Several recent studies of probability samples all suggest that gay, lesbian, and bisexual (GLB) youth are at greater risk for self-reported attempted suicide than heterosexual young people (Faulknor & Cranston, 1998; Fergusson, Horwood, & Beauteais, 1999; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Remafedi, French, Story, Resnick, & Blum, 1998; Safren & Heimberg, 1999). However, a series of important questions still remain unanswered.

First, available results offer limited insight into why GLB sexual orientation may be a risk factor. There seem to be two lines of research that may provide such valuable information. In the first line of research, one would investigate risk factors that are specific to GLB youth, such as age of awareness of homoerotic attractions or gay harassment, for which comparison with heterosexuals is not very meaningful. In the second line of research, one would compare GLB youth with heterosexual youth and ask whether homosociality is associated with an increase in established risk factors of suicidal behavior and whether accounting for this increase in risk factors would reduce or even eliminate the impact of sexual orientation. In the present study, we pursued this latter line of research.

Increased rates of several general risk factors for suicidal behavior have been reported among GLB youth: depression, anxiety, alcohol use and substance abuse (Fergusson et al., 1999; Sandfort, de Graaf, Bijl, & Schnabel, 2001), eating problems (French, Story, Remafedi, Resnick, & Blum, 1996; Strong, Williamson, Nete-
et al., 2000). Moreover, eating problems (Wichstrom, 2000) and being overweight (Carpenter, Hasin, Allison, & Faith, 2000), which are highly correlated with body dissatisfaction, are also associated with suicidal behavior. Lack of social support in the form of peer and family rejection has been noted among GLB youth (Hershberger, Pilkington, & D’Augelli, 1997), and social support may be inversely related to suicidal behavior (Heikkinen, Aro, & Lönnqvist, 1993).

Second, the definition of gay, lesbian, or bisexual has generally been operationalized in an imprecise manner (Gonsiorek, Randall, & Weinrich, 1995). A bulk of studies has used same-sex sexual contact as a definition. However, a considerable proportion of persons with homosexual sexual contact may not consider themselves homosexual or even bisexual. Conversely, many who consider themselves GLB may not have engaged, for a variety of reasons, in actual same-sex behavior. Other studies have relied on self-categorization as GLB; such categorizations may lack precision. It is difficult to know whether participants refer to sexual orientation (fantasies and emotions), sexual behavior, or sexual identity. To capture sexual orientation in detail, we asked about three dimensions: same-sex sexual behavior, sexual attraction, and sexual identity.

Third, most studies have not performed separate analyses for gay men and lesbians, but some suggest that homosexuality is a risk factor for men but not for women (Garofalo et al., 1999; Remafedi et al., 1998). Atypical gender roles have been suggested as an explanation for the increased rate of suicide attempts among GLB individuals (Remafedi, Farrow, & Deisher, 1991), pointing to the possibility that higher levels of gender atypicality in gay men make gay men more susceptible to types of psychopathology more commonly found in women (Bailey, 1999). This could possibly explain the lack of gender difference in suicide attempts among GLB youth.

Fourth, studies on sexual orientation and suicidal behavior have, until now, been retrospective. Such a design has significant limitations. Whereas the suicidal behavior in question often dates back several years, risk factors are commonly measured in a far more recent and narrow time frame. Thus, if identified risk factors for suicide attempts among GLB individuals are truly risk factors, or if they are consequences of the attempts, is yet uncertain. Moreover, the time relationships between the emergence of homosexual feelings, same-sex sexual behavior, age of coming out, and suicidal behavior have not been identified. We therefore do not know if homosexuality predate suicide attempt, or vice versa. In the present study, we have followed a national probability sample of Norwegians through their teen years and into young adulthood. In the last wave, we obtained reports about sexual orientation, homosexual debut, and age of awareness of nonheterosexual orientation.

We asked whether GLB orientation increases the risk of suicide attempt, which aspects of GLB orientation are important in this respect, whether increased risk is the same for men and for women, and whether debut age of heterosexual contact and age of awareness of homosexual orientation predate suicide attempt. Moreover, we asked whether an increased rate of suicide attempts among GLB young people can be attributed to an increase in known and relevant risk factors for suicide attempt, both cross-sectionally and longitudinally.

**Method**

Data for the present research stem from the Young in Norway Study (Wichstrom, 1999, 2000). In 1992, 12,287 students in grades 7 through 12 (ages 12 to 20 years) from 67 schools representative of high schools in the country comprised the initial sample. The response rate was 97%. Three schools were included at T1 (1992) for participation in the first wave of data collection only and were not part of the follow-up. At one other school, there was a burglary in the school’s archives, and the project I.D. records were lost. In all, 9,679 students from 63 schools were eligible to complete the T2 questionnaire. Two years later (1994; T2) a sizable proportion of the students had completed the 3-year track at junior or senior high school and therefore left the school they had attended at T1. Participants not in their original schools at T2 received the questionnaire by mail. The students still in their original schools filled out the questionnaire at school according to the same procedure as in the initial survey (T1). Among those who were still at their original schools, 92% responded. Only students who completed the questionnaires at school at T2 (n = 3,844) were followed up at T3 (1999) because of a comparatively lower response rate among those receiving the questionnaire by mail. Because the study was originally planned as a two-wave study, new informed consent had to be obtained at T2. Those consenting at T2 (n = 3,507; 91.2%) received questionnaires by mail at T3. Data were received from 2,924 participants (84%). The overall response rate was therefore 68%. The mean age of the participants was 14.9 years (SD = 1.7) at T1, 16.5 years (SD = 1.9) at T2, and 22.1 years (SD = 1.9) at T3. Logistic regression analysis identified the following measures at T1 as predictors of attrition at T3: gender (male), age, grade level, poor grades, suburban or urban residence as opposed to rural residence or residing in a small town, and the participant predicting manual work as the occupation when 40 years of age. In all, 75% of the cases were correctly classified using this information, including 59% of the attrition group.

**Sexual orientation.** Three aspects of sexual orientation were addressed: Same-sex sexual contact was measured by the question, “Have you had any form of sexual contact with a person of your own sex?” (Yes/No). The participants were asked to state the number of same-sex partners. Age on first occasion and most recent occasion were recorded, and those indicating sexual contact with someone of their own sex when 12 years or older were considered as having had same-sex sexual contact. Those younger than 12 years at their first same-sex contact who did not repeat this when older were excluded (N = 23, 11 boys and 12 girls). Sexual attraction was measured by the question, “Are you sexually interested in men or in women (sexually attracted to, sexual fantasies about)?” with a 7-point scale: “only women”; “predominantly women, only incidentally men”; “predominantly women, but sometimes men”; “about equally often women as men”; “predominantly men, but sometimes women”; “predominantly men, only incidentally women”; and “only men.” Sexual identity was measured by the question, “How would you presently place yourself on a scale ranging from exclusively heterosexual to exclusively gay/lesbian?” (a 7-point scale). Age of awareness of homoerotic attractions was also recorded. A composite measure of same-sex sexual orientation was calculated as the sum of responses to sexual attraction, sexual identity, and same-sex sexual contact (weighted to have the same scale range as the other two measures).

**Suicide attempts.** Participants were initially asked a gateway question about parasuicide, that is, whether they had “taken an overdose of pills or otherwise tried to harm yourself on purpose?” (“No, never”; “Yes, once”; or “Yes, several times”). To detect more serious attempts, we subsequently posed the question, “Have you ever tried to kill yourself?” (“No, not really”; “Yes, once”; or “Yes, several times”). Responses to the last question were used in the present study. The participants were also asked to date the most recent attempt.
Potential explanatory factors. Three types of explanatory factors were considered: psychiatric symptoms and problem behavior, psychological constructs, and social factors.

The adolescents rated their involvement in 13 different types of antisocial or illegal behavior. A measure of conduct problems approximating the diagnostic criteria for conduct disorder in the Diagnostic and Statistical Manual of Mental Disorders (3rd edition, revised; DSM–III–R; American Psychiatric Association, 1987) was computed (Wichstrøm, Skogen, & Øia, 1996). Depressed mood was measured by the Depressive Mood Inventory (Kandel & Davies, 1982). Eating problems were measured by a 12-item version of the Eating Attitudes Test (Garner, Olmsted, Bohr, & Garfinkel, 1982) developed by Lavik, Clausen, and Pedersen (1991). The respondents were asked to indicate their use of four substances, on a 6-point scale: cannabis, solvents, "hard" drugs, and "drunk so much that you felt clearly intoxicated" during the preceding 12 months. The participants indicated if they ever had sexual intercourse, the total number of partners, and age of sexual debut. Those who were 15 years of age or younger at debut (15%) were considered as having an early debut.

A revised version of the Self-Perception Profile for Adolescents (Harter, 1988; Wichstrøm, 1995) was included, with the following subscales: Social Acceptance (popularity and acceptance); Close Friends (intimacy); Physical Appearance; and Global Self-Worth. Unstable self-concept was measured by a revised edition of Rosenberg’s Stability of Self Scale (Rosenberg, 1979), further developed by Alsaker and Olweus (1986). We also included the Body Areas Satisfaction Scale (BASS; Brown, Cash, & Lewis, 1989). BASS is a 7-item measure that asks for ratings of satisfaction with specific body parts: face, lower torso, mid torso, upper torso, muscle tone, weight, and height. Perceived pubertal timing was measured by one item (Alsaker, 1992; Silbereisen, Petersen, Albrecht, & Kracke, 1989): “When you look at yourself now, do you think that you are more or less physically mature compared to others (of the same sex) at your age?” using a 7-point scale ranging from much later to much earlier. At T3, the question was rephrased as a retrospective report about perceived timing when the physical maturing started. Femininity and masculinity were measured by the brief version of Bem’s Sex-Role Inventory (Bem, 1974). As a further measure of gender nonconformity, attitudes and self-efficacy toward pursuing four male-dominated careers (truck driver, engineer, mechanic, firefighter) and four female-dominated careers (nurse, kindergarten assistant, hairdresser, secretary) were recorded on a 4-point scale. Vocational gender nonconformity was calculated as the difference between responses to gender-typical and gender atypical careers. The gender difference between male- and female-dominated careers ranged from 1.1 to 1.3 standard deviations.

We developed a brief measure of social support in young people that was modeled after Sarason, Levine, Hasham, and Sarason (1983). The measure asks for availability of the following social support persons: mother, father, boyfriend/girlfriend, sibling(s), friend(s), relative(s), neighbor(s), and others, respectively. The participants are also requested to indicate specifically if none applied. Satisfaction with social support was recorded on a 4-point scale ranging from very poorly satisfied to very satisfied. Rating is performed in five situations: three emotionally oriented, and two more instrumental: “Imagine that you had a personal problem and felt down and sad. Who is it likely that you would talk to, turn to for help?”; “Who can you really count on to help you to feel better when you feel low and run down?”; “Who accepts you fully, both your good side and your bad side?”; “Imagine that you are caught in doing something illegal. You can be turned into the police. You need help and advice. Who would you probably turn to?”; and “Imagine that you had to choose an education or a career tomorrow. You are really uncertain about what to choose. Who is it likely that you would turn to for help and advice?” A summed score for average number of support persons and a summed score for average satisfaction were computed. Loneliness was measured with a brief version of the UCLA Loneliness Scale (Russel, Peplau, & Cutrona, 1980). Suicidal behavior among family and friends was recorded by two questions: one asking if the participant knew somebody that had taken her or his own life, and one asking if the participant knew somebody that had attempted suicide. For both questions, respondents were asked to indicate their relationship with the person(s). Those indicating mother, father, sibling, relative, close friend, or boy/girlfriend were categorized as having friends or family associated with suicide or suicide attempt. The adolescents were asked to think of their two best friends and rate whether neither of them, one, or both got drunk at least once a week, were regular smokers, had ever used cannabis, or had ever been in trouble with the police because of criminal behavior, respectively. An index of peers’ problem behavior was computed as the sum of these behaviors.

Statistical Analyses

The search for possible explanations for increased risk for suicide attempt among GLB youth was conducted in two phases. First, bivariate associations between risk factors and suicide attempt and GLB orientation, respectively, were tested with Pearson’s chi-square test and a t test for independent samples. Second, risk factors that were associated with both suicide attempt and sexual orientation at the p < .05 level were entered into a binary logistic regression analysis. Variables were excluded from the analysis one at a time according to the resulting −2 log-likelihood of the model if removed. Interactions with gender were examined at all phases of the analyses and reported whenever significant interactions occurred. Identical questions about risk factors were posed at all time points. To evaluate the importance of sexual orientation as an etiological factor, population attributable risk (PAR) was calculated (Lilienfeld & Lilienfeld, 1980). PAR denotes the proportional decrease in the incidence of a disease, or the like, if the entire population were no longer exposed to the suspected etiological factor. When data were analyzed longitudinally, measures at T2 did override the effect of measures at T1 in predicting suicide attempt at T3, except for reports at T1 about previous suicide attempt. Data from T1 that were overridden by T2 measures are therefore not reported. Weighting the data with the predicted membership in the attrition group versus the participating group at T3, using the results from the logistic regression analysis predicting attrition, yielded virtually identical estimates of same-sex sexual contact (6.4%) and a slightly lower estimate of suicide attempt (4.0%). Analyses were therefore performed with unweighted data.

Results

In all, 6.5% of participants reported same-sex sexual contact. The proportion that revealed that their sexual attraction was not exclusively directed toward those of the opposite sex was larger (15.5%), as was the proportion who stated that their sexual identity was not exclusively heterosexual (11.4%). When those indicating only some bisexual attraction (e.g., “predominantly men, but only incidentally women,” if female) or some bisexual identity (e.g., “predominantly heterosexual, only to a minimal degree homosexual”) were excluded, the latter two figures were 4.5% and 3.2%, respectively. Exclusive homosexual attraction and identity were indicated by 0.8% and 0.5% of the participants, respectively.

In 1999, 4.4% (n = 127) of participants reported that they had ever attempted suicide. Among these, 29.2% reported multiple attempts. The average time since the most recent attempt was 3.9 years (SD = 3.3). Those who had positive scores on GLB orientation had higher rates of past suicide attempts compared with heterosexuals: same-sex sexual contact was 15.4% versus 3.6%, respectively, χ²(1, 2823) = 55.97; GLB sexual attraction was 9.1% versus 3.6%, χ²(1, 2894) = 28.25; and GLB sexual identity was 9.1% versus 3.6%, χ²(1, 2894) = 25.48, all ps < .0001.
Same-sex sexual contact was equally prevalent among girls (7.0%) and boys (5.7%); however, more girls (20.9%) than boys (8.6%) reported at least some GLB sexual attraction, $\chi^2(1, 2894) = 79.77$, $p < .0001$, and more girls (13.5%) than boys (8.9%) reported a nonexclusively heterosexual identity, $\chi^2(1, 2894) = 10.48$, $p < .001$. More girls (5.9%) than boys (2.2%) reported a past suicide attempt, $\chi^2(1, 2892) = 23.31$, $p < .0001$. There was no effect of gender in the relationship between past suicide attempt and same-sex sexual contact, sexual attraction, or sexual identity, respectively. The mean debut age for same-sex sexual contact was 16.7 years ($SD = 3.3$). Boys had an earlier debut than girls had (14.8 years vs. 18.0 years), $t(167) = -5.57$, $p < .0001$. Realizing that one was not exclusively heterosexual took place at an earlier age (mean age = 16.6 years). For this measure, the same gender difference prevailed: The mean age was 14.8 years for boys and 17.4 years for girls, $t(243) = -5.93$, $p < .0001$. Number of same-sex sex partners ranged from 1 to 79 ($M = 3.25$, $SD = 7.96$) and was not related to suicide attempt, $t(191) = -1.28$.

The suicide attempt rate among those with GLB attraction or identity but without same-sex sexual contact was lower than among those with GLB sexual attraction or identity with such contact (5.3% vs. 18.2%). Those with same-sex sexual contact without GLB attraction or identity were in an intermediate position (a 12.2% suicide attempt rate). When suicide attempt was predicted in a logistic regression analysis entering all three measures of GLB orientation, only same-sex sexual contact was significant. This was also the case if those participants with only a minimum of bisexual attraction or identity were considered heterosexual. Same-sex sexual contact correlated moderately with GLB sexual attraction and GLB identity (.42 and .44, respectively), whereas the two latter measures correlated highly at .82. The latter correlation could potentially cause problems of multicollinearity. There is no readily available test for identifying such a problem in logistic regression (LR). The dependent variable was therefore treated as continuous in a regression analysis. The square root of the variance inflation factor was 1.77; therefore, it did not seem to be a serious threat to this analysis. Moreover, the difference in model chi-square between a model containing same-sex sexual contact and the composite measure of sexual orientation was not significant ($\chi^2 = 2.92$). Thus, only same-sex sexual behavior was analyzed. The presence of atypical gender roles implies that there should be a three-way interaction between gender roles, biological sex, and sexual orientation. No such interaction was observed for Masculinity × Sex ($\Delta LR = 3.28$, $p = .07$) or for Femininity × Sex ($\Delta LR = 2.44$).

**Cross-Sectional Associations**

Variables at T3 that were significantly associated with both same-sex sexual contact and suicide ever attempted were entered in an LR analysis. This model included the following: depressed mood, eating problems, conduct problems, lifetime use of cannabis, suicide attempt models, sexual debut before 15 years of age, friends’ problem behavior, low global self-worth, unstable self-concept, dissatisfaction with body parts, low number of social support figures, low satisfaction with social support, early pubertal timing, and high number of sexual partners. A trimmed model is presented in Table 1. As can be seen, other risk factors did not eliminate the effect of same-sex sexual contact. Moreover, the initial odds of such contact (OR = 4.72) were not significantly reduced when the other risk factors were controlled. A moderately high proportion of suicide attempts could be attributed to same-sex sexual contact (PAR = 18.3%).

Boys who did debut before T2 did this at a younger age than girls (13.6 years vs. 15.4 years), $t(58.06) = 2.81$, $p < .01$. The mean number of years between homosexual debut and first suicide attempt was $-0.29$ (range = $-8.08$ to 8.31). The majority (63%) of first attempts dated after the debut; among an additional 7.4%, the attempt happened during the year before debut. The majority (62%) had their first attempt after they realized they were not exclusively heterosexual (mean difference = 1.34 years, range = $-4.03$ years to 8.18 years); for an additional 19%, the attempt was during the year before she or he realized this. There were no gender differences in these relationships.

**Longitudinal Analyses**

Those reporting same-sex sexual behavior that dated before the completion of the T2 survey ($n = 83, 2.9\%$) had higher rates of future suicide attempts (attempts after T2) compared with those not reporting such behavior: 8.5% vs. 3.1%, $\chi^2(1, 2806) = 7.38$, $p < .01$. Same-sex sexual contact before T2 was slightly more frequent among boys than girls (3.5% vs. 2.2%, $\chi^2(1, 2806) = 1.28$). Note. $N = 2,460$. Adj. OR = odds ratio adjusted for other variables in the block; CI = confidence interval.

**Table 1**

<table>
<thead>
<tr>
<th>Step/risk factor</th>
<th>Scale range</th>
<th>B</th>
<th>SE B</th>
<th>Adj. OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 Same-sex sexual behavior</td>
<td>0–1</td>
<td>1.51</td>
<td>.23</td>
<td>4.72</td>
<td>3.06–7.28</td>
</tr>
<tr>
<td>Step 2 Same-sex sexual behavior</td>
<td>0–1</td>
<td>1.33</td>
<td>.26</td>
<td>4.31</td>
<td>2.08–5.61</td>
</tr>
<tr>
<td></td>
<td>Depressed mood</td>
<td>1–4</td>
<td>0.79</td>
<td>.18</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td>Suicidal ideation</td>
<td>1–4</td>
<td>0.48</td>
<td>.18</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>Global self-worth</td>
<td>1–4</td>
<td>-0.56</td>
<td>.24</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>Suicide attempt models</td>
<td>1–5</td>
<td>0.95</td>
<td>.21</td>
<td>2.52</td>
</tr>
<tr>
<td></td>
<td>Sexual debut at ≤15 years</td>
<td>0–1</td>
<td>0.89</td>
<td>.22</td>
<td>2.39</td>
</tr>
<tr>
<td></td>
<td>Satisfaction with body parts</td>
<td>1–4</td>
<td>0.48</td>
<td>.18</td>
<td>0.60</td>
</tr>
</tbody>
</table>
same-sex sexual contact before T2 was entered first in a logistic regression. Risk factors at T2 that were associated with both future suicide attempt and same-sex sexual behavior predated the T2 survey were entered in a second step. These included the following: suicide attempt before T1 (as measured at T1), suicide attempt between T1 and T2, young age, depressed mood, parental divorce, lifetime use of cannabis, alcohol intoxication, friends’ problem behavior, sexual debut at 15 years or younger, and high number of sexual partners. The trimmed model is presented in Table 2. As can be seen, the initial odds ratio of same-sex sexual behavior among girls on a future suicide attempt (OR = 5.44) prevailed even when risk factors were controlled. This odds ratio amounts to a modest to moderate PAR of 15.4%.

Discussion

A longitudinal study of a national probability sample of Norwegian young people showed that same-sex sexual contact was associated with increased odds of previous suicide attempts. Same-sex sexual contact was associated with increased odds for a future suicide attempt among girls but not among boys. These odds were not reduced when a large body of potential general risk factors for suicide attempt was controlled. Young people with GLB attraction or GLB identity also were at higher risk for suicide attempts, but the increased risk was better accounted for by same-sex sexual contact. The majority of suicide attempts dated after or around the time the person realized that she or he was not exclusively heterosexual. The present research had several advantages compared with previous studies, among them a longitudinal design, a large sample, a comprehensive set of potential explanations, and differing measures of sexual orientation. Several limitations should still be acknowledged. Although this study was longitudinal, its correlational nature should be noted. A potential link between same-sex sexual behavior and suicide attempt is suggested but by no means proven. The design was longitudinal, but sexual orientation was measured retrospectively. It is therefore possible that dramatic events, such as a suicide attempt, could influence the recollection and dates of sexual contact as well as the evaluation of one’s sexual orientation in the Norwegian context. A research report released at the time of data collection (Hegna, Kristiansen, & Moseng, 1999) showing dramatically high frequency of suicide attempts among self-identified gays and lesbians drew much media attention, including coverage in all major newspapers and television stations, and was debated in the Parliament. We must also consider whether such public attention, at least in Norway, created a secular effect on the recollection of past suicide attempts according to sexual orientation. Although we used a national probability sample, attrition (31%) could cause problems when attempting to generalize the results. The decision not to follow up on those who were not in their original school at T2 implies that the oldest students in junior high school and senior high school were left out. Junior high school is compulsory in Norway and has a very small dropout rate. About 97% of students continue into senior high school. The dropout rate from senior high school was 4.4% in the present study (Wichstrøm, 1998). Dropout rates tend to increase in Grades 11 and 12. Thus, the decision not to include the oldest students reduced nonrepresentativeness due to further dropouts. Moreover, because there were very good initial data from almost all of the participants in the first data collection, attrition could be successfully predicted. Weighting data according to scores on variables predicting attrition did not alter the findings. Underreporting of homosexual attraction and practices has been indicated in past research (Gonsiorek et al., 1995). Although the prevalence of both of these aspects of homosexuality are in the upper range of what is commonly reported, underreporting could still occur. However, such underreporting is likely to result in underestimation of the risk for suicide attempt. In addition, gender nonconformity was not operationalized optimally. This study used psychological constructs—masculinity/femininity and gender-atypical vocational attitudes and self-efficacy—whereas previous research has used behavioral measures. The latter approach might have strengthened the study.

No reduction in the relation between GLB orientation and suicide attempt has been reported in the majority of studies in which various general risk factors have been controlled. The present study included a much wider range of general risk factors.

Table 2
Logistic Regression Showing Risk Factors for Suicide Attempt Among Girls in the 1994–1999 Period Versus No Attempt

<table>
<thead>
<tr>
<th>Step/risk factor</th>
<th>Scale range</th>
<th>B</th>
<th>SE B</th>
<th>Adj. OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same-sex sexual behavior before 1994</td>
<td>0–1</td>
<td>1.77</td>
<td>.31</td>
<td>5.88</td>
<td>3.22–10.76</td>
</tr>
<tr>
<td>Block 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same-sex sexual behavior before 1994</td>
<td>0–1</td>
<td>1.60</td>
<td>.39</td>
<td>4.96</td>
<td>2.29–10.62</td>
</tr>
<tr>
<td>Suicide attempt before 1992</td>
<td>0–1</td>
<td>1.37</td>
<td>.36</td>
<td>3.94</td>
<td>1.95–7.95</td>
</tr>
<tr>
<td>Suicide attempt, 1992–1994</td>
<td>0–1</td>
<td>1.96</td>
<td>.40</td>
<td>7.10</td>
<td>3.24–15.55</td>
</tr>
<tr>
<td>Depressed mood, 1994</td>
<td>1–4</td>
<td>0.68</td>
<td>.22</td>
<td>1.98</td>
<td>1.28–3.06</td>
</tr>
</tbody>
</table>

Note. N = 1,327. Adj. OR = odds ratio adjusted for other variables in the block; CI = confidence interval.
than previous studies. Nevertheless, the effect of GLB orientation prevailed. Although some relevant general risk factors were not included (e.g., victimization), this lack of positive findings suggests that risk factors unique to GLB young people might be responsible for the increased risk. The present study addressed the general population of young people; factors specific to lesbians and homosexual youth were therefore not included. A majority of suicide attempts among GLB youth occurred after their same-sex sexual debut or after they realized that they were not exclusively heterosexual. We still do not fully understand which aspects of being GLB might increase the risk for suicide attempt. Such specific risk factors could include emotional stress and identity confusion due to becoming aware of homoerotic attractions, negative effects of coming out to friends and family, and victimization and harassment due to sexual orientation (Hershberger et al., 1997). It is important to note that the negative impact of such specific risk factors may not be wholly mediated by their influence on commonly identified risk factors for suicide attempt such as depression or substance abuse. In line with this, Hegna and Wichstrom (2001) recently showed that specific risk factors such as early age of coming out, being in a heterosexual relationship, and profound openness about sexual orientation added substantially to the prediction of past suicide attempt over and above a large body of general risk factors among self-identified gays and lesbians.

In Norway, homosexuality has been decriminalized (1974), people of the same sex are allowed to register their partnership (1993), and attitudes toward gays and lesbians in Norwegian society are steadily moving toward acceptance (Hegna et al., 1999). However, judging from the results of the present and other studies, the identity-forming process, often labeled “coming out,” evidently still represents a difficult period for gay and lesbian youth. The effect of homosexuality on suicide risk seems to have been relatively constant across different birth cohorts spanning more than 30 years (Herrell et al., 1999).

There may be several reasons why homosexuality may be a risk factor for suicide attempt in spite of less prejudice in Norwegian society at large. For many, the awareness of homoerotic attraction and having same-sex sexual contact is the start of achieving a gay male, lesbian, or bisexual identity, inevitably pushing aside an already ascribed heterosexual identity. Such an ego-identity crisis may be particularly stressful in early or middle adolescence, before the usual timing of the ego-identity phase (i.e., late adolescence or postadolescence; Marcia, 1980). Nearly every theoretical model explaining the formation of homosexual identities views homosexual identity formation as taking place against a backdrop of stigma (Troiden, 1993). Some have described the cognitive dissonance and possible self-hatred that may result from the contrast between perceived membership in a stigmatized minority group and the internalized homophobia of the GLB youth (Edwards, 1996). The young adolescent may not be emotionally prepared to deal with the difficulties of the identity confusion or of accepting a stigmatized identity. Although most heterosexual youths more or less follow the prescribed path to adulthood through dating and coupling, GLB youth may have to face the future lacking the role models, social structures, and sexual scripts to guide them into adult gay male or lesbian life. Hopelessness about the future, which is a known risk factor for suicidal behavior (Brent, 1995), may result.

In the present study, there was no gender difference in the effect of same-sex sexual contact on previous attempts, whereas only girls with previous same-sex sexual contact were at risk for future attempts. The seeming contradiction between these findings may be attributed, to some degree, to the fact that boys’ same-sex sexual debut was more than 3 years earlier than girls’ debut. If one hypothesizes that the risk for suicide attempt diminishes after a certain time has elapsed since the same-sex sexual debut, the boys in this study may have been past their greatest risk for suicide attempt when surveyed at T2, whereas those girls who did debut before T2 had their debut closer to the follow-up period and therefore might have been at greater risk for suicide attempt after T2.

Previous general population studies (e.g., Garofalo et al., 1999; Remafedi et al., 1998) have found GLB orientation to be a risk factor for suicide attempt in young males but not in young females. These studies have relied on data from high school samples, whereas the present study included older youth. Our results indicate that lesbian and bisexual girls are at increased risk for suicide attempt in late adolescence and early adulthood; this may explain the discrepancy between the present findings and earlier results. The female preponderance for suicide attempts has often been explained by girls’ greater exposure to risk factors (Wichstrom & Rossow, 2002). A higher level of typically female risk factors among gay and bisexual boys, in particular depression and eating problems, might explain the previously noted lack of gender difference in previous suicidal behavior. Controlling for such risk factors did not alter the gender difference in the present study. Boys typically have an earlier same-sex sexual debut and self-identify as homosexual earlier than girls do. Early ages of coming out and early awareness of homoerotic attraction have repeatedly been found to be associated with higher suicide attempt rates (Remafedi et al., 1991; Schneider, Farberow, & Kruks, 1989). Although boys were about 3 years earlier than girls in these respects in the present study, gay and bisexual boys still had lower suicide attempt rates than lesbian and bisexual girls did. There is no ready explanation for this inconsistency among findings.

The measurement of homosexuality within the suicide research field has been through self-identification and the reporting of same-sex sexual contact. In the present study, same-sex sexual contact turned out to be the decisive aspect of sexual orientation with respect to suicide attempt. A great majority of those who described themselves as not exclusively heterosexual in identity or attraction could be classified as bisexual either in the sense of not excluding homosexual attraction or in reporting a “touch” of homosexual identity in their predominantly heterosexual orientation. In all likelihood, this group consists of youth with different future outcomes. For some, the openness toward bisexuality represents experimentation in a context of prevailing heterosexualism; for others, bisexuality represents a step in the process of coming out as gay or lesbian. This heterogeneity may obscure the relationship between sexual orientation and suicidality. Same-sex sexual contact, on the other hand, could be understood more as a social fact, at least between the participant and his or her partner; as such, same-sex sexual contact could make the stress of nonheterosexuality more acute. Possibly, there may be less of a need for coming out to others at an early age among those who lack actual homosexual contact. Early awareness and coming out at an early age are among the most consistent specific risk factors for suicidal
behavior among GLB youth, even controlling for age of hetero-
sexual debut and early age of same-sex sexual debut (Hegna &
Wichstrom, 2001). However, as there are no definite answers,
future research should continue to tap different aspects of sexual
orientation.

References
adjustment. Journal of Early Adolescence, 12, 396–419.
self-evaluations and perceived stability of self in Norwegian pre-
American Psychiatric Association. (1987). Diagnostic and statistical man-
Bailey, J. M. (1999). Homosexuality and mental illness. Archives of
General Psychiatry, 56, 883–884.
Consulting and Clinical Psychology, 42, 634–643.
orientation in men: Height, weight and age of puberty. Personality and
Individual Differences, 21, 77–84.
behavior: Mental and substance abuse disorders, family environmental
factors, and life stresses. Suicide and Life-Threatening Behavior, 25,
52–63.
in adolescent female binge-purgers: A brief report of the results of a
national survey in U.S.A. Journal of Child Psychology and Psychia-
try, 30, 605–613.
Relationships between obesity and DSM–IV major depressive disorder,
suicide ideation, and suicide attempts: Results from a general population
of violence, and drug use at school among male adolescents who engage
behavior in a random sample of Massachusetts high school students.
American Journal of Public Health, 88, 262–266.
orientation related to mental health problems and suicidality in young
Sexual orientation and prevalence of body dissatisfaction and eating
disordered behaviors: A population-based study of adolescents. Interna-
Eating Attitudes Test: Psychometric features and clinical correlates.
Psychological Medicine, 12, 871–878.
The association between health risk behaviors and sexual orientation
(1999). Sexual orientation and risk of suicide attempts among a repre-
sentative sample of youth. Archives of Pediatric and Adolescent Medi-
Gonsiorek, J. C., Randall, L. S., & Weinrich, J. D. (1995). Definition and
measurement of sexual orientation. Suicide and Life-Threatening Behav-
ior, 25(Suppl.), 40–51.
Denver, CO: University of Denver.
livskvalitet blant lesbiske kvinner og homofile menn [Living conditions
Hegna, K., & Wichstrom, L. (2001). Parasuicide in gay and lesbian youth:
General and particular risk factors. Manuscript submitted for publica-
tion.
Heikkinen, M., Aro, H., & Lönnqvist, J. S. O. (1993). Life events and
social support in suicide. Suicide and Life-Threatening Behavior, 23,
343–358.
Herrell, R., Goldberg, J., True, W. R., Ramakrishnan, V., Lyons, M., Eisen,
control study in adult men. Archives of General Psychiatry, 56, 867–
874.
of suicide attempts among gay, lesbian, and bisexual youth. Journal of
Adolescent Research, 12, 477–497.
adolescents: An empirical study. Archives of General Psychiatry, 39,
1205–1212.
use, psychopathology and parental bonding in adolescents in Norway.
factors for future adolescent suicide attempts. Journal of Consulting and
Clinical Psychology, 62, 297–305.
New York: Oxford University Press.
for attempted suicide in gay and bisexual youth. Pediatrics, 87, 869–
875.
The relationship between suicide risk and sexual orientation: Results of
60.
Loneliness Scale: Concurrent and discriminant validity evidence. Journal of
Safren, S. A., & Heimberg, R. G. (1999). Depression, hopelessness, sui-
cidality and related factors in sexual minority and heterosexual adoles-
Same-sex sexual behavior and psychiatric disorders: Findings from the
Netherlands Mental Health Survey and Incidence Study (NEMESIS).
Archives of General Psychiatry, 58, 85–91.
Assessing social support: The Social Support Questionnaire. Journal of
timing and self-esteem among gay and bisexual male youth. Develop-
mental Psychology, 31, 56–64.
behavior in adolescent and young adult gay men. Suicide and Life-
Threatening Behavior, 19, 381–394.
Maturational timing and the development of problem behavior: Longi-
tudinal studies in adolescence. Journal of Early Adolescence, 9, 247–
268.


