sex attraction and adolescent gender nonconformity for both boys and girls. We found a significant correlation between same-sex attraction and gender nonconformity for the total group, which according to statistical guidelines (Cohen, 1988) was a small effect (r = 16); the sex difference we observed indicated that the association was only significant for boys. The association between samesex attraction and gender nonconformity in our study was also small in comparison to studies in adult populations (Bailey, Dunne, & Martin, 2000; Bailey & Zucker, 1995; Dunne, Bailey, Kirk, & Martin, 2000; Lippa, 2005).

Another explanation for the differential findings could be the way in which sexual orientation and gender nonconformity were operationalized. While Rieger and Savin-Williams used the average of three scales to assess sexual orientation (sexual attractions, fantasies, and infatuations), we only assessed sexual attraction. Rieger and Savin-Williams asked participants about their activities and interests, while we asked participants about their feelings. The operationalization of gender nonconformity in terms of activities and interests could be a stronger measure.

The minority stress model offers a framework for the interpretation of our study's findings. This model postulates that sexual minority people experience specific stressors related to their same-sex attraction or LGB identity or because other people perceive them as being homosexual because of their gender nonconformity (Meyer, 2003). The interaction that we observed between same-sex attraction and gender nonconformity suggests that same-sex attracted adolescent who are gender nonconforming have to deal with additional stressor (same-sex attraction and gender nonconformity).

Alternatively, as some scholars suggest, there could be a genetic factor that explains the association between sexual orientation and well-being (Zietsch, Verweij, Bailey, Wright, & Martin, 2009). According to this explanation, the most gender nonconforming adolescents

would have the strongest genetic contribution to psychological problems, which in turn could affect their relationships with peers.

It should be noted that this study was conducted in the Netherlands, a country in which the social role differentiation between women and men is less strong compared to many other Western countries, including the U.S. (Hofstede, 1998). There also is a greater tolerance for gender nonconforming behavior and expression in Dutch culture than in North American culture. Steensma et al. (2014), for example, found that although Dutch and Canadian gender dysphoric children and adolescents showed the same pattern of emotional and behavioral problems, these problems were more prevalent in Canada than in the Netherlands. Furthermore, findings from the World Value Survey and the International Social Survey Program showed that, among Western societies, the Netherlands has the highest level of acceptance of lesbian and gay people (Kelley, 2001; Sandfort, 1998, 2005; Sandfort, McGaskey, & Bos, 2008). However, even in a country with a relatively tolerant climate toward same-sex attracted people and with a small gender role differentiation, we found that same-sex attraction in combination with gender nonconformity was associated with decreased social well-being in adolescents.

Our study had some limitations. First, we did not assess whether the self-rated gender nonconformity was visible in terms of their appearance or behavior. Future research might include measures based on other persons' perceptions, because the more gender nonconformity is visible to peers, the more likely it is that same-sex attracted adolescents will be shunned. Increased visibility of gender nonconformity among same-sex attracted adolescents might lead to loss of support by classmates, and this might make same-sex attracted adolescents more vulnerable to negative reactions (Yunger, Carver, & Perry, 2004).

Secondly, we do not know which classmates (in the participants' perception) reacted negatively, what their motives were, or what their attitudes were toward their peers' gender nonconforming behavior or appearance. Ewing Lee and Troop-Gordon (2011a, 2011b) showed that whether gender-nonconforming children received negative reactions from peers was dependent on gender norms in the peer group. Future research could include gender norms of classmates and explore whether these norms affect the acceptation or rejection of gender nonconformity of same-sex attracted classmates.

Furthermore, same-sex attracted students whose feelings are known to others might be more likely to be confronted with rejection than those who are not open about their sexuality (Ueno, 2005). We did, however, not assess whether same-sex attracted youth were open about their feelings towards their peers at school. Adolescents who choose not to disclose their same-sex attraction may isolate themselves from peers (D'Augelli, 1996). It seems that understanding why same-sex attracted youth have peer difficulties requires distinguishing between those who are open about this and those who are not. Future research should also address this aspect.

Despite these limitations, we found that same-sex attraction contributes to negative peer relationships in school and that, gender nonconformity creates additional stress. Our findings underscore the importance of including gender nonconformity in studies of same-sex

attracted adolescents' social relationships in school. They also strongly suggest that in order to improve adolescents' attitudes toward same-sex attracted peers, it is crucial to also promote acceptance of gender role diversity.

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#### References

- Aiken, LS., West, SG. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage; 1991.
- Alfieri T, Ruble D, Higgins ET. Gender stereotypes during adolescence: Developmental changes and the transition to junior high school. Developmental Psychology. 1996; 32:1129–1137. DOI: 10.1037/0012-1649.32.6.1129
- Armsden GC, Greenberg MT. The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. Journal of Youth and Adolescence. 1987; 16:427–454. DOI: 10.1007/BF02202939 [PubMed: 24277469]
- Bailey JM, Dunne MP, Martin NG. Genetic and environmental influences on sexual orientation and its correlates in an Australian twin sample. Journal of Personality and Social Psychology. 2000; 78:524–536. DOI: 10.1037/0022-3514.78.3.524 [PubMed: 10743878]
- Bailey JM, Zucker KJ. Childhood sex-typed behavior and sexual orientation: A conceptual analysis and quantitative review. Developmental Psychology. 1995; 31:43–55. DOI: 10.1037/0012-1649.31.1.43
- Bontempo DE, D'Augelli AR. Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths' health risk behavior. Journal of Adolescent Health. 2002; 30:364–374. DOI: 10.1016/S1054-139X(01)00415-3 [PubMed: 11996785]
- Bos HMW, Sandfort TGM, de Bruyn EH, Hakvoort E. Same-sex attraction, social relationships, psychological functioning, and school performance in young adolescents. Developmental Psychology. 2008; 44:59–68. DOI: 10.1037/0012-1649.44.1.59 [PubMed: 18194005]
- Brand S, Felner R, Shim M, Seitsinger A, Dumas T. Middle school improvement and reform: development and validation of a school-level assessment of climate, cultural pluralism, and school safety. Journal of Educational Psychology. 2003; 95:570–588. DOI: 10.1037/0022-0663.95.3.570
- Carter DB, McCloskey LA. Peers and the maintenance of sex-types behavior: The development of children's conceptions of cross-gender behavior in their peers. Social Cognition. 1984; 2:294–314. DOI: 10.1521/soco.1984.2.4.294
- Carver PR, Egan SK, Perry DG. Children who question the heterosexuality. Developmental Psychology. 2004; 40:43–53. DOI: 10.1037/0012-1649.40.1.43 [PubMed: 14700463]
- Cohen, J. Statistical power analysis for the behavioral sciences. 2. Hillsdale, NJ: Lawrence Erlbaum Associates; 1988.
- Collier KL, van Beusekom G, Bos HM, Sandfort TG. Sexual orientation and gender identity/ expression related peer victimization in adolescence: A systematic review of associated psychosocial and health outcomes. Journal of sex research. 2013; 50:299–317. DOI: 10.1080/00224499.2012.750639 [PubMed: 23480074]
- D'Augelli, AR. Lesbian, gay, and bisexual development during adolescence and young adulthood. In: Cabaj, RP., Stein, TS., editors. Textbook of homosexuality and mental health. Washington, DC: American Psychiatric Press; 1996. p. 267-288.
- D'Augelli AR, Grossman AH, Starks MT. Childhood gender atypicality, victimization, and PTSD among lesbian, gay, and bisexual youth. Journal of Interpersonal Violence. 2006; 21:1–21. DOI: 10.1177/0886260506293482
- de Bruyn EH. Role strain, engagement and academic achievement in early adolescence. Educational Studies. 2005; 31:15–27. DOI: 10.1080/0305569042000310930

- Drummond K, Bradley SJ, Peterson-Badali M, Zucker KJ. A follow-up study of girls with gender identity disorder. Developmental Psychology. 2008; 44:34–45. DOI: 10.1037/0012-1649.44.1.34 [PubMed: 18194003]
- Dunne MP, Bailey JM, Kirk KM, Martin NG. The subtlety of sex-atypicality. Archives of Sexual Behavior. 2000; 29:549–565. [PubMed: 11100262]
- Egan S, Perry DG. Gender identity: A multidimensional analysis with implications for psychosocial adjustment. Developmental Psychology. 2001; 37:451–463. DOI: 10.1037/0012-1649.37.4.451 [PubMed: 11444482]
- Ewing Lee EA, Troop-Gordon W. Peer socialization of masculinity and femininity: Differential effects of overt and relational forms of peer victimization. British Journal of Developmental Psychology. 2011a; 29:197–213. DOI: 10.1111/j.2044-835X.2010.02022 [PubMed: 21592148]
- Ewing Lee EA, Troop-Gordon WP. Peer processes and gender role development: Changes in gender atypicality related to negative peer treatment and children's friendships. Sex Roles. 2011b; 64:90– 102. DOI: 10.1007/s11199-010-9883-2
- Fenzel LM. Role strain in early adolescence: A model for investigating school transition stress. Journal of Early Adolescence. 1989a; 9:13–33. DOI: 10.1177/0272431689091003
- Fenzel LM. Role strains and the transition to middle school: Longitudinal trends and sex differences. Journal of Early Adolescence. 1989b; 9:211–226. DOI: 10.1177/0272431689093003
- Fenzel LM. Prospective study of changes in global self-worth and strain during the transition to middle school. Journal of Early Adolescence. 2000; 20:93–116. DOI: 10.1177/0272431600020001005
- Gaudio R. Sounding gay: Pitch properties in the speech of gay and straight men. American Speech. 1994; 69:30–57.
- Gottschalk L. Same-sex sexuality and childhood gender non-conformity: A spurious connection. Journal of Gender Studies. 2003; 12:35–50.
- Green R, Roberts CW, Williams K, Goodman M, Mixon A. Specific cross-gender behaviour in boyhood and later homosexual orientation. British Journal of Psychiatry. 1987; 151:84–88. DOI: 10.1192/bjp.151.1.84 [PubMed: 3676630]
- Grossman AH, Kerner MS. Self-esteem and supportiveness as predictors of emotional distress in gay male and lesbian youth. Journal of Homosexuality. 1998; 35:25–39. DOI: 10.1300/J082v35n02\_02
- Harry J. Parasuicide, gender, and gender deviance. Journal of Health and Social Behavior. 1983; 24:350–361. [PubMed: 6668414]
- Hayes, AF. Introduction to mediation, moderation, and conditional process analysis. New York: Guilford Press; 2013.
- Hofstede, G. Masculinity/femininity as a dimension of culture. Masculinity and femininity: The taboo dimension of national cultures. Thousand Oaks, CA: Sage Publications; 1998.
- Holmbeck G. Post-hoc probing of significant moderation and mediational effects in studies of pediatric populations. Journal of Pediatric Psychology. 2002; 27:87–96. DOI: 10.1093/jpepsy/27.1.87 [PubMed: 11726683]
- Jaccard, J., Turrisi, R. Interaction effects in multiple regression. 2. Thousand Oaks, CA: Sage; 2003.
- Johnson KL, Gill S, Reichman V, Tassinary LG. Swagger, sway, and sexuality: Judging sexual orientation from body motion and morphology. Journal of Personality and Social Psychology. 2007; 93:321–334. DOI: 10.1037/0022-3514.93.3.321 [PubMed: 17723051]
- Kelley J. Attitudes towards homosexuality in 29 nations. Australian Social Monitor. 2001; 4:15–21.
- Kersten, J., Sandfort, TGM. [Lesbian and gay adolescentsin school: An assessment of bottlenecks, problems, and solutions]. Utrecht, the Netherlands: Universiteit Utrecht, ISOR; 1994. Lesbische en homoseksuele adolescenten in de schoolsituatie. Een inventarisatie van knelpunten, problemen en oplossingen.
- Landolt MA, Bartholomew K, Saffrey C, Oram D, Perlman D. Gender nonconformity, childhood rejection and adult attachment: A study of gay men. Archives of Sexual Behavior. 2004; 33:117– 128. DOI: 10.1023/B:ASEB.0000014326.64934.50 [PubMed: 15146144]
- Lippa RA. Gender-related traits in gay men, lesbian women, and heterosexual men and women: The virtual identity of homosexual- heterosexual diagnosticity and gender diagnosticity. Journal of Personality. 2000; 68:899–926. DOI: 10.1111/1467-6494.00120 [PubMed: 11001153]

Lippa, RA. Gender, nature and nurture. Mahwah, N.J: Lawrence Erlbaum Associates, Inc; 2002.

- Lippa RA. Sexual orientation and personality. Annual Review of Sex Research. 2005; 16:119–153.
  - Lippa RA. The relation between childhood gender nonconformity and adult masculinity-femininity and anxiety in heterosexual and homosexual men and women. Sex Roles. 2008; 59:684–693. DOI: 10.1007/s11199-008-9476-5
  - Logie CH, Newman PA, Chakrapani V, Shunmugam M. Adapting the minority stress model: associations between gender non-conformity stigma, HIV-related stigma and depression among men who have sex with men in South India. Social Science & Medicine. 2012; 74:1261–1268. doi: 0.1016/j.socscimed.2012.01.008. [PubMed: 22401646]
  - MacKinnon DP, Lockwood CM, Hoffman JM, West SG, Sheets V. A comparison of methods to test mediation and other intervening variable effects. Psychological Methods. 2002; 7:83–104. DOI: 10.1037/1082-989X.7.1.83 [PubMed: 11928892]
  - Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. Psychological Bulletin. 2003; 129:674–697. DOI: 10.1037/0033-2909.129.5.674 [PubMed: 12956539]
  - Pilkington NW, D'Augelli AR. Victimization of lesbian, gay, and bisexual youth in community settings. Journal of Community Psychology. 1995; 23:33–55. DOI: 10.1002/1520-6629(199501)
  - Rieger G, Linsenmeier JAW, Gygax L, Bailey JM. Sexual orientation and childhood gender nonconformity: Evidence from home videos. Developmental Psychology. 2008; 44:46–58. DOI: 10.1037/0012-1649.44.1.46 [PubMed: 18194004]
  - Rieger G, Savin-Williams RC. Gender nonconformity, sexual orientation, and psychological wellbeing. Archives of Sexual Behavior. 2012; 41:611–621. DOI: 10.1007/s10508-011-9738 [PubMed: 21350914]
  - Rosario M, Rotherman-Borus MJ, Reid H. Gay-related stress and its correlations among gay and bisexual male adolescents of predominantly Black and Hispanic background. Journal of Counseling Psychology. 1996; 24:136–159. DOI: 10.1002/(SICI)1520-6629(199604)24:2
  - Ruble, DN., Martin, CL., Berenbaum, SA. Gender development. In: Lerner, RH., Eisenberg, N., editors. Handbook of child psychology. Hoboken, NJ: John Wilsey & Sons; 2006. p. 858-932.
  - Russell ST, Joyner K. Adolescent sexual orientation and suicide risk: Evidence from a national study. American Journal of Public Health. 2001; 91:1276–1281. DOI: 10.2105/AJPH.91.8.1276 [PubMed: 11499118]
  - Russell ST, Seif H, Truong NL. School outcomes of sexual minority youth in the United States: Evidence from a national study. Journal of Adolescence. 2001; 24:111–127. DOI: 10.1006/jado. 2000.0365 [PubMed: 11259074]
  - Sandfort, ThGM. Homosexual and bisexual behaviour in European countries. In: Hubert, M.Bajos, N., Sandfort, TGM., editors. Sexual behaviour and HIV/AIDS in Europe. London: UCL Press; 1998. p. 68-105.
  - Sandfort TGM. Homofobie: welk probleem? Wiens probleem? [Homophobia: which problem? Whose problem?]. Tijdschrift voor Seksuologie. 2005; 29:11–18.
  - Sandfort TGM, Bos HMW, Collier K, Metselaar M. School environment and the mental health of sexual minority youth: A study among Dutch young adolescents. American Journal of Public Health. 2010; 100:1696–1700. DOI: 10.2105/AJPH.2009.183095 [PubMed: 20634453]
  - Sandfort, TGM., McGaskey, J., Bos, H. Understanding cross-national differences in the acceptance of homosexuality. Paper presented at the meeting of the International Academy of Sex Research; Leuven, Belgium. 2008.
  - Sandfort TGM, Melendez RM, Díaz R. Gender nonconformity, homophobia, and mental health in Latino gay men. Journal of Sex Research. 2007; 44:181–189. DOI: 10.1080/00224490701263819 [PubMed: 17599275]
- Savin-Williams, RC. The new gay teenager. Cambridge, MA: Harvard University Press; 2005.
- Serbin LA, Powlishta KK, Gulko J. Sex roles, status, and the need for social change. Monographs of the Society for Research in Child Development. 1993; 58:93–95.
- Singh, D. Unpublished doctoral dissertation. University of Toronto; 2012. A follow-up study of boys with gender disorder.

- Steensma TD, van der Ende J, Verhulst FC, Cohen-Kettenis PT. Gender variance in childhood and sexual orientation in adulthood: A prospective study. Journal of Sexual Medicine. 2013; 10:2723– 2733. DOI: 10.1111/j.1743-6109.2012.02701.x [PubMed: 22458332]
- Steensma TD, Zucker KJ, Kreukels BP, VanderLaan DP, Wood H, Fuentes A, Cohen-Kettenis PT. Behavioral and emotional problems on the Teacher's Report Form: A cross-national, cross-clinic comparative analysis of gender dysphoric children and adolescents. Journal of Abnormal Child Psychology. 2014; 42:635–647. [PubMed: 24114528]
- Toomey RB, Ryan C, Diaz RM, Card NA, Russell ST. Gender-nonconforming lesbian, gay, bisexual, and transgender youth: School victimization and young adult psychosocial adjustment. Developmental Psychology. 2010; 46:1580–1589. DOI: 10.1037/a0020705 [PubMed: 20822214]
- Ueno K. Sexual orientation and psychological distress in adolescence: Examining interpersonal stressors and social support processes. Social Psychology Quarterly. 2005; 68:258–277. DOI: 10.1177/019027250506800305
- Wallien MS, Cohen-Kettenis PT. Psychosexual outcome of gender-dysphoric children. Journal of American Academy of Child and Adolescent Psychiatry. 2008; 47:1413–1423. doi.org/10.1097/ CHI.0b013e31818956b9.
- Washburn-Ormachea JM, Hillman SB, Sawilowsky SS. Gender and gender-role orientation differences on adolescents' coping with peer stressors. Journal of Youth and Adolescence. 2004; 33:31–40. DOI: 10.1023/A:1027330213113
- Yunger JL, Carver PR, Perry DG. Does gender identity influence children's psychological well-being? Developmental Psychology. 2004; 40:572–582. DOI: 10.1037/0012-1649.40.4.572 [PubMed: 15238044]
- Zietsch BP, Verweij KJ, Bailey JM, Wright MJ, Martin NG. Sexual orientation and psychiatric vulnerability: A twin study of neuroticism and psychoticism. Archives of sexual behavior. 2011; 40:133–142. DOI: 10.1007/s10508-10009-19508-10504 [PubMed: 19588238]
- Zucker KJ. Measurement of psychosexual differentiation. Archives of Sexual Behavior. 2005; 34:375–388. doi:0.1007/s10508-005-4336-7. [PubMed: 16010461]
- Zucker, KJ., Bradley, SJ. Gender identity disorder and psychosexual problems in children and adolescents. New York: Guilford Press; 1995.
- Zucker KJ, Wilson-Smith DN, Kurita JA, Stern A. Children's appraisals of sex-typed behavior in their peers. Sex Roles. 1995; 33:703–725. DOI: 10.1007/BF01544775



#### Figure 1.

Same-sex Attraction with Victimization Across Gender Nonconformity. Error Bars Represents 95% Confidence Intervals





Same-sex Attraction with Peer Role Strain Across Gender Nonconformity. Error Bars Represents 95% Confidence Intervals



#### Figure 3.

Same-sex Attraction with Quality of Relationships with Peers Across Gender Nonconformity. Error Bars Represents 95% Confidence Intervals

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Table 1

Levels of Same-sex Attraction by Biological Sex

|       | Never      | Rarely       | Sometimes | Frequently | Very often |
|-------|------------|--------------|-----------|------------|------------|
|       | (%) u      | (%) <i>u</i> | (%) u     | (%) u      | n (%)      |
| Boys  | 195 (89.9) | 9 (4.1)      | 5 (2.3)   | 3 (1.4)    | 5 (2.3)    |
| Girls | 241 (89.6) | 18 (6.7)     | 4 (1.5)   | 4 (1.5)    | 2 (0.7)    |

# Table 2

Means and Stand Deviations, and Intercorrelation between Age, Education, Same-sex Attraction and Relationships with Peers at School

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|   | Μ              | SD   | l.                 | <b>i</b> |                   | 4                 | ò.      | 6.                |
|---|----------------|------|--------------------|----------|-------------------|-------------------|---------|-------------------|
| Overall   |                |      |                    |          |                   |                   |         |                   |
| 1. Age <sup>a</sup>                                       | 14.02          | 1.08 |                    |          |                   |                   |         |                   |
| 2. Education <i>b</i>                                     | 02.22          | 0.94 | 14 ***             |          |                   |                   |         |                   |
| 3. Same-sex attraction $c$                                | 01.19          | 0.67 | .13**              | 05       |                   |                   |         |                   |
| 4. Gender nonconformity <sup>d</sup>                      | 01.89          | 0.96 | .01                | 05       | 16 <sup>***</sup> |                   |         |                   |
| 5. Victimization $e$                                      | 01.42          | 0.50 | .04                | 00       | 22 <sup>***</sup> | 16 <sup>***</sup> |         |                   |
| 6. Peer role strain $f$                                   | 01.72          | 0.72 | 04                 | 04       | 21 ***            | 27 ***            | 44 ***  |                   |
| 7. Quality of relationships with classmates $\mathcal{C}$ | 03.48          | 0.60 | 07                 | 07       | 16***             | 12                | 24 ***  | 48 <sup>***</sup> |
| Boys  |                |      |                    |          |                   |                   |         |                   |
| 1. Age  | $14.02^{f}$    | 1.11 | ı                  |          |                   |                   |         |                   |
| 2. Education  | $02.41 \ h$    | 0.85 | 23 ***             | ***      |                   |                   |         |                   |
| 3. Same-sex attraction                                    | 01.22 f        | 0.76 | .13 <sup>†**</sup> | 06 ***   | ***               |                   |         |                   |
| 4. Gender nonconformity                                   | 01.72 h        | 0.93 | .00 ***            | 07 ***   | .30***            | ***               |         |                   |
| 5. Victimization  | 01.53 h        | 0.56 | 02 ***             | .02      | .34 ***           | .28               | ***     |                   |
| 6. Peer role strain                                       | 01.85 <i>h</i> | 0.81 | 04 ***             | .08**    | .24 ***           | .31 ***           | .47 *** | ****              |
| 7. Quality of relationships with classmates               | 03.30 h        | 0.56 | .01 ***            | .04      | $13^{+**}$        | 15 ***            | 24 ***  | 48                |
| Girls   |                |      |                    |          |                   |                   |         |                   |
| 1. Age  | 14.02          | 1.05 |                    |          |                   |                   |         |                   |
| 2. Education  | 02.08          | 0.98 | 08                 |          |                   |                   |         |                   |
| 3. Same-sex attraction                                    | 01.17          | 0.59 | .13*               | 06       |                   |                   |         |                   |
| 4. Gender nonconformity                                   | 02.03          | 0.96 | .02                | .01      | .03               |                   |         |                   |
| 5. Victimization  | 01.32          | 0.43 | .10                | 10       | .06               | $.12^{f}$         |         |                   |
| 6. Peer role strain                                       | 01.62          | 0.62 | .04                | 06       | .16*              | .30***            | .35 *** |                   |
| 7. Quality of relationships with classmates               | 03.62          | 0.59 | 14 *               | .17*     | 19 ***            | 19 **             | 15 *    | 44 ***            |

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 $^{g}$ Absolute range is 1–5 (overall and boys) and 1.70–5 (girls), where 1= low and 5 = high score on quality of relationships with class mates; f Absolute range is 1–5 (overall and boys) and 1–4.44 (girls), where 1 = low score and 5 = high score on experiences of peer role strain;  $d^{d}$  Absolute range is 1–7 (overall and boys) and 1–5 (girls), where 1 = low score and 7 = high score on gender nonconformity; b Absolute range is 1–3 (similar for boys and girls), where 1 = prevocational level, 2 = general level, 3 = pre-academic level;  $e^{d}$  Absolute range 1–4 (similar for boys and girls), where 1 = low score and 4 = high score on experiences of victimization; <sup>c</sup> Absolute range is 1–5 (similar for boys and girls), where 1 = low score and 5 = high score on same-sex attraction;

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 $\hbar$  test showed significant differences between boys and girls

 $f_{p<.10};$ 

p < .001;\* *p*<.05;

p < .0001

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# Table 3

Bootstrapping Results of Direct and Indirect Effect of Same-sex Attraction, Victimization, Peer Role Strain and Quality of Relationships with Classmates

|  | В   | Standard error (SE) | t     | b      |
|--|-----|---------------------|-------|--------|
| Victimization                          |     |                     |       |        |
| Direct effect of same-sex attraction   | .16 | .03                 | 4.74  | <.0001 |
| Indirect effect of same-sex attraction | .14 | .03                 | 4.13  | <.0001 |
| Peer role strain                       |     |                     |       |        |
| Direct effect of same-sex attraction   | .22 | .04                 | 4.72  | <.0001 |
| Indirect effect of same-sex attraction | .17 | .05                 | 3.80  | <.0001 |
| Quality of Relationships with Classmat | tes |                     |       |        |
| Direct effect of same-sex attraction   | 13  | .04                 | -3.28 | .001   |
| Indirect effect of same-sex attraction | 11  | .04                 | -2.71 | .007   |

|                            | >   | ictimiz | ation             | Pee | r role s | train   | Quality of <b>r</b> | elationship | with classmates |
|----------------------------|-----|---------|-------------------|-----|----------|---------|---------------------|-------------|-----------------|
|                            | В   | SE      | β                 | В   | SE       | β       | В                   | SE          | β               |
| Step 1                     |     |         |                   |     |          |         |                     |             |                 |
| Age                        | 00. | .02     | .00 ***           | 05  | .03      | 07 ***  | 02                  | .02         | 04 ***          |
| Education                  | 02  | .03     | 04 ***            | 00. | .03      | .00     | .07                 | .03         | .12 ***         |
| Biological sex (S)         | 23  | .05     | 22 <sup>***</sup> | 25  | 90.      | 17 ***  | .37                 | .05         | .31 ***         |
| Same-sex attraction (SSA)  | .10 | .04     | .14***            | .12 | .05      | .12     | 08                  | .04         | 09              |
| Gender nonconformity (GNC) | .06 | .03     | .12***            | .17 | .03      | .23 *** | 07                  | .03         | 12              |
| SSA x GNC                  | .05 | .02     | .15***            | 60. | .03      | .17 *** | 05                  | .02         | 11 ***          |
| Step 2                     |     |         |                   |     |          |         |                     |             |                 |
| Age                        | 00. | .02     | .01 ***           | 05  | .03      | 07 ***  | 02                  | .02         | 04 ***          |
| Education                  | 02  | .02     | 04 ***            | 00. | .03      | .00°    | .08                 | .03         | .12 ***         |
| Biological sex (S)         | 23  | .05     | 22 ***            | 25  | 90.      | 18      | .36                 | .05         | .30 ***         |
| Same-sex attraction (SSA)  | 60. | .04     | .12 ***           | .13 | .05      | .13 *** | 09                  | .04         | 10 ***          |
| Gender nonconformity (GNC) | .07 | .03     | .12 ***           | .17 | .03      | .24 *** | 07                  | .03         | 11 ***          |
| SSA x GNC                  | .04 | .02     | .10***            | .10 | .02      | .19 *** | 05                  | .02         | 13 ***          |
| S x GNC                    | 04  | .05     | 04                | 02  | .07      | 01 ***  | 10                  | .06         | 08              |
| S x SSA                    | 13  | .07     | 09                | .03 | .10      | .01 *** | 19                  | .08         | 11 ***          |
| S x SSA x GNC              | 03  | .04     | 04 ***            | .05 | .06      | .05 *** | .05                 | .05         | .06             |

Table 4

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p < .05;p < .001;p < .0001