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Same-Sex Attraction, Social Relationships, Psychosocial Functioning, and School Performance in Early Adolescence

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The authors examined whether 13- to 15-year-old adolescents who experience feelings of same-sex attraction (SSA) differ from those without such feelings in the quality of relationships with parents, peers, and class mentors and in psychosocial functioning (health status and school performance). The authors also assessed whether differences in psychosocial functioning resulted from differences in the quality of social relationships. Data were collected from 866 Dutch high school students (mean age 13.61 years) by means of a computer-based questionnaire. Of the participants, 74 (8.5%) reported having feelings of SSA. The participants with SSA rated the quality of their relationships with their fathers and their peers lower than did those without SSA. Participants with SSA also had poorer mental health (higher levels of depression and lower levels of self-esteem) and lower school performance. A mediation analysis revealed that differences in psychosocial functioning resulted from differences in the quality of the same-sex attracted youths' social relationships, especially with fathers and peers.

Keywords: same-sex attraction, adolescents, psychosocial functioning, school performance, social relationships

This study, carried out in the Netherlands, is one of the first to explore the quality of the social networks of young adolescents with same-sex attraction (SSA) and the associations between that quality and psychosocial functioning. Various studies on social networks and psychosocial functioning have been carried out among older adolescents with SSA (e.g., Russell & Joyner, 2001; Russell, Seif, & Truong, 2001; Ueno, 2005), and among adolescents who self-identify as lesbian, gay, or bisexual (LGB) (e.g., Fergusson, Horwood, & Beautrais, 1999; Garofalo, Wolf, Kessel, Palfrey, & Durant, 1998; Grossman & Kerner, 1998; Rosario, Rotherman-Borus, & Reid, 1996). These studies show that compared to their heterosexual counterparts, LGB adolescents are at risk of impaired mental health and also do less well at school. These studies assessed a wide range of health problems, including

low self-esteem, depression, substance use and abuse, suicide attempts or completed suicides, and engagement in sexual behaviors that increase the risk of HIV infection (for an overview, see Anhalt & Morris, 1998; Grossman, 2001; Rotheram-Borus & Langabeer, 2001). Similar findings were also found in the National Longitudinal Study of Adolescent Health (the "Add Health study;" Russell & Joyner, 2001; Russell et al., 2001). The Add Health study is exceptional because it was based on a probability sample. Furthermore, instead of concentrating on sexual identity (self-identification as gay, lesbian, or bisexual), the study focused on SSA. Most other studies used convenience samples and focused on adolescents who had already identified themselves as gay or lesbian (Savin-Williams, 2005). Although we, too, focused on adolescents with SSA, our participants were younger than the Add Health participants, who were aged between 12 and 19 years, increasing the likelihood that self-identification has not yet occurred.

The higher prevalence of psychological adjustment problems among LGB youth is usually attributed to stigmatizing behaviors by parents and peers to whom they have come out (for an overview, see D'Augelli & Patterson, 2001). However, younger adolescents with SSA who have not yet come out and do not yet identify as LGB are less likely to experience such stigmatizing behavior. It is not known whether such young adolescents with SSA also have an elevated risk of developing psychosocial problems. Furthermore, little is known about the processes underlying the relation between SSA and psychosocial problems. In contrast to the Add Health study, we also focused on the associations between social networks and psychosocial functioning. We hypothesized that (a) the quality of the social networks of younger

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adolescents with SSA differs from that of younger adolescents without SSA and (b) that these differences negatively impact the psychosocial functioning of the former group.

Experiencing SSA without self-identifying or publicly identifying as LGB is usually seen as an initial stage in the sexual identity development of sexual minority youth. Several models have been built to describe this development (e.g., Cass, 1979; Troiden, 1984). These models assume that sexual minority adolescents first recognize that they are different from their peers and then realize that these feelings might be linked to their sexuality. In subsequent stages, adolescents give a name to their feelings, make their sexual status public, and finally are supposed to integrate their same-sex sexuality into their sense of self. It is frequently shown that homosexual adults recall that during their adolescence they indeed felt different from their same-sex peers, partly for the same reasons as other adolescents (e.g., physical appearance, abilities, personality characteristics), but also because of their sex-atypical behavior and interests, including SSA (for an overview, see Savin-Williams & Cohen, 2007).

In the present study, we examined social relationships and psychosocial functioning (mental health and school performance) among high school students with and without SSA. The aim was to focus on young adolescents who were in the phase of life in which SSA is first discovered. The average age at which LGB youth come out is 17 years (de Graaf, Meyer, Poelman, Vanwesenbeeck, 2005; Savin-Williams & Diamond, 2000). We surveyed students between the ages of 12 and 15 years.

We hypothesized that young adolescents' discovery of SSA and the related sense of being different have a negative effect on the quality of their social networks. This is suggested by findings from the Add Health study. Russell and colleagues (Russell & Joyner, 2001; Russell et al., 2001) showed that for adolescent girls with SSA, the quality of relationships with parents, peers, and teachers was significantly lower than that of their peers who had heterosexual attraction. These girls with SSA also reported more negative school outcomes. In boys, differences were less pronounced. If adolescents with SSA knew other sexual minority students, these friendships seemed to promote mental health and operate as a buffer against psychological distress (Ueno, 2005). Because the mean age of the SSA adolescents in the Add Health study was 15.81 years, it is likely that several of them had already come out and that the observed differences are a result of stigmatizing experiences.

It should be mentioned that the Netherlands, where the present study was carried out, has a relatively open and tolerant social climate regarding homosexuality compared to other Western countries, such as the United States (Sandfort, 2005; Waaldijk, 1993; Widmer, Treas, & Newcomb, 1998). We nevertheless expected to find differences in mental health outcomes between youth with and without SSA, because children in the Netherlands do grow up with the normative expectation of heterosexuality as the outcome of one's sexual development. Furthermore, recent large-scale population-based studies among adults showed that compared to heterosexual people, homosexual men and women in the Netherlands are at higher risk of psychiatric problems (Sandfort, de Graaf, Bijl, & Schnabel, 2001).

Based on Bronfenbrenner's ecological model (1979, 2005), which states that the quality of the adolescents' social network (including relationships with parents, peers, and other adults, such

as class mentors at school) affects their psychosocial functioning, we hypothesized that the mental health and school performance of young adolescents with SSA is impaired. Studies have found that the quality of the parent-child relationship is negatively related to problem behavior (Anderson & Henry, 1994), depression (Greenberger, Chen, Tally, & Dong, 2000), academic achievement (Marchant, Paulson, & Rothlisberg, 2001), and grade point average (GPA; de Bruyn, Deković, & Meijnen, 2003). According to Stattin and Kerr (2000), the quality of parent-child communication—such as the extent to which children spontaneously tell their parents about what they find important and about the activities they engage in with their friends, that is, disclosure—is a good indicator of the quality of the parent-child relationship. Disclosure is a process that is jointly coconstructed by child and parent and is linked to higher academic skills, lower rates of delinquency, and externalizing behavior (Sandstrom & Coie 1999). Although the quality of parent-child communication (disclosure) is a characteristic that is associated with a healthy development of children and adolescents, when children enter adolescence, it is often assumed that parental influence decreases because of the rising influence of peers (Brown, Mounts, Lamborn, & Steinberg, 1993; Meeus & Deković, 1995; Mounts & Steinberg, 1995). Some scholars argue that the role of parents in the development of adolescents is overemphasized (e.g., Harris, 1995, 1998): A growing body of data suggests that peers, rather than the home environment, have lasting effects on the psychological characteristics of adolescents (Allen, Donohue, Griffin, Ryan, & Mitchell-Turner, 2003).

The relationship with class mentors might also affect adolescents' functioning and well-being. In the Dutch secondary educational system, all students have a class mentor. These mentors are members of the teaching staff and are responsible for individual students' academic progress and socio-emotional well-being throughout the academic year. In the United Kingdom and the United States, in general, mentors are assigned only to children who are in dire need of extra assistance or counseling (Baldwin Grossman, 1998; Sipe, 1996). In contrast, in the Netherlands all children are assigned a class mentor, regardless of individual pupils' socio-emotional well-being or academic performance (Gieles, 1998; Verheul & Fiddelaers-Jaspers, 1996). A class mentor is the first person to whom pupils (and parents) can turn if problems arise.

In the present study, we assessed the quality of relationships of young adolescents with SSA with their parents, peers, and class mentors and compared it with the quality of the relationships of young adolescents without SSA. We expected that these two groups would also differ in psychosocial functioning; in particular, we looked at mental health (depression and self-esteem) and school performance (GPA and school identification). We expected the association between sexual attraction and psychosocial functioning to be mediated by the quality of the adolescents' relationships with parents, peers, and class mentors.

Methods

Participants

The sample comprised 479 boys (55.3%) and 387 girls; most were from middle-class families. The average age was 13.61 years ($SD = .92$ years). The ethnic composition of the sample was

77.6% Dutch, 4.8% Surinamese, 4.4% Moroccan, 1.8% Turkish, and 9.9% other.

Procedure

The data used for this study originate from an ongoing project carried out by the University of Amsterdam to assess the determinants of school outcomes in young adolescents. Data for this study were collected in early spring 2004 at four high schools in different cities in the Netherlands. Before data collection started, the board of each school had sent a letter to all parents containing information about the date, purpose, and nature of the study. Parents were informed that students would be asked about their feelings (e.g., relationships with parents and romantic and sexual feelings) and that class mentors would be asked to furnish the researchers with the students' GPAs. The letter made it clear to parents that student participation in the study was voluntary. Parents could return the letter, indicating that they did not wish their child to participate in the study. According to Dutch legislation, intuitional review board approval was not needed for conducting the study due to its nonexperimental nature. The Netherlands Department of Education, Culture, and Sciences, which funded the study, approved the proposed study procedures. None of the parents refused to allow their child to participate.

Research assistants administered the computer-based questionnaire to individual students during quiet study periods in separate school classes. Only students from Year 1 to Year 3 of high school had been invited to participate. Students had been told that their participation would be voluntary and that their answers would be kept confidential. In addition, each student's assent was obtained on the actual day of data collection. Prior to testing in the classroom, the students were reminded of the goals of the study and the voluntary nature of their participation. All students present at the time of data collection agreed to participate and subsequently filled out the questionnaire. If a student was ill or absent, the questionnaire was administered at the next opportune moment.

Measures

Sexual Attraction

Sexual attraction was assessed with the question "Do you feel sexually attracted to someone of your own sex?" (1 = *very often*, 2 = *often*, 3 = *frequently*, 4 = *sometimes*, 5 = *never*), which had been used in previous research on homosexual youth in the Netherlands (Kersten & Sandfort, 1994). Participants who reported that they never experience sexual attraction to someone of the same sex were categorized as adolescents without SSA. Those who felt "very often," "often," "frequently," or "sometimes" sexually attracted to someone of the same sex were categorized as adolescents with SSA (SA: 1 = no SSA, 2 = SSA).

Social relationships

Parent-adolescent relationship. Disclosure to the parents was assessed with the Adolescent Disclosure Measure (Stattin & Kerr, 2000) separately for relationships with the father and the mother. This instrument includes five items for disclosure to the father and five for disclosure to the mother (e.g., "Do you keep a lot of secrets from your father/mother about what you do during your free

time?"). The items have response categories ranging from 1 (= *never*) to 4 (= *always*). Cronbach's alphas for the father and for the mother version of this scale were .83 and .84, respectively.

Relationships with peers. We assessed two aspects that characterize the social position of adolescents among their peers, namely social acceptance among peers and peer role strain.

Adolescents' social acceptance among peers was assessed with the Social Acceptance subscale of the Self-Perception Profile for Adolescents (Harter, 1982), which consists of five items. For each item, the respondent is first asked to decide what kind of person he/she is most like: the person described on the left (e.g., "Some children are popular among their classmates") or on the right (e.g., "Some children are not popular among their classmates"). The respondent is then asked whether the description is "sort of true" or "really true" for him/her. The answers are re-sorted on a scale of 1 to 4, with a higher score indicating a higher level of social acceptance. Cronbach's alpha was just sufficient ($\alpha = .61$). To measure peer role strain, students completed a subscale of the Early Adolescent Role Strain Inventory (Fenzel, 1989a, 1989b, 2000), which is a 27-item scale that measures type and magnitude of school-related role strains. It consists of four subscales, each pertaining to a potential source of strain, that is, peers, school, teacher relations, and parent control. For the present study, only the peer role strain subscale (6 items) was used (de Bruyn, 2005). Students were asked to indicate for each item how frequently their peers expressed specific negative behaviors toward them (e.g., "Classmates ignore me": 1 = *not at all*, 5 = *a lot*). Cronbach's alpha was .74.

Class mentor-adolescent relationship. The Respect subscale of the Mentor Behavior Rating Scale (de Bruyn, 2004) was used to assess the adolescents' perspective on the level of respect they receive from their class mentors. This subscale consists of 14 items, each of which describes a specific class mentor behavior (e.g., "My class mentor treats me with respect" or "My class mentor is trustworthy"). The participants rated the frequency with which a class mentor showed each of the behaviors on a scale ranging from 1 (= *seldom*) to 6 (= *almost always*). Cronbach's alpha was .97.

Mental Health Status

Depression. Adolescents' feelings of depression were assessed using the depression scale of the General Health Questionnaire (Goldberg, 1972). This scale consists of 14 symptoms of depression (e.g., "I feel sad, blue, and unhappy"). Participants were asked to indicate on a 3-point scale the prevalence of these symptoms during the previous 6 months (1 = *absent*, 2 = *sometimes*, 3 = *frequently*). Cronbach's alpha was .86.

Self-Esteem. To measure self-esteem, we administered the Rosenberg Self-Esteem Scale (Rosenberg, 1979). This scale comprises 10 items (e.g., "I take a positive attitude toward myself:" 1 = *strongly disagree*, 4 = *strongly agree*). Cronbach's alpha was .76.

School Performance

GPA. To measure the GPA, the average grade for the subjects Dutch, English, Biology, and Mathematics was computed. These average grades were provided by the class mentors.

School identification. The Identification with School Questionnaire (Voelkl, 1996a, 1996b) was used to measure the respondent's feeling of belongingness in school. The scale consists of 16 items (e.g., "School is one of my favorite places to be"). Participants were asked to indicate their agreement with each statement on a 4-point scale (1 = *strongly agree*, 4 = *strongly disagree*). Cronbach's alpha was good ($\alpha = .75$).

Results

Descriptive Analyses

Of the 866 participants, 8.5% ($N = 74$) were classified as experiencing SSA. SSA was more prevalent among girls than among boys, 12.9% ($n = 50$) and 5.0% ($n = 24$), respectively ($\chi^2 = 17.14, p < .001$). The participants who reported SSA were significantly older than those who did not report SSA ($M = 14.05$ years, $SD = 1.01$ years and $M = 13.57$ years, $SD = .91$ years, respectively). No significant differences were found in the proportions of youth with SSA in relation to ethnic background. Given the diversity of the non-Dutch participants and the low percentages of any single non-Dutch group, it was not possible to test for differences between these groups.

Means, standard deviations, and intercorrelations between social demographic variables, social relationships variables, mental health, and school performance are presented in Table 1.

Sexual Attraction, Social Relationships, Mental Health, and School Performance

A set of hierarchical regression analyses was conducted to examine the relation between sexual attraction and social relationship variables (i.e., disclosure to mother and father, acceptance among peers, peer role strain, respect from class mentor). Age and gender (1 = *boys*, 2 = *girls*) were entered in Step 1, sexual attraction (1 = *no SSA*, 2 = *SSA*) was entered in Step 2, and the interaction of Gender \times Sexual Attraction and Age \times Sexual Attraction were entered in Step 3. Subsequent hierarchical regression analyses were conducted to examine the relation between

sexual attraction and mental health (depression and self-esteem) and school performance (GPA and school identification).

Social Relationships

Table 2 presents the results of the hierarchical regression analyses with the independent variables age, gender (Step 1), sexual attraction (Step 2), and the interaction of Gender \times Sexual Attraction and Age \times Sexual Attraction (Step 3) regressed on disclosure to mother and father, acceptance among peers, peer role strain, and respect from class mentor. Inclusion of sexual attraction in Step 2 produced a significant change in the coefficient of determination (ΔR^2) for disclosure to father, social acceptance, and peer role strain. The interaction terms (Gender \times Sexual Attraction, and Age \times Sexual Attraction) in Step 3 did not produce a significant ΔR^2 for any of the social relationship variables.

Age, gender, and sexual attraction were independently related to disclosure to father, and accounted for 3% of the variance. Compared to older students, younger students scored higher on disclosure to their fathers. Boys disclosed less to their fathers than girls did. Adolescents with SSA also reported significantly less disclosure to their fathers. Social acceptance of peers was only significantly related to sexual attraction, with SSA adolescents having lower levels of social acceptance. Sexual attraction accounted for 1% of the variance. Age, gender, and sexual attraction were significantly related to peer role strain and accounted for 3% of the variance. Younger students showed less peer role strain than older students, and boys reported more peer role strain than girls did. Adolescents with SSA also reported more peer role strain (see Table 2).

For disclosure to mother and respect from the class mentor, inclusion of sexual attraction in Step 2 did not produce a significant ΔR^2 . Age and gender were significantly related to disclosure to the mother in Step 1 and accounted for 4% of the variance. Younger students disclosed more to their mothers than did older students. Compared to girls, boys reported that they disclose less to their mothers. Age accounted for 17% of the variance in respect from the mentors: Younger students had higher levels of respect from their class mentors (see Table 2).

Table 1

Intercorrelations, Means, and Standard Deviations Between Social Demographic Variables, Social Relationships Variables, Mental Health, and School Performance

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | <i>M</i> | <i>SD</i> |
|---------------------------|---------|---------|--------|---------|--------|---------|---------|---------|---------|--------|--------|----------|-----------|
| 1. Age in years | — | | | | | | | | | | | 13.61 | .92 |
| 2. Gender | .10** | | | | | | | | | | | | |
| 3. Sexual attraction | .15*** | .14*** | | | | | | | | | | | |
| 4. Disclosure to father | -.15*** | .05 | -.10** | | | | | | | | | 2.98 | .61 |
| 5. Disclosure to mother | -.10** | .17*** | -.04 | .78* | | | | | | | | 3.13 | .60 |
| 6. Social acceptance | -.05 | -.02 | -.09** | .21*** | .12*** | | | | | | | 3.09 | .56 |
| 7. Peer role strain | .07* | -.12*** | .10** | -.15*** | -.10** | -.45*** | | | | | | 1.67 | .64 |
| 8. Respect from mentor | -.40*** | .02 | -.09** | .25*** | .23*** | -.08** | -.09* | | | | | 3.10 | .78 |
| 9. Depression | .13*** | .31*** | .26*** | -.09* | -.06 | -.37*** | .33*** | -.13*** | | | | 1.40 | .34 |
| 10. Self-Esteem | -.13*** | -.30*** | -.14** | .26*** | .18*** | .38*** | -.21*** | .15*** | -.66*** | | | 2.52 | .34 |
| 11. Grade point average | .06 | .10** | .04 | .18*** | .20*** | .03 | -.06 | .00 | .05 | .06 | | 6.45 | .78 |
| 12. School identification | -.27*** | .12*** | -.09** | .38*** | .33*** | .16*** | -.18*** | .37*** | -.09** | .24*** | .16*** | 2.82 | .40 |

Gender: 1 = boys, 2 = girls; sexual attraction: 1 = No same sex attraction, 2 = same sex attraction
 *** $p < .001$, ** $p < .01$, * $p < .05$

Table 2
Summary of Hierarchical Regression Analyses (Steps 1, 2, and 3) on Social Relationships

| | Disclosure to father | | | Disclosure to mother | | | Social acceptance | | | Peer role strain | | | Respect from mentor | | |
|--------------------|----------------------|-----------|---------|----------------------|-----------|---------|-------------------|-----------|---------|------------------|-----------|---------|---------------------|-----------|---------|
| | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β |
| Step 1 | | | | | | | | | | | | | | | |
| Age in years | -.10 | .02 | -.16* | -.08 | .02 | -.12*** | -.03 | .02 | -.05 | .06 | .02 | .08* | -.35 | .03 | -.41*** |
| Gender | .08 | .05 | .06 | .22 | .04 | .18*** | -.02 | .04 | -.02 | -.17 | .04 | -.13*** | .10 | .05 | .06 |
| R ² | | | .03* | | | .04*** | | | .00 | | | .02*** | | | .17*** |
| Step 2 | | | | | | | | | | | | | | | |
| Age in years | -.09 | .03 | -.14*** | -.07 | .02 | -.11*** | -.02 | .02 | -.04 | .05 | .02 | .07* | -.34 | .03 | -.40*** |
| Gender | .09 | .05 | .07* | .23 | .04 | .19*** | -.01 | .04 | -.01 | -.18 | .04 | -.14*** | .10 | .05 | .07* |
| Sexual attraction | .19 | .08 | -.09* | .11 | .07 | -.05 | .17 | .07 | -.09** | -.24 | .08 | .11** | .12 | .09 | -.04 |
| R ² | | | .03* | | | .05 | | | .01 | | | .03*** | | | .17*** |
| ΔR^2 | | | .01* | | | .00 | | | .01* | | | .01*** | | | .00 |
| Step 3 | | | | | | | | | | | | | | | |
| Age in years | -.09 | .03 | -.14* | -.07 | .02 | -.11*** | -.02 | .02 | -.04 | .05 | .02 | .07** | -.34 | .03 | -.41*** |
| Gender | .09 | .05 | .07 | .22 | .04 | .18*** | -.00 | .04 | .00 | -.19 | .04 | -.15*** | .10 | .05 | .07* |
| Sexual attraction | .19 | .10 | -.09* | .13 | .08 | -.06 | -.19 | .08 | -.09** | -.28 | .09 | .12** | .14 | .10 | -.05 |
| Age in years* | -.04 | .19 | -.01 | -.24 | .16 | -.06 | .18 | .15 | .05 | -.25 | .17 | -.06 | .00 | .19 | .00 |
| Sexual attraction* | | | | | | | | | | | | | | | |
| Gender* | | | | | | | | | | | | | | | |
| Sexual attraction | .01 | .09 | .00 | .14 | .08 | .07 | -.06 | .07 | -.03 | .04 | .08 | .02 | .05 | .09 | .02 |
| R ² | | | .03* | | | .05 | | | .01 | | | .03*** | | | .17*** |
| ΔR^2 | | | .00 | | | .00 | | | .00 | | | .00 | | | .00 |

Note. Independent variables for the analyses were age, gender (Step 1), sexual attraction (Step 2), and the interaction of Gender \times Sexual Attraction and Age \times Sexual Attraction (Step 3). Gender: 1 = boys, 2 = girls; Sexual attraction: 1 = No same sex attraction, 2 = same sex attraction.

*** $p < .001$, ** $p < .01$, * $p < .05$

Mental Health Status and School Performance

We subsequently performed hierarchical regression analyses with the independent variables age, gender (Step 1), sexual attraction (Step 2), and the interaction of Gender \times Sexual Attraction and Age \times Sexual Attraction (Step 3) regressed on the mental health and school performance variables, that is, depression, self-esteem, GPA, and school identification. Inclusion of sexual attraction in Step 2 produced a significant ΔR^2 for depression, self-esteem, and school identification. However, inclusion of the interaction terms (Gender \times Sexual Attraction and Age \times Sexual Attraction) in Step 3 did not produce a significant ΔR^2 in any of the dependent variables (see Table 3).

Age, gender, and sexual attraction were significantly related to depression, self-esteem, and school identification and accounted for 15%, 11%, and 10% of the variance, respectively. Younger students reported less depression and higher self-esteem than did the older students, and their level of identification with school was higher compared to older students. Girls had significantly higher levels of depression than boys did, and girls' self-esteem was significantly lower than that of boys. School identification was significantly higher for girls than for boys. The adolescents with SSA reported significantly more depression and less self-esteem. These adolescents also scored significantly lower on school identification.

For GPA, inclusion of sexual attraction in Step 2 did not produce a significant ΔR^2 . Gender was significantly related to GPA in Step 1, and accounted for 1% of the variance. Figures indicate that the GPA for boys was significantly lower than it was for girls.

Mediation Model

In order to test the hypothesis that differences in mental health and school performance between young adolescents with and without SSA result from differences in the quality of their social relationships, we followed the guidelines for mediation analysis suggested by Baron and Kenny (1986). For the presence of a significant mediating pathway, several conditions must be met. There must be significant relations between: (a) the independent variable (sexual attraction) and the dependent variable (mental health and school performance); (b) the independent variable (sexual attraction) and the potential mediators (social relationships); and (c) the potential mediators and the dependent variables. Support for our hypothesis would be found if the role of sexual attraction (the independent variable) in the explanation of mental health and school performance (the dependent variables) were to disappear or be significantly reduced by introducing the social relationship variables (see Baron & Kenny, 1986).

We have already demonstrated that conditions (a) and (b) are met: sexual attraction (independent variable) was related to (a) depression, self-esteem, and school identification (dependent variables) and (b) disclosure to father, peer role strain, and social acceptance. We conducted three multiple regression analyses, one for each outcome variable that was significantly related to sexual attraction, to examine the independent contribution of the social relationships variables in the explanation of mental health and school performance (see Table 4). In these analyses, we controlled for age and gender.

Social acceptance among peers and peer role strain were found to make significant independent contributions to the explanation of variance in depression. These associations indicate that adoles-

Table 3
Summary of Hierarchical Regression Analyses (Steps 1, 2, and 3) on Mental Health and School Performance

| | Depression | | | Self-Esteem | | | Grade point average | | | School identification | | |
|------------------------------------|------------|-----------|---------|-------------|-----------|---------|---------------------|-----------|---------|-----------------------|-----------|---------|
| | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β |
| Step 1 | | | | | | | | | | | | |
| Age in years | .04 | .01 | .10** | -.04 | .01 | -.10** | .04 | .03 | .05 | -.12 | .01 | -.29*** |
| Gender | .20 | .02 | .30*** | -.20 | .02 | -.29*** | .16 | .05 | .10** | .12 | .03 | .14*** |
| R ² | | | .10*** | | | .10*** | | | .01** | | | .09*** |
| Step 2 | | | | | | | | | | | | |
| Age in years | .03 | .01 | .07* | -.03 | .01 | -.09** | .04 | .03 | .05 | -.12 | .01 | -.28*** |
| Gender | .18 | .02 | .27*** | -.19 | .02 | -.28*** | .15 | .05 | .10** | .12 | .03 | .15*** |
| Sexual attraction | -.25 | .04 | .21*** | .11 | .04 | -.09** | -.06 | .10 | .02 | .10 | .05 | -.07* |
| R ² | | | .15*** | | | .11*** | | | .01** | | | .10*** |
| ΔR^2 | | | .04*** | | | .01** | | | .00 | | | .01* |
| Step 3 | | | | | | | | | | | | |
| Age in years | .03 | .01 | .07* | -.03 | .01 | -.09** | .04 | .03 | .05 | -.12 | .01 | -.28*** |
| Gender | .18 | .02 | .27*** | -.19 | .02 | -.28*** | .14 | .05 | .09** | .12 | .03 | .15*** |
| Sexual attraction | -.25 | .04 | .21*** | .12 | .04 | -.10** | -.05 | .11 | .02 | .12 | .05 | -.08* |
| Age in years* Sexual attraction | .06 | .09 | .02 | -.05 | .09 | -.02 | -.24 | .21 | -.04 | .02 | .10 | .01 |
| Gender* Sexual attraction | -.03 | .04 | -.03 | .05 | .04 | .05 | .15 | .10 | .06 | .02 | .05 | .01 |
| R ² | | | .15*** | | | .11*** | | | .02** | | | .10*** |
| ΔR^2 | | | .00 | | | .00 | | | .00 | | | .00 |

Note. Independent variables for the analyses were age, gender (Step 1), sexual attraction (Step 2), and the interaction of Gender \times Sexual Attraction and Age \times Sexual Attraction (Step 3). Gender: 1 = boys, 2 = girls; Sexual attraction: 1 = No same sex attraction, 2 = same sex attraction
*** $p < .001$, ** $p < .01$, * $p < .05$

cents with lower levels of acceptance among their peers and higher levels of peer role strain experienced higher levels of depression. Disclosure to father, acceptance among peers, and peer role strain explained a significant proportion of the variance in self-esteem. Adolescents who reported less disclosure to their fathers experienced less acceptance from peers, felt more peer role strain, and reported lower levels of self-esteem. School identification was predicted by disclosure to father, acceptance among peers, peer role strain, and the perceived quality of the relationship with the class mentor. Adolescents who reported less disclosure to their fathers, more peer role strain, less social acceptance, and less respect from their class mentors, had a less strong school identification.

To test the final requirement for mediation, we regressed mental health and school performance (dependent variables) on multiple relationship variables (mediators) with sexual attraction (independent variable) included in the equation (see Table 5). We included only those independent variables and mediators that met the conditions described by Baron and Kenny (1986), again controlling for age and gender.

In these analyses, the β coefficient for sexual attraction on depression remained significant but dropped from .21 to .16. The β coefficient for sexual attraction on self-esteem and school identification dropped from $-.09$ to $-.01$ (self-esteem) and from $-.07$ to $-.05$ (school identification) and was not significant after controlling for disclosure to father, social acceptance among peers, and

Table 4
Multiple Regression Analyses for Social Relationships Predicting Mental Health and School Performance

| | Depression | | | Self-Esteem | | | School identification | | |
|----------------------|------------|-----------|----------|-------------|-----------|----------|-----------------------|-----------|----------|
| | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β |
| Age in years | .02 | .01 | .06 | -.01 | .01 | -.03 | -.06 | .02 | -.14*** |
| Gender | .22 | .02 | .33*** | -.22 | .02 | -.32*** | .08 | .03 | .11** |
| Disclosure to father | .02 | .03 | .03 | .07 | .03 | .13*** | .13 | .04 | .21*** |
| Disclosure to mother | -.02 | .03 | -.03 | .04 | .03 | .07 | .05 | .04 | .08 |
| Peer role strain | .15 | .02 | .29*** | -.06 | .02 | -.11** | -.06 | .02 | -.09* |
| Social acceptance | -.13 | .02 | -.21*** | .17 | .02 | .28*** | .06 | .03 | .08*** |
| Respect from mentor | -.03 | .02 | -.06 | .02 | .02 | .05 | .10 | .02 | .20*** |
| R ² | | | .30 | | | .26 | | | .28 |
| <i>F</i> | | | 39.91*** | | | 38.57*** | | | 35.12*** |

Note. Gender: 1 = boys, 2 = girls
*** $p < .001$, ** $p < .01$, * $p < .05$

Table 5
Multiple Regression Analyses for Social Relationships and Same Sex Attraction (SSA) Predicting Mental Health and School Performance

| | Depression | | | Self-Esteem | | | School identification | | |
|-----------------------|------------|-----------|----------|-------------|-----------|----------|-----------------------|-----------|----------|
| | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β | <i>B</i> | <i>SE</i> | β |
| Age in years | .03 | .02 | .05 | -.04 | .02 | -.06 | -.19 | .03 | -.23*** |
| Gender | .20 | .02 | .30*** | -.21 | .02 | -.31*** | .10 | .03 | .13*** |
| Disclosure to father | — | — | — | .11 | .02 | .19*** | .19 | .02 | .30*** |
| Social acceptance | -.14 | .02 | -.24*** | .18 | .02 | .29*** | .07 | .03 | .09* |
| Peer role strain | .12 | .02 | .24*** | -.05 | .02 | -.10*** | -.06 | .02 | -.09* |
| Sexual attraction | -.20 | .04 | .16*** | .01 | .04 | -.01 | .06 | .05 | -.05 |
| <i>R</i> ² | | | .30 | | | .29 | | | .24 |
| <i>F</i> | | | 75.06*** | | | 45.34*** | | | 35.15*** |

Note. Gender: 1 = boys, 2 = girls; SSA: 1 = No SSA, 2 = SSA

*** $p < .001$, ** $p < .01$, * $p < .05$

peer role strain. Acceptance among peers and peer role strain were strong predictors of depression, self-esteem, and school identification. For self-esteem and school identification, disclosure to father was also a strong predictor (see Table 5). These results establish social acceptance and peer role strain as mediators of the relation between sexual attraction and depression.

The bootstrapping method test for multiple mediations recommended by Preacher and Hayes (2004) provided further support for this mediation (social acceptance: $z = 2.29$, $p < .05$, confidence interval (CI) 95%: low: .00, high: .05; peer role strain: $z = 2.68$, $p < .05$, CI 95%: low: .01, high: .05). Subsequently, disclosure to father, social acceptance, and peer role strain were significant mediators of the effect of sexual attraction on self-esteem and school identification. The outcome of the bootstrapping method test for multiple mediations supported the finding for this mediation on self-esteem (disclosure to father: $z = -2.18$, $p < .05$, CI 95%: low: -.03, high: -.01; social acceptance: $z = -2.82$, $p < .05$, CI 95%: low: -.04, high: -.01; peer role strain: $z = -1.82$, $p < .05$, CI 95%: low: -.04, high: -.01) and school identification (disclosure to father: $z = -2.30$, $p < .05$, CI 95%: low: -.07, high: .00; social acceptance: $z = 1.81$, $p < .05$, CI 95%: low: -.05, high: .00; peer role strain: $z = -1.99$, $p < .05$, CI 95%: low: -.05, high: .00).

Discussion

Our study among a sample of students (mean age 13.61) at four high schools in different cities in the Netherlands revealed differences in the quality of social relationships (disclosure to father, social acceptance among peers, peer role strain), mental health (depression, self-esteem) and school performance (school identification) between young adolescents with SSA and those without such feelings. Although we expected the effects of the interaction between Gender \times Sexual Attraction and Age \times Sexual Attraction on mental health and school performance to be significant, this was not supported by our findings.

Our findings further indicate that differences in depression, self-esteem, and school identification between young adolescents with and without SSA are an outcome of the expected lower quality of the social relationships of same-sex attracted adolescents with their fathers and peers. Compared to adolescents without SSA, adolescents with SSA had more mental health problems as

well as more school problems, suggesting that disparities in mental health and school performance are related to sexual orientation. The relation between sexual attraction and mental health has been documented in adults (see for instance, Cochran, Sullivan, & Mays, 2003; Sandfort et al., 2001). Our study suggests that differences might already be present at a much earlier age.

The pattern of our findings is in line with studies that focused on more dire psychological differences (such as suicidal behavior) between adolescents who identified as LGB and adolescents who identified as heterosexual (D'Augelli, Hershberger, & Pilkington, 2001). Diamond and Lucas (2004) also found higher levels of depression in gay-identified and lesbian-identified adolescents. Adolescents with SSA might be more depressed or show lower levels of self-esteem because they worry about whether they will ever find a romantic partner (Diamond & Lucas, 2004). It might also be that they have doubts about ever having a normal family of their own, or that they expect that they will always feel different from their peers.

These factors may cause some depression and low self-esteem even if the children's relationship with family, peers, and mentor are not adversely affected by feeling of same-attraction. Our findings regarding less strong feelings of school identification might be an indicator of more general school problems. In this sense, our results are in line with what Russell and colleagues (Russell & Joyner, 2001; Russell et al., 2001) found regarding SSA adolescents. However, these authors also found differences in GPA: Girls with a homosexual attraction and boys with a bisexual orientation had lower GPAs. We did not find this in our study.

Adolescents with SSA also differed from adolescents without SSA on three of the six potential determinants of mental health and school performance: Two were related to the adolescents' relationships with peers (social acceptance among peers and peer role strain), the third to the relationship with their fathers (disclosure to father).

We found differences between adolescents with and without SSA only in the relationship with fathers and not with mothers. It could be that, in general, it is more difficult for adolescents to talk to their fathers about their feelings and personal life than it is to discuss these issues with their mothers. It might even be more difficult for adolescents who feel sexually attracted to someone of

the same sex to share this with their father. It should be mentioned that in terms of the parent–child relationship, we assessed the extent to which children spontaneously disclose to their parents what they find important. It might be interesting for future research to also include other aspects of the parent–child relationship. Parental warmth and support, for instance, might be important aspects with respect to highly sensitive and secretive issues, such as feelings of SSA.

Although we did not find differences between adolescents with SSA and without SSA in the quality of the relationships with class mentors, there were differences regarding their relationships with peers. Adolescents with SSA rated their relationships with peers less positively than did adolescents without SSA. The fact that an adolescent feels less socially accepted by peers and experiences more peer role strain, might be related to his/her feeling different from peers or being less accepted by peers because of his/her SSA. Several studies have shown that LGB people often recall having strong feelings of SSA and same-sex fantasies during their early adolescence, accompanied by uneasiness about feeling different from their peers (Savin-Williams & Cohen, 2007; Schneider, 2001). However, these studies were based mainly on retrospective reports after people had come out. The present study suggests that such feelings are present in the precoming-out phase. SSA adolescents' negative relationships with peers could also result from homophobic responses. We do not know, though, whether peers were aware of the feelings of SSA that some of the participants had. Gender nonconformity could also be an explanation for our finding that more negative experiences with peers were reported by adolescents with SSA. If gender nonconformity is visible to peers, adolescents with SSA may be shunned by them. Higher levels of gender atypicality among adolescents with SSA might lead to loss of protection by the group, and therefore to negative consequences for psychological adjustment (Yunger, Carver, & Perry, 2004). It could also be that fathers are less accepting of gender nonconformity and that, as a result, SSA adolescents showed less disclosure to their fathers. Some prudence is required regarding these interpretations, however, because we did not assess gender nonconformity.

As expected, the association between sexual attraction and psychosocial functioning and school performance was partly mediated by the quality of the adolescents' social relationships with peers. This is in line with the finding of Safren and Heinberg (1999), namely that the low satisfaction of LGB people with social support from their peers mainly accounted for high depression and hopelessness. In addition, Diamond and Lucas (2004) show that worries about friendships and about never finding a romantic friend mediated differences in health outcomes between LGB and heterosexual youths. These are important findings, particularly because previous research has paid little attention to the role of peer relationships and the potential causes of poorer health and school performance among LGB youths.

This study has a few limitations. First, we focused on SSA as an indicator of sexual orientation, and other dimensions of sexual orientation (such as self-labeling or behavior) were not assessed. It is not clear, however, whether all the participants with SSA will later engage in same-sex sexuality and develop a gay or lesbian identity. We also do not know to what extent the SSA students had already come out to parents, peers, or class mentors. As a consequence, we could not assess whether differences in social relationships

and psychosocial functioning were related to whether or not students had made their sexual status public. Second, all the similarities and differences described in this paper are based on adolescents' self-reports (with the exception of the GPAs). Third, Cronbach's alpha for the peer acceptance scale was quite low. It could be that information from other sources (e.g., peers, teachers, parents) and other instruments (e.g., observations) would have resulted in a different assessment of their social relationships. Using peer ratings of a youth's popularity would be another alternative (cf. de Bruyn & Cillessen, 2006). Fourth, the study did not have a longitudinal design. With a longitudinal design, it would be possible to assess whether students with an SSA also develop an LGB identity and whether SSA in early adolescence is related to the quality of the social networks and psychosocial functioning in later adolescence. Longitudinal designs might also rule out the possibility that the direction of the relationship with peers and parents on the one hand and mental health and school performance in the other hand is in the opposite direction of what we posited here.

Finally, the generalizability of the findings is limited because the study was carried out in the Netherlands, where the social acceptance of homosexuality is higher than it is in the United States. However, even in this more tolerant climate there are differences between young adolescents with and without SSA.

Our findings underscore the importance of studying the mental health and school performance of adolescents with SSA from the perspective of their multiple social relationships, especially their relationships with peers and parents. Longitudinal studies would make it possible to assess how the observed disparities develop over time, in relation to adolescents' further sexual development.

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Call for Papers:

Special Section on Three-Generation Research on Parenting and Its Consequences

Developmental Psychology invites manuscripts for a special section on three-generation research on parenting and its consequences to be compiled by guest editors Rand Conger, Jay Belsky, and Deborah Capaldi working together with Associate Editor Richard Lerner.

The goal of the special section is to highlight recent high quality, prospective, longitudinal research on intergenerational continuities and discontinuities in parenting behavior and their consequences for child and adolescent development. Topics might include, but are not limited to, examination of the following:

- Mediating mechanisms that link quality of parenting in one generation to quality of parenting in the next,
- Social or personal events or conditions that either reduce or increase (i.e., moderate) the degree of intergenerational continuity in the quality of parenting behavior,
- Factors that disrupt intergenerational continuity in abusive parenting,
- The role of continuity in parenting as a nexus for similar developmental trajectories of children or adolescents in one generation and their children in the next generation, and
- Methodological issues related to the study of intergenerational continuity in parenting and its consequences.

Especially welcomed are papers that report the results of research on understudied populations such as ethnic minorities or rural as well as urban parents and children. The submission of recently completed doctoral dissertations is also encouraged.

The submission deadline is **February 1, 2008**. Initial inquiries regarding the special section may be sent to Rand Conger at rdconger@ucdavis.edu, Jay Belsky at j.belsky@bbk.ac.uk, or Deborah Capaldi at deborahc@oslc.org. Manuscripts must be submitted electronically through the Manuscript Submission Portal of *Developmental Psychology* at <http://www.apa.org/journals/dev.html>. Please be sure to specify in the cover letter that your submission is intended for the special section. For instructions to authors and other detailed submission information, see the journal website at <http://www.apa.org/journals/dev.html>.