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Intergroup contact, attitudes toward homosexuality, and the role of acceptance of gender non-conformity in young adolescents

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Abstract

This study explored how contact with gay and lesbian persons affects adolescents' attitudes toward them, and whether this association is mediated or moderated by one's acceptance of gender non-conformity. We analyzed survey responses from 456 Dutch adolescents aged 12 to 15 who reported having no same-sex attractions. Data were collected in 2008 at 8 schools in Amsterdam, the Netherlands. Preliminary analyses showed that contact with lesbian/gay persons outside of school was positively associated with attitudes toward lesbians and gay men. Multilevel analyses showed that acceptance of gender non-conformity mediated rather than moderated the relationship between intergroup contact and sexual prejudice in males. The effect of intergroup contact on females' attitudes toward lesbian women was no longer significant in multilevel analyses. The findings suggest that attention to both intergroup contact and acceptance of gender non-conformity would enhance our understanding of attitudes toward homosexuality in adolescents.

Keywords

Intergroup contact; Homosexuality; Gender non-conformity; Adolescence; Sexual prejudice

Same-sex attracted adolescents are at heightened risk for negative health outcomes such as substance use, sexual risk behaviors, suicidal behavior, poorer school performance, and mental health problems, in part due to their disproportionate exposure to violence and victimization at school (Bos, Sandfort, de Bruyn, & Hakvoort, 2008; DuRant, Krowchuk & Sinal, 1998; Faulkner & Cranston, 1998; Garofalo, Wolf, Kessel, Palfrey & DuRant, 1998; Poteat & Espelage, 2007; Russell, Franz & Driscoll, 2001; Sandfort, Bos, Collier, & Metselaar, 2010). Given both the frequency (Kosciw, Diaz & Greytak, 2008) and the serious nature (Cathcart, 2008; Cox, 2009) of antigay bullying, there is an urgent need to better understand sexual prejudice among adolescents. Sexual prejudice, or negative attitudes toward homosexual behavior or lesbian, gay, or bisexual individuals or communities (Herek,

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2000), is understood to be a major determinant of antigay behavior (Parrott, 2008), but much of what we know about it is based on studies that used adult samples.

In the present study, we used the scientific literature about adult heterosexuals' attitudes toward lesbian and gay persons as a starting point from which to build the base of knowledge about sexual prejudice among adolescents. Prior investigations have demonstrated that heterosexual adults' attitudes toward lesbian and gay persons can be related to their interpersonal experiences with gay and lesbian individuals, and their reading of other individuals' gender expression (Lehavot & Lambert, 2007; Smith, Axelton & Saucier, 2009). This study explored how contact with gay and lesbian persons might affect young adolescents' attitudes and whether this association is mediated or moderated by one's acceptance of gender non-conformity – defined here as tolerance for individuals' non-traditional gender expression, as indicated by their appearance, behavior, and/or romantic partnerships.

Adolescents have been shown to differ in their attitudes toward gay and lesbian persons in a few predictable ways. A consistent finding is that adolescent males exhibit more sexual prejudice than females (Baker & Fishbein, 1998; Hoover & Fishbein, 1999; Horn, 2006; Poteat, Espelage & Koenig, 2009; Price, 1982; Van de Ven, 1994). Separate studies have also found an association between sexual prejudice and traditional male role attitudes (Marsiglio, 1993) or sex-role stereotyping (Hoover & Fishbein, 1999), with those holding more traditional male role attitudes and endorsing traditional masculine and feminine behavioral and occupational stereotypes showing more negative attitudes toward homosexuality. These findings are consistent with the literature on attitudes toward homosexuality in adults (Kite & Whitley, 1996).

Several researchers have compared levels of sexual prejudice in adolescents of different ages (Baker & Fishbein, 1998; Hoover & Fishbein, 1999; Van de Ven, 1994). Perhaps due to differing operational definitions of sexual prejudice, however, findings have not always been consistent. These studies have also been of a cross-sectional nature, and, particularly due to the pace of social change in this area, cohort effects might obscure theoretical relationships. With a sample that included ninth-graders, young offenders, and third-year university students, Van de Ven (1994) used three measures to assess the cognitive, affective, and behavioral components of sexual prejudice; the high school students and young offenders exhibited more sexual prejudice than did the university students, suggesting a decrease in prejudice as adolescents age. Baker and Fishbein (1998) compared sexual prejudice among adolescents in grades 7, 9, and 11. They found that sexual prejudice increased in both males and females between grades 7 and 9, but decreased for females and increased for males between grades 9 and 11. With a sample of adolescents in grades 7, 9, and 11, as well as college students, Hoover and Fishbein (1999) found the same increase in sexual prejudice between grades 7 and 9, followed by decreases in both males and females in grade 11 and at college age.

Subsequent studies that explored age differences have also examined the social consequences of sexual prejudice. Horn (2006) compared middle (ages 14–16) and late (ages 16–18) adolescents and young adults (ages 19–26), and found no age-related differences in beliefs about whether homosexuality was right or wrong. However, the middle adolescents were the least comfortable interacting with gay or lesbian peers and judged excluding and teasing a gay or lesbian peer as more acceptable than did the late adolescents and young adults. Among a sample of middle and high school students (grades 7–12), Poteat and colleagues (2009) found that older students were more willing than younger students to remain friends or attend school with gay or lesbian peers.

Consideration of the way that contact with lesbians and gay men might affect adolescents' attitudes toward them has been missing from the literature until recently (Heinze & Horn, 2009; Mata, Ghavami & Wittig, 2010). This research gap is notable because the relationship between intergroup contact and sexual prejudice has long been a topic of study in adults. Studies conducted in the 1990s with large, probability-based samples (Herek & Capitanio, 1996; Herek & Glunt, 1993) showed that in general, greater contact with lesbians and gay men was associated with more positive attitudes toward them. A recent meta-analysis of the effects of contact on sexual prejudice, compiling 41 studies dating back to 1974, confirmed this conclusion (Smith et al., 2009).

Research on intergroup relations between heterosexual and gay and lesbian people has been informed by Allport's influential intergroup contact hypothesis, presented in *The Nature of Prejudice* (1954). In practice, however, many of the studies that have examined the issue have not accounted for the conditions that Allport (1954) argued were essential to contact experiences that would improve intergroup relations, i.e., “equal status contact… in the pursuit of common goals…sanctioned by institutional supports [and leading to] the perception of common interests and common humanity” (p. 281). In a meta-analysis, Pettigrew and Tropp (2006) demonstrated that Allport's conditions are not always necessary for, but rather act as facilitators to, positive outcomes. This meta-analysis also confirmed that even though the intergroup contact hypothesis was developed for the study of relations across racial groups, it can be usefully applied to examine relations between other groups, including heterosexuals and lesbians/gay men (Pettigrew & Tropp, 2006).

The literature on intergroup contact and sexual prejudice in adolescence remains sparse. Mata and colleagues (2010) tested intergroup contact as one of two potential mediators explaining gender differences in adolescents' attitudes toward gay men and lesbians. They found that gender differences in attitudes toward gay men (i.e., that young women have more favorable attitudes than young men) were partially explained by knowing a gay male. While knowing a lesbian independently contributed to having more favorable attitudes toward them, the authors found that it did not explain attitude differences between male and female adolescents. Contact was assessed in this study with one item related to lesbians (“Do you know a female that is a lesbian?”) and an equivalent item for gay males.

Heinze and Horn (2009) examined how contact experiences were related to high schoolers' beliefs about the acceptability of homosexuality and attitudes toward social interactions with lesbian/gay peers. The authors found that, as compared to adolescents reporting no contact or only casual contact with lesbian and gay people, those who reported having a lesbian or gay friend were more comfortable interacting with lesbian and gay peers, less likely to judge homosexuality as wrong, and more likely to evaluate excluding and teasing a lesbian or gay peer as wrong. Analysis of the justifications the participants provided about why it would be right or wrong to exclude or tease gay or lesbian peers found that adolescents with gay/lesbian friends were less likely to endorse informational assumptions (e.g., “He is being unnatural/disgusting”) and more likely to use moral reasoning (e.g., “We should treat others as we wish to be treated”) in making these justifications.

Another important determinant of heterosexuals' attitudes toward gay men and lesbians is the perceived transgression by lesbian and gay persons of traditional gender norms (Blashill & Powlishta, 2009b; Cohen, Hall & Tuttle, 2009; Lehavot & Lambert, 2007). Blashill and Powlishta (2009b) found that the gender role and sexual orientation of hypothetical male targets uniquely contributed to study participants' evaluations of those targets; regardless of the target's sexual orientation (gay or heterosexual), his femininity elicited negative evaluations from participants. Cohen and colleagues (2009) found that heterosexual men's attitudes toward lesbian and gay persons were driven by the extent to which lesbian and gay

persons seemed to adhere to traditional gender roles. Lehavot and Lambert (2007) found that study participants demonstrating high levels of sexual prejudice disliked gender non-conforming targets, independent of their dislike of gay/lesbian targets. Gender non-conforming gay men and lesbians were evaluated more negatively than those who were described as gender-conforming.

When evaluating peers, heterosexual adolescents also use information about both sexual orientation and gender expression (Horn, 2007). Participants in Horn's (2007) study evaluated same-gender targets who were either gay or heterosexual, and whose self-presentation varied according to gendered conventions of appearance and activities. The targets described in the survey that were gender non-conforming in terms of their physical appearance (e.g., a male student wearing eyeliner) were evaluated more negatively than targets that did not conform to activity norms (e.g., a male student who participates in ballet). Furthermore, among the males surveyed, gay male peers who conformed to gender norms were evaluated as more acceptable than gender non-conforming straight male peers.

Findings to date, then, suggest that adults' and adolescents' attitudes toward lesbian and gay people have some common determinants. We designed the current study in order to expand upon past work on sexual prejudice in adolescence in two ways: by using a sample that was younger than those used in most previous studies and that was from a non-U.S. setting (the Netherlands), and by testing for new relationships between relevant variables (intergroup contact, attitudes toward gay and lesbian persons, and acceptance of gender non-conformity). We hypothesized that a person's attitude toward gender non-conformity influences the way in which intergroup contact affects his or her attitudes toward lesbian and gay persons. This could work in two ways. Contact with lesbian and gay persons could lead to greater acceptance of gender non-conformity and subsequently to a more positive attitude toward homosexuality. It is also possible that acceptance of gender non-conformity works as a moderator. In that case, one would expect contact with lesbian and gay persons to have a particularly positive effect on attitudes toward homosexuality in persons who have a positive attitude toward gender non-conformity. Contact with lesbian and gay persons would then have a lesser or no effect in persons with low acceptance of gender non-conformity.

The aim of our study was to examine whether young adolescents who know more lesbian or gay people also have more favorable attitudes toward homosexuality. Furthermore, we wanted to explore whether this relationship was mediated or moderated by adolescents' acceptance of gender non-conformity (see Figure 1). We hypothesized that there would be a positive relationship between intergroup contact and attitudes: those adolescents reporting higher levels of contact with lesbians and gay men would have more positive attitudes towards them (path *c*). We also hypothesized that adolescents' acceptance of gender non-conformity would mediate (paths *a* and *b*) or moderate (path *d*) the relationship between intergroup contact and sexual prejudice. If increased intergroup contact produces greater acceptance of gender non-conformity, and subsequently, more positive attitudes toward gay and lesbian persons, this would support a mediation effect. However, if those who are more and less accepting of gender non-conformity are differentially affected, intergroup contact has a moderator effect.

Method

Participants

Participants were 518 Dutch students (223 boys and 294 girls, and one person who did not report on gender) attending eight different high schools in Amsterdam, the Netherlands. Because the focus of this study was on attitudes of heterosexual students, we excluded 57 students who reported at least some degree of same-sex attraction. We also excluded five

participants who did not respond to the question about same-sex attractions. This resulted in a total sample of 456 students (males, $N = 198$; females, $N = 258$). The number of participants per school that were included in our analyses ranged from 16 to 156 ($M = 57$).

The high schools had the following educational orientations: pre-vocational secondary (36.2% of all participants), general secondary (8.8%), and pre-university (55.0%). Only students in Years 1 (29.8%), 2 (30.0%), and 3 (40.2%) (age range 12 – 15) participated in this study. The average age of the students was 13.97 years ($SD = 1.07$). The ethnic composition of the sample was 55.7% Dutch and 44.3% non-Dutch. The ethnicity of the non-Dutch students was diverse: 23.2% Surinamese, 18.9% Moroccan, 16.9% Turkish, and 4.7% Antillean; the remaining 69 students selected “other” in response to this question.

Procedure

Before data collection began, the board of each participating school sent a letter containing information about the purpose and date of the study to all parents of the students. The letter made clear that student participation in the study was voluntary. If parents did not want their child to participate, they could indicate this by returning the letter. Only seven parents indicated that they did not want their child to participate in the study (no reasons were stated). All other students who were present in the classes in which the survey was administered assented to participation. Adolescents were not compensated for participation. Approval of this study was granted by the participating schools.

Data were gathered by means of a computer-based questionnaire or, in the few cases that computers were not available, on paper, filled in by the students during regular class times. One of the respective school's instructors was present during this class. Prior to survey administration, students were informed that their participation was voluntary and that their answers would be kept confidential. The questionnaire administration took approximately 50 minutes.

Measures

This study is part of a larger study on same-sex sexuality and school safety. Parts of the questionnaire relevant to this paper involved intergroup contact, attitudes toward lesbian women and gay men, and the acceptability of heterosexual and same-sex attracted peers who varied in terms of gender expression.

Intergroup contact—To assess school-based intergroup contact, we asked participants: “How many openly gay or lesbian students do you know at your school?” To assess non-school-based contact, we asked: “How many openly gay or lesbian people do you know in your (direct) environment outside the school?” For both questions, responses were given on a five-point scale: 1 = *no one*, 2 = *one*, 3 = *two*, 4 = *three* and 5 = *four or more*.

Attitudes toward lesbian women and gay men—We assessed male adolescents' attitudes toward gay men and female adolescents' attitudes toward lesbian women with scales adapted from Herek (1988). We used the short version of these two scales, which have been used previously in the Netherlands (Van de Meerendonk, Eisinga, & Felling, 2003). Each scale consists of five items and uses a five-point Likert-type response scale (1 = *strongly disagree* to 5 = *strongly agree*). Examples of statements are “Male homosexuality is a natural expression of sexuality in men” (attitudes toward gay men) and “Lesbian sexuality is not a problem for me” (attitudes toward lesbian women). Higher scores on these scales indicate more positive attitudes. Cronbach's alphas were .83 (attitudes toward gay men) and .85 (attitudes toward lesbian women).

Acceptance of gender non-conformity—Although researchers treat sexual orientation and gender expression as distinct concepts, evidence suggests that individuals conflate the two when evaluating others; as a consequence, a gay man's attraction to other men suggests that he is feminine (Blashill & Powlishta, 2009a), and a man's feminine gender expression indicates that he is gay (Deaux & Lewis, 1984; Sirin, McCreary, & Mahalik, 2004). Our measure of acceptance of gender non-conformity therefore accounted for minority sexual orientation as one expression of gender non-conformity.

To measure participants' acceptance of peers of the same gender who are gender non-conforming, we adapted four scenarios from an instrument developed by Horn (2007). In each scenario, the target's sexuality and gender expression were described. The target's sexuality was described by indicating the gender of the people to whom the target was attracted (e.g. “Mark is attracted to boys”). Targets were described as gender non-conforming in either physical appearance or choice of activities (for a detailed description of the scenarios, see Horn, 2007). Scenarios were also translated from English to Dutch and altered in minor ways to increase their relevance to a Dutch population (e.g., substitution of soccer for baseball as the sport played by the targets, which is a more common sport in the Netherlands and also more associated with masculinity). Males and females were presented with parallel scenarios featuring same-gender peers; the targets were 1) opposite-sex attracted and activity non-conforming; 2) opposite-sex attracted and appearance non-conforming; 3) same-sex attracted and activity non-conforming; 4) same-sex attracted and appearance non-conforming. Adolescents were asked to rate the peers described in each scenario in terms of acceptability (1 = *person is not acceptable at all* to 5 = *person is totally acceptable*). We calculated the mean scores of the four scenarios, with higher scores indicating greater acceptance of gender non-conformity. Cronbach's alphas were .88 for male participants and .79 for female participants.

Analyses

We used Baron and Kenny's (1986) criteria to assess whether the effect of intergroup contact on attitudes toward gay men (for males) and lesbian women (for females) was mediated or moderated by acceptance of gender non-conformity. The conditions as formulated by Baron and Kenny specify that there must be a significant relationship between: (a) the independent variable (intergroup contact) and the dependent variables (attitudes toward gay men/ lesbians); (b) the independent variable and the potential mediator (acceptance of gender non-conformity) and (c) the potential mediator and dependent variables. When assessing relationships (a) and (b), we used only the measure of non-school-based intergroup contact because almost 75% of the students did not know an openly gay or lesbian student at their school. The conditions for mediation/moderation were examined in a series of hierarchical regression analyses, with age and ethnicity entered as control variables in the first step of each regression. The analyses were conducted separately for male and female adolescents.

We subsequently assessed the degree to which intergroup contact and acceptance of gender non-conformity predicted female participants' attitudes toward lesbian women and male participants' attitudes toward gay men. Because the participants in this study were from eight different schools, we used a multilevel modeling technique in order to avoid underestimating the standard error associated with the regression coefficients in our model. Multilevel analyses were conducted with STATA software. We first ran a null multilevel model without an independent variable in order to estimate between-school variance and determine whether there were significant variations in attitudes toward lesbians/gay men between the schools. We calculated intra-class correlation coefficients to determine the percentage of variance in attitudes toward gay men (for males) and lesbians (for females) that was

attributable to between-school differences. The likelihood ratio test was used to determine whether school effects were significant.

Multilevel modeling was used to confirm the relationship between intergroup contact and attitudes toward lesbians/gay men (depicted as path *c* in Figure 1). In Model 1, we entered ethnicity and age (as controlling variables) and non-school intergroup contact (as the independent variable). In Model 2, acceptance of gender non-conformity was added to the model, and in Model 3 we added the interaction between non-school intergroup contact and acceptance of gender non-conformity. The interaction was computed by centering acceptance of gender non-conformity and intergroup contact around the means (separately for boys and girls) and calculating the cross-products of the two centered variables.

Support for a mediating effect of acceptance of gender non-conformity would be established if the influence of intergroup contact on attitudes towards gay men or lesbian women disappeared or was significantly reduced by controlling for acceptance of gender non-conformity. In case the effect of the interaction between non-school intergroup contact and acceptance of gender non-conformity was significant in Model 3, we would conclude that acceptance of gender non-conformity is a moderator instead of a mediator.

Results

Descriptive analyses

Table 1 displays the mean scores and standard deviations for the variables assessed in this study, along with the partial correlations (controlled for ethnicity and age) between each of the variables. Results are presented according to the participants' gender because only the acceptance of same-gender targets was evaluated. For male adolescents the partial correlations between the studied variables ranged between .20 and .60, while for female adolescents they ranged between .23 and .46; all partial correlations were statistically significant.

Intergroup contact and attitudes toward gay men and lesbians

Regression analyses showed a significant relationship between non-school-based intergroup contact and male participants' attitudes toward gay men ($\beta = .19$, $p = .006$), in a model controlling for ethnicity and age ($R^2 = .14$, $F = 9.93$, $p < .001$). The regression analyses also showed a significant relationship between non-school-based intergroup contact and female participants' attitudes toward lesbian women ($\beta = .22$, $p = .001$). Along with age and ethnicity as control variables, the model explained 23.9% of the variance in attitudes toward lesbian women ($F = 22.70$, $p < .001$). These findings provided support for the path *c* mechanism depicted in Figure 1.

Intergroup contact and acceptance of gender non-conformity

We ran separate regressions for male and female participants using non-school-based intergroup contact as the independent variable, acceptance of gender non-conformity as the dependent variable, and age and ethnicity as control variables. The model for male participants was significant ($R^2 = .15$, $F = 10.65$, $p < .001$), as was the coefficient for non-school-based contact ($\beta = .30$, $p < .001$). In the model for female participants ($R^2 = .18$, $F = 15.33$, $p < .001$), the coefficient for non-school-based contact was .22 ($p = .001$). These findings supported the path *a* relationship (Figure 1).

Acceptance of gender non-conformity and attitudes toward gay men and lesbians

In a final pair of regression analyses to establish path *b* (Figure 1), we used acceptance of gender non-conformity as the independent variable and attitudes toward gay men or attitudes

toward lesbians as the dependent variable for male and female participants, respectively. Both models were significant; for male participants, $R^2 = .39$, $F = 39.94$, $p < .001$; for female participants, $R^2 = .34$, $F = 37.06$, $p < .001$. The beta coefficient for acceptance of gender non-conformity was .57 ($p < .001$) in the model for males and .42 ($p < .001$) in the model for females.

Multilevel analysis of attitudes toward gay men and lesbians

Intra-class correlation coefficients, calculated separately for male and female participants, indicated significant between-school variation. For male participants, the intra-class correlation coefficient [0.16/(0.16 + 1.12) = 0.125] indicated that between-school differences accounted for 12.5% of the variance of males' attitudes toward gay men. We additionally inspected the log likelihood statistic [likelihood ratio test with χ^2 (2df) = 13.74, prob. ≥ 0.0001], which indicates whether a multilevel model supports the data more adequately than an OLS regression model (Luke, 2004). For female participants, calculation of the intra-class correlation coefficient [0.33/(0.33 + 0.76) = .303] indicated that between-school differences accounted for 30.3% of the variance of females' attitudes toward lesbian women [likelihood ratio test with χ^2 (2df) = 66.02, prob. ≥ 0.0000]. Taken together, the 12.5% and 30.3% of variance that we found for males and females, respectively, and the significance of the log likelihood statistics in both models, suggested the need for a multilevel analysis.

To test the mediation model, we examined whether the effect of intergroup contact on attitudes toward gay men (for males) or lesbians (for females) disappears or is significantly reduced when entered into the model in conjunction with the mediator, as opposed to when entered alone. Working with separate models for male and female study participants, we entered non-school intergroup contact as the independent variable and acceptance of gender non-conformity as the mediator.

Outcomes for male participants

Our main findings are presented in Table 2. In our first model, ethnicity (b = −0.51, *SE* = 0.18) and non-school intergroup contact (b = 0.12, *SE* = 0.05) were significant predictors of attitudes toward gay men. Age was not a significant predictor of attitudes toward gay men. When acceptance of gender non-conformity was added in Model 2 (b = 0.67, *SE* = 0.07), the contribution of non-school intergroup contact (b = 0.02, *SE* = 0.04) was no longer significant, providing support for the mediation model. Ethnicity remained a significant predictor (b = −0.46, *SE* = 0.14), indicating that attitudes toward gay men were more negative among non-Dutch males in comparison to their ethnic Dutch peers, even after accounting for non-school intergroup contact and acceptance of gender non-conformity. Model 3 included the interaction between acceptance of gender non-conformity and non-school intergroup contact in order to test for a moderation effect; the interaction (b = 0.07, *SE* = 0.04) did not make a statistically significant contribution to the model.

Outcomes for female participants

Main findings for female participants are also presented in Table 2. In Model 1, we found that non-school intergroup contact did not significantly predict female participants' attitudes toward lesbian women, when age and ethnicity were controlled. Without support for a relationship between our independent and dependent variables, the mediation and moderation models could not be tested. We did find, however, that acceptance of gender non-conformity (b = 0.47, *SE* = 0.08) made a significant contribution to Model 2, and that its inclusion in that model attenuated the effect of ethnicity, which was no longer a significant predictor. Age remained a significant predictor of attitudes in Model 2; attitudes

toward lesbian women were more positive among the younger female participants (b = −.18, *SE* = .06).

Discussion

Our results offer new insight into how sexual prejudice functions in young adolescents, and also suggest avenues for further research. We found important differences among the male and female adolescents in our study in terms of the predictors of attitudes toward gay men or lesbians.

Among the male adolescents, preliminary analyses indicated some support for our first hypothesis: a positive and significant, though small, association between non-school-based intergroup contact and their attitudes toward gay men. The significance of this association held when non-school contact was entered into our multilevel model along with ethnicity and age as controlling variables. This finding is consistent with the many studies in adults that have found that intergroup contact is associated with more positive attitudes toward gay and lesbian persons (Smith et al., 2009). We also found support for our second hypothesis among the male adolescents: acceptance of gender non-conformity mediated the relationship between intergroup contact and sexual prejudice. The moderation model was not supported.

Among the female adolescents, the preliminary regression analyses also indicated support for our first hypothesis. When non-school contact was entered into the multilevel model with both ethnicity and age as controls, however, it was no longer significantly associated with attitudes. It seems that age had an effect on the females in our sample that it did not have on the males; specifically, that more positive attitudes were associated with younger age among the females. Without support for the relationship between the independent and dependent variables, the mediation and moderation models could not be tested for the female adolescents. We did find, however, that entry of acceptance of gender non-conformity into Model 2 for females mediated the effect of ethnicity.

Although we did assess contact with gay or lesbian peers in the school setting, we were unable to adequately explore whether school-based and non-school-based contact experiences function differently for adolescents, because few participants reported knowing gay or lesbian peers at school. This might not be surprising given the relatively young age of the sample. Further research should investigate the ways that the context in which intergroup contact occurs and the nature of the intergroup contact relationship affect young persons' attitudes.

To summarize, the results of our study show that for the adolescent boys in our sample, acceptance of gender non-conformity mediated the positive effect that knowing openly gay or lesbian people outside the school context had upon attitudes toward gay men. It is possible that contact with gay or lesbian people outside of school increases adolescent males' acceptance of gender non-conformity. Among the female adolescents we studied, who were, on average, more accepting of gender non-conformity and had more positive attitudes toward lesbians than males did toward gay men, contact with openly gay or lesbian people outside of school was a less reliable predictor of attitudes. The extent to toward lesbian women.

The role of ethnicity in both males' and females' attitudes deserves comment. Ethnicity continued to make a unique contribution to our final model for males; participants which females are accepting of gender non-conformity may partially explain their attitudes who were not of Dutch ethnicity generally had more socially conservative attitudes. This finding is consistent with those of previous studies among young people in the Netherlands (de Graaf, Meyer, Poelman, & Vanwesenbeeck, 2005). In a separate study of acceptance of

same-sex sexuality and gender non-conformity among adolescents in the Netherlands, adolescents of non-Western ethnicity were, on average, less accepting than were their Western peers (Collier, Bos, Merry, & Sandfort, 2010). Among the female adolescents in the present study, we found that acceptance of gender non-conformity mediated the relationship between ethnicity and attitudes toward lesbian women. Although acceptance of gender non-conformity may predictably vary by ethnicity (Collier et al., 2010), there is value in measuring acceptance of gender non-conformity rather than using ethnicity as a proxy indicator of attitudes toward lesbians and gay men. It is, of course, very likely that the relationship between ethnicity and attitudes identified here would be different in settings other than the Netherlands, and in samples with an overall different ethnic composition.

Our findings are consistent with the literature on sexual prejudice in adolescents while also expanding it in new directions. Previous studies have shown that, in comparison with their female peers, males have more negative attitudes toward lesbian and gay people (e.g., Hoover & Fishbein, 1999) and rate same-gender, gender non-conforming peers more negatively (Horn, 2007). The mean scores on our measures of attitudes toward lesbians/gay men and acceptance of gender non-conformity indicated similar differences across gender, though mean scores for both males and females were above the scales' midpoints, indicating fairly liberal attitudes among this sample overall. We were able to further Horn's (2007) work by obtaining information about the acceptance of gender non-conformity from a younger sample and by establishing a connection between this variable and attitudes toward gay and lesbian persons. The support that we found for the importance of acceptance of gender non-conformity to attitudes toward gay/lesbian persons suggests that, as is the case with adults, adolescents' investment in traditional notions of masculinity and femininity will come into play when they evaluate lesbian and gay people (Kite & Whitley, 1996). The equivocal finding with regard to age – we saw it influence females', but not males', attitudes – provides yet more evidence that the development of attitudes about gender and sexuality in adolescence may not follow a straightforward progression in either direction.

The study's findings should be interpreted with its particular strengths and limitations in mind. Strengths include our sample size and the age range of the participants. The adapted measure of acceptance of gender non-conformity, which assessed attitudes indirectly through scenarios that were designed specifically for adolescents, may have provided a truer picture of attitudes than would have a more direct line of questioning.

This study was also limited in several ways. The cross-sectional nature of our data does not permit causal statements. The temporal relationship that we assume to exist between intergroup contact and attitudes toward lesbian/gay persons may not occur in the order we expect; more positive attitudes towards gay and lesbian persons could increase the likelihood of knowing such persons. In adults, the relationship between these two variables has been conceptualized as reciprocal, meaning that heterosexuals with more positive attitudes may be more likely to have contact with gay and lesbian persons (Herek & Glunt, 1993). We suspect that among adolescents this is less likely because adolescents tend to have less control over who they interact with than do adults – especially in the case of interactions with adults – but it is a possibility. The sampling procedure used – whereby participating schools self-selected after being approached through a school safety initiative – also limits the external validity of our findings.

Additional limitations highlight important considerations for future studies. The measure of intergroup contact used in this study did not provide us with information about the nature or intimacy of the relationships to which study participants were referring. Study participants who have gay/lesbian family members, for example, might be expected to have considerably different (i.e. very positive or very negative, see Heinze & Horn, 2009) attitudes than would

those with only casual contact with gay and lesbian people. Since the time that this study was first conceptualized, the appearance in the literature of more complex measures to assess intergroup relationships has been a welcome development. Our study also did not assess contact experiences with gay men and lesbians separately. The other measures, however, differed according to the individual participant's gender (i.e., males completed gender non-conformity items about male peers only and completed the attitudes toward gay men scale). We were thus unable to explore associations between intergroup contact and cross-gender acceptance of gender non-conformity or sexual prejudice. Finally, the items adapted from Herek (1988) to assess males' attitudes toward gay men and females' attitudes toward lesbian women referred to adults (e.g., “Male homosexuality is a natural expression of sexuality in men”), whereas the items used to measure acceptance of gender variance clearly referred to same-age peers. These limitations related to measurement and sampling are likely to have diminished our chances of finding significant associations between the variables of interest.

This examination of adolescents' attitudes toward lesbian and gay persons broadens the empirical literature on a little-researched issue. Given the relationship between sexual prejudice and antigay behaviors, it is critical that we better grasp this issue as it pertains to adolescents. Attitudes toward lesbians and gay men have multiple cognitive, affective, and behavioral determinants (e.g., Herek, 2009), and we have not been able to address many of those determinants in this study. The cross-sectional relationships we have identified could, we hope, contribute to groundwork for longitudinal studies able to more fully address questions about how attitudes towards homosexuality, gender roles, and gender expression develop over the course of adolescence.

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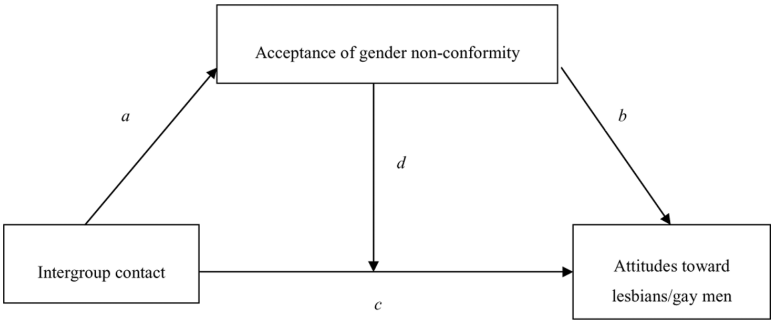

Figure 1.
Mediation and moderation models being tested among adolescents.

Table 1

Means (standard deviations) and partial correlations between students' reports of non-school intergroup contact[a], attitudes toward gay men and lesbian women[b], and acceptance of gender non-conformity[c] (controlled for ethnicity and age)

	M (SD)	1	2
Male Adolescents			
1. Intergroup contact in direct environment (outside school)	2.49 (1.56)	-	
2. Attitudes toward gay men	3.19 (1.13)	.20*	-
3. Acceptance of gender non-conformity	3.24 (.99)	.31**	.60**
Female Adolescents			
1. Intergroup contact in direct environment (outside school)	2.93 (1.65)	-	
2. Attitudes toward lesbian women	3.72 (1.04)	.24**	-
3. Acceptance of gender non-conformity	3.92 (.80)	.23**	.46**

[a] Do you know openly gay or lesbian people in your (direct) environment (outside the school)? (1 = no; 5 = yes, more than 4 people)

[b] 1 = negative attitudes; 5 = positive attitudes

[c] 1 = low acceptance; 5 = high acceptance

* $p < .01$,

** $p < .001$

Table 2

Summary of multilevel analyses of attitudes toward gay men and lesbian women

	Attitudes toward gay men or lesbian women[a]		
	Model 1 b (*SE*)	**Model 2 b (*SE*)**	**Model 3 b (*SE*)**
Male adolescents			
Ethnicity[b]	−0.51 (0.18) **	−0.46 (0.14) **	−0.47 (0.14) **
Age	−0.06 (0.09)	0.00 (0.07)	0.01 (0.07)
Intergroup contact in direct environment (outside school)[c]	0.12 (0.05) *	0.02 (0.04)	0.00 (0.04)
Acceptance of gender non-conformity		0.67 (0.07) ***	0.67 (0.07) ***
Acceptance of gender non-conformity * Intergroup contact in direct environment (outside school)			0.07 (0.04)
Female adolescents			
Ethnicity[b]	−0.38 (0.13) **	−0.24 (0.13)	−0.24 (0.12)
Age	−0.19 (0.07) **	−0.18 (0.06) **	−0.18 (0.06) **
Intergroup contact in direct environment (outside school)[c]	0.06 (0.04)	0.03 (0.04)	0.03 (0.04)
Acceptance of gender non-conformity		0.47 (0.08) ***	0.48 (0.08) ***
Acceptance of gender non-conformity * Intergroup contact in direct environment (outside school)			0.03 (0.04)

[a] Male adolescents were surveyed on attitudes toward gay men; female adolescents were surveyed on attitudes toward lesbian women.

[b] 1 = Dutch ethnic background, 2 = non-Dutch ethnic background

[c] Question phrased: "How many openly gay or lesbian people do you know in your (direct) environment outside the school?" Response options were 1 = *no one*, 2 = *one*, 3 = *two*, 4 = *three*, 5 = *four or more*.

* $p < .05$

** $p < .01$

*** $p < .001$