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The Relation between Sexual Orientation and Suicide Attempts in Austria

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RUNNING HEAD: Suicide Attempts and Sexual Orientation

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**ABSTRACT**

Previous studies indicate that homosexual or bisexual individuals are at a higher risk of attempting suicide compared to heterosexuals. To overcome biases in these studies, more rigorous definitions of “suicide attempts” and the assessment of multiple dimensions of sexual orientation are needed. In addition, studies from the German speaking region are sparse, especially those not recruiting participants from the gay or lesbian communities. We solicited self-reported suicide attempts among 1,382 Austrian adults recruited through structured snowball sampling from students’ social networks. Suicide attempts were more frequently reported by those participants with homosexual or bisexual fantasies, partner preference, behavior, and self-identification, compared to their heterosexually classified counterparts. This was true for any dimension of sexual orientation and for suicide attempts with intent to die or suicide attempts that required medical treatment. Our Austrian study confirmed existing evidence that homosexual and bisexual individuals are at an increased risk for attempting suicide. This should be considered in suicide preventive efforts.

**KEY WORDS:** suicide attempts; sexual orientation; homosexuality

## INTRODUCTION

Reviews of numerous studies conclude that lesbian, gay, and bisexual (LGB) individuals report higher rates of suicide attempts than heterosexuals (Bagley & Tremblay, 2000; King et al., 2008; McDaniel, Purcell, & D'Augelli, 2001; Meyer, 2003; Plöderl, Sauer, & Fartacek, 2006; Russell, 2003). These reviews also indicate that the increased suicide risk of LGB individuals continued to appear in recent studies with methodologically improved methods such as using birth cohorts, twin registries, prospective designs, representative and large-scaled adolescent surveys, or matching LGB individuals with their heterosexual siblings.

It has, however, been argued that the increased suicide attempt risk among sexual minorities may be a product of methodological biases in these studies. For example, biased results may stem from vague definitions of “suicide attempt.” Most studies only used a single item on suicide attempts, thus leaving it open to the study participants to decide what counts as a suicide attempt. When suicide attempts were more rigorously assessed, the difference in sexual orientation lost its significance in one study (Savin-Williams, 2001, Study 2), but not in another study, where the risk difference actually increased (Bagley & Tremblay, 1997). In the Savin-Williams (2001) study, participants were given follow-up questions to classify suicide attempts as “false attempts,” i.e., attempts that were not carried out and were only suicide plans or “true attempts,” i.e., attempts that were carried out. No significant sexual orientation differences occurred after restricting the analysis to true suicide attempts. Bagley & Tremblay’s (1997) study is, to our knowledge, the only study that differentiated between suicidal gestures (with no clear intention to die and without a lethal method) and serious suicide attempts with a clear intention to die and/or the use of a potentially lethal method (Bagley, Wood, & Young, 1994). Notably, the intent to die is crucial for distinguishing suicide attempts from other suicide related behaviors (Silverman, Berman, Sanddal, O’Carroll, & Joiner, 2007). Using the “serious suicide attempt”

variable resulted in a substantially greater sexual orientation difference than using the “suicidal gesture” variable. More research with improved assessments of suicide attempts is clearly needed, given the mixed results of the two studies and the lack of related studies assessing intent to die.

Another methodological problem is the measurement of sexual orientation. Most studies used only one dimension, such as sexual attraction, sexual behavior, or self-identification (King et al., 2008; Plöderl et al., 2006; Russell, 2003). It is still an open question what dimension of sexual orientation is most appropriate (Herek & Garnets, 2007; Savin-Williams, 2006, 2008). Relying on the behavioral dimensions makes it impossible to classify individuals who did not have sexual contacts but are certain about their sexual identification. Classification problems also arise if there is a discrepancy between dimensions of sexual orientation. For example, a clear majority of men who had sex with men identified as heterosexual (Pathela et al., 2006). Similarly, the majority of bisexually attracted men and women considered themselves as heterosexual (McCabe, Hughes, Bostwick, West, & Boyd, 2009). Moreover, some individuals are not sure about their sexual orientation and this was found to be associated with increased distress (Espelage, Aragon, & Birkett, 2008). Such individuals often do not find appropriate categories in questionnaires, and it is not justified to place them simply in a homosexual, bisexual, or heterosexual category. Suicide risk may vary with the dimension of sexual orientation. Thus, studies with multiple dimensions of sexual orientation would therefore be beneficial but are largely lacking (Russell, 2003). Meyer (2003) discussed that a person's homosexual identity may lead to more proneness toward minority stress, but also is a source for affiliation and support from other minority members. Indeed, a review of studies concluded that gay identified males have the highest risk, and those with same-sex behavior and same-sex orientation have a somewhat lower, but still increased, risk compared to their heterosexual counterparts (Russell,

2003). Similarly, another study reported that women and men who identified themselves as lesbian or gay generally had greater odds of substance abuse and substance dependence than when minority sexual orientation was defined by same-sex attraction or behavior (McCabe et al., 2009). However, in another of the few available studies with multiple dimensions of sexual orientation, same-sex sexual behavior was a stronger predictor of suicide attempts than homosexual identity or attraction, perhaps because same-sex behavior is a “social fact that makes the stress of non-heterosexuality more acute” (Wichstrom & Hegna, 2003, p. 149). Given these mixed findings, more research with multiple metrics of sexual orientation is needed.

Most of the reviewed studies are from English-speaking countries. There are only few studies from German-speaking European countries and these studies found high rates of suicide attempts among sexual minorities (Berliner Senatsverwaltung für Bildung, Jugend und Sport, 1998; Biechele, 2001; Dannecker & Reiche, 1974; Plöderl & Fartacek, 2005). Participants in these studies were recruited from gay and lesbian communities (LGB support groups, bars, festivals, youth summer camps, LGB-press). It is not clear if such a sampling procedure leads to overestimation or underestimation of mental health problems, because participating in a sexual minority community may bear both risk factors (e.g., alcohol consumption in gay bars) or protective factors (social support) for mental health (Herek & Garnets, 2007), or because such organizations may be selectively visited by LGB individuals with more mental health problems (Muehrer, 1995; Savin-Williams, 2001, 2008). Empirical studies found that attachment to the LGB community was associated with lower levels of depression (Lewis, Derlega, Berndt, Morris, & Rose, 2001; Mao et al., 2009; Mills et al., 2004), but also with more drug and alcohol use (Knox, Kippax, Crawford, Prestage, & Van De Ven, 1999; Plöderl, 2005). No effects of gay community involvement were found for suicide attempts and suicide ideation in an Austrian study (Plöderl, 2005). However, gay youth sampled from support groups had higher rates of

suicide attempts than those sampled from non-support groups (Savin-Williams & Ream, 2003). “LGB community” seems to be an umbrella term for a variety of organizations, with different effects on mental health, and this may explain the above mixed findings. Sampling from the general population instead of from LGB organizations may overcome possible biases.

The present study attempted to contribute to the existing literature about the association of suicide attempts and sexual orientation by overcoming important caveats of previous studies. This was realized by applying multiple dimensions of sexual orientation, more rigorous classifications of suicide attempts, and by using a sample that was not recruited from LGB organizations or venues.

## **METHOD**

### **Participants**

Study participants were recruited with a structured snowball sampling procedure via a social network of psychology students (see procedure section for details). Participants were classified as heterosexual, bisexual, or homosexual with different metrics of sexual orientation (see measures section). About half ( $n = 726$ , 53%) of the 1,382 study participants were female. The mean age was 37.77 ( $SD = 14.45$ ) and ranged from 18 to 84 years. Nearly half (47%) had a degree of education lower than Matura (equivalent to German Abitur or the British A-level), 38% had Matura, and 14% were academics. Compared to the Austrian population (Statistik Austria, 2006a, 2006b), our participants were younger (Austrian mean age in the range of 18 to 84 years: 46.64 years), and they had a higher degree of education (Austria: 77% lower than Matura, 16% Matura, 8% academics).

### **Measures**

#### *Sexual Orientation*

The behavioral dimension of sexual orientation was assessed with the items “Sex partner(s) since the age of 18” and “Sex partner(s) in the past 12 months” with the response options: women/men/women and men/no sex. Sexual fantasies and sexual attraction were assessed with “In your sexual fantasies there are ...” and “You would like to have sex with ...” and five response options: only women/mostly women/men and women/mostly men/only men). Self-identification was assessed with “How do you describe yourself?” with the response options: heterosexual/mostly heterosexual/bisexual/mostly homosexual/homosexual/transsexual/not sure. Participants were classified as bisexual if they ranged somewhere between the heterosexual end and the homosexual end of the response options. For some analyses, a stricter cut-off for bisexuality was used, where mostly heterosexually identified, mostly opposite sex attracted, and those with mostly opposite sex fantasies were categorized as heterosexual.

### *Suicide attempts*

The gate question on suicide attempts was “Have you ever attempted suicide?” with “yes/no” options separately for the past year and for previous years.

To separate suicide attempts from other suicide-related behavior, follow-up items had to be completed by participants who reported a suicide attempt in the gate question. In case of multiple self-reported suicide attempts, participants had to refer to the most serious attempt. The follow-up items were inspired by studies that used more rigorous assessments of suicide attempts among sexual minorities (Bagley & Tremblay, 1997; Savin-Williams, 2001).

First, open-ended questions were used to assess the motive behind the suicide attempt, the suicide method, resulting injuries, and resulting treatment of the injuries. Injuries resulting from suicide attempts were categorized into those treated in a hospital, treated by a doctor (outside a hospital), self-treated injuries, and no injuries.

To determine if the attempt was actually carried out, the multiple choice item “What describes the suicide attempt best?” was used, having six response options: (1) I only thought seriously about hurting/harming myself; (2) I had everything prepared but did not try to attempt suicide; (3) I stopped hurting/harming myself in the last second. I knew that it would not have been lethal; (4) I stopped hurting/harming myself in the last second. I knew that it would have been lethal; (5) I hurt/harmed myself, but I knew that I would not have died from this; (6) I hurt/harmed myself and I knew that I would die from this.

Finally, intent to die was quantified with the multiple-choice item “How strong was the wish to die?” with the response options: very strong/strong/likely not strong/I definitely did not want to die. The first three response options were collapsed into a “some intent” category. A “strong intent” category was created by collapsing those who responded with “very strong” or “strong” on the item.

We also tried to uncover false negative (unreported) suicide attempts among participants who did not report a suicide attempt in the gate question. Therefore, we used the expressions “incident” or “harm/injury” instead of “suicide attempt.” Such incidents were solicited with the item: “There was an incident where I hurt or harmed myself, or where I intended to do so, but I do not think this was a suicide attempt (e.g., overdose of alcohol or medication, standing in front of an abyss, jumping in front of a car, cutting wrists, and the like).” Follow-up items identical to those described above were given for a further description of the incident.

#### *Categorization of suicide attempts*

We created five different types of suicide attempt categories. First, as in most previous studies, a participant was classified as a suicide attempter if he or she reported a suicide attempt in the past year or in previous years according to the simple gate question “Have you ever attempted suicide?”

Second, for a more rigorous classification of a suicide attempt, participants were classified as attempters only if (1) they reported a suicide attempt in the gate question or an incident of self harm in the follow-up item (for those who did not initially reported a suicide attempt), (2) there was some intent to die, and (3) the attempt/incident was either carried out or aborted but with resulting injuries, and not just ideated, planned, or aborted without injuries (see also Plöderl, Kralovec, Yazdi, & Fartacek, in press).

A third category was similar to the second one, except that the only attempts with strong intent to die were considered.

The fourth category was suicide attempts that were carried out with a clear expectation to die, i.e., participants who chose the follow-up item: “I hurt/harmed myself and I knew that I would die from this.”

The fifth and last type of suicide attempts was the kind that resulted in medically treated injuries. The fourth and fifth categories also included the second criterion, i.e., only attempts with some intent to die and attempts that were actually carried out.

## **Procedure**

Each of 85 psychology students who already took part in survey-methodology courses distributed 20 questionnaires within his or her social network of friends, colleagues, family members, or relatives, making up a total of 1,700 distributed questionnaires. In this structured snowball sampling procedure, a sampling scheme was followed as close as possible for the student, so that each subsample of 20 participants reflected the Austrian adult population with respect to sex, age, and education. The students were instructed to guarantee the anonymity of the participants and to achieve a high response rate. Guarantee of anonymity was attempted by leaving it open to the participant if he or she wanted to hand back the questionnaire in a sealed envelope to the student or, alternatively, send it back in a prepaid envelope by regular mail

directly to the first author. The students were also instructed to tell the participants how important it was for the quality of the data to give honest answers; to achieve a high response rate (by explaining that non-responding may bias the results); that the results were necessary to answer important research questions; and that study results may be obtainable upon request. Sampling issues were discussed in regular meetings.

Of the 1,435 returned questionnaires (84% response rate), some were excluded because they were blank or contained obviously joking answers ( $n = 7$ ), because gender was not reported ( $n = 1$ ) or because the age was lower than 18 years ( $n = 34$ ) or because the gate question about suicide attempts was left blank ( $n = 8$ ). Furthermore, three subjects were excluded because they described themselves as transsexuals. Finally, 1,382 (81%) questionnaires were entered into the data set for the analysis.

### **Data Analysis**

Data were analyzed with R 2.7.0 (R Development Core Team, 2008). Odds ratios and 95-% median-unbiased confidence intervals were calculated with the “epitools” package (Aragon, 2007). The associations of suicide attempts with sexual orientation were calculated for each metric of sexual orientation and separately for men and women. For the latter two types of suicide attempts, however, we did not report the results separated by gender because of low counts.

## **RESULTS**

### **Association of Sexual Orientation with Age and Education**

The association of age with sexual orientation was inspected via regression analysis with age as the dependent variable and sexual orientation as the predictor, with heterosexuals as reference category. Bisexually classified participants were significantly ( $p < .05$ ) younger than heterosexuals on the sexual orientation dimensions sexual fantasies ( $\beta = -3.78$ ,  $SE = 0.93$ ,  $t = -4.06$ ), partner preference ( $\beta = -4.41$ ,  $SE = 1.16$ ,  $t = -3.81$ ), and self-identification ( $\beta = -3.30$ ,  $SE =$

1.45,  $t = -2.77$ ). Participants ranging on the homosexual end of the sexual orientation dimensions tended to be younger than heterosexuals, but the differences did not achieve statistical significance (for descriptive results, see Table 1). Participants who had no sex in the past year were significantly older than their heterosexually active counterparts ( $\beta = 3.38$ ,  $SE = 1.46$ ,  $t = -2.33$ ,  $p < .05$ ), whereas this age difference was reversed for sex in previous years ( $\beta = -15.62$ ,  $SE = 3.01$ ,  $t = -5.19$ ).

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Insert Table 1 about here  
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Associations of education with sexual orientation were explored with  $\chi^2$ -tests and analyses of standardized residuals. There were significant effects ( $p < .05$ ) of education for sexual fantasies,  $\chi^2(4) = 11.40$ , and sex since the age of 18,  $\chi^2(6) = 16.34$  (Table 1). The significant result for sexual fantasies was produced by the disproportionately high percentage of highly educated bisexual participants. The significant effect for sex since the age of 18 resulted from the disproportionately high fraction of participants who were highly educated and bisexual and those with medium education who had no sex.

### **Intercorrelations of Sexual Orientation Dimensions**

The intercorrelations of the sexual orientation metrics were all statistically significant for both men and women and tended to be smaller among women than men (see Tables 2, 3).

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Insert Tables 2 and 3 about here  
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### **Suicide Attempts and Sexual Orientation**

Suicide attempts as a function of different measures of sexual orientation are shown in Tables 4-8. Based on the gate question, suicide attempts were more frequently reported by participants with homosexual or bisexual fantasies, partner preference, behavior, and self-identification, compared to their heterosexually classified counterparts (see Tables 4, 5). Most of the differences achieved statistical significance.

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Insert Tables 4 and 5 about here  
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Analysis of suicide attempts that were actually carried out and involved at least some intent to die resulted in comparable or even increased sexual orientation differences compared to results based on the simple gate question (Tables 4, 5). Again, a clear majority of the differences were statistically significant. When considering only suicide attempts with strong intent to die, men and women with homosexual or bisexual fantasies/partner preference/behavior/identification still reported higher incidences of suicide attempts than their heterosexual counterparts (see Tables 4 and 5). Most of the sexual orientation differences remained statistically significant among men; among women, the results lost significance for sexual fantasies, partner preference, and self-identification.

The results for suicide attempts with a clear expectation of death and with medically treated injuries are shown in Table 6. Because the incidences of such attempts were low, results were not separated by gender. The analysis for the gate-question was given as a baseline. For suicide attempts with clear expectation of death (“I hurt/harmed myself and I knew that I would die from this”), the differences were significant for participants who ranged on the homosexual end of the sexual orientation dimensions, but not for bisexuals, and some differences could not be

calculated because no suicide attempter was in the bisexual group. For attempts with medical treatment, the majority of differences were statistically significant and tended to be larger or comparable than for the gate question.

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Insert Table 6 about here

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Participants classified as bisexual had comparable or smaller risk differences than those classified as homosexual in most cases when they were compared with heterosexuals (see odds ratios in Tables 4-6). If homosexual and bisexual participants were collapsed into one group, they nearly always reported significantly more suicide attempts compared to heterosexuals.

Using a stricter cut-off for bisexuality for the sexual orientation dimensions sexual fantasies, partner preference and self-identification led to a substantial decrease of participants who were classified as bisexual (Tables 7, 8). Some of the sexual orientation differences then became non-significant, especially for the sexual fantasies dimension.

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Insert Tables 7 and 8 about here

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Women who were unsure about their self-identification reported significantly higher rates of suicide attempts compared to heterosexuals. There was only one man who was unsure about his sexual identification and he stated to having attempted suicide.

Notably, in nearly all analyses where there was no statistical significance, odds ratios clearly exceeded 1.00. This hints at an increased suicide attempt rate among individuals with homosexual or bisexual fantasies, partner preference, behaviour, or self-identification. Among men, non-significant sexual orientation differences occurred most frequently for sexual behavior

since the age of 18 as dimension of sexual orientation. Among women, no significant differences occurred between homosexuals and heterosexuals for all dimensions of sexual orientation.

Because of some significant sexual orientation differences for age and education we inspected if the results for suicide attempts were influenced by these variables. Therefore, age and education were controlled for in logistic regression analysis with suicide attempts as dependent variables. Since the results remained comparable, they are not reported here. Thus, it can be assumed that sexual orientation differences in suicide attempts rates are not caused by sexual orientation differences with respect to age or education.

## **DISCUSSION**

In this study of Austrian adults, suicide attempts were more frequently reported by participants with homosexual or bisexual fantasies, partner preference, sexual behaviour, and self-identification, compared to their heterosexually classified participants. Contrary to our study, previous Austrian and German studies recruited their participants from the LGB community with possible biases. However, high rates of suicide attempts occurred with both sampling approaches.

In our study, increased rates of suicide attempts among sexual minority individuals occurred for all dimensions of sexual orientation: sexual behavior, sexual fantasies, partner preference, and self-identification. Most of these differences were also statistically significant.

Among women, the risk differences were strongest for the behavioral indicators of a non-heterosexual orientation. For men, largest odds were found for homosexual or bisexual behavior in the past 12 months and for self-identification as homosexual or bisexual. Homosexual behavior may be a “social fact” that is especially associated with minority stress, as discussed by Wichstrom and Hegna (2003). In accordance with that hypothesis, non-heterosexual fantasies or attraction were the dimensions with the smallest odds for suicide attempts, perhaps because these dimensions remain hidden and are less associated with minority stress. For men, the odds for

having attempted suicide were also high for those who identified as homosexual or bisexual. Perhaps these men more often came out and were more frequently exposed to minority stressors. They also may be more gender nonconforming with related negative experiences. However, a homosexual or bisexual identity was not the strongest predictor for suicide attempts among women. Furthermore, among men (but not among women), non-significant differences most likely occurred if sexual orientation was based on sexual behavior since the age of 18. Maybe this is not a very valid dimension of sexual orientation. Similarly, for men but not for women, studies that used sexual behavior over a longer period tended to result in weaker sexual orientation differences for depression and suicidality than studies with other dimensions or a mixture of dimensions (Plöderl et al., 2006). Moreover, most studies report a stronger sexual orientation difference for depression and suicidality among men than among women, but this effect was reversed in two studies that used the behavioral dimension over an extended time (Gilman et al., 2001; Frisell, Lichtenstein, Rahman, & Långström, 2009). Thus, using lifetime homosexual behavior may obscure sexual orientation differences of suicidality among men. However, this may not apply to other mental health problems and, as mentioned in the introduction, current research gives no clear picture which dimension of sexual orientation is associated with the strongest risks for various mental health problems. Therefore, more research about the covariation of risk and protective factors with different dimensions of sexual orientation is needed. However, we again want to stress that an increased risk for having attempted suicide occurred for all dimensions of sexual orientation in our study. Similarly, there were no significant heterogeneities among the studies that entered in a meta-analysis and that used different dimensions of sexual orientation (Plöderl et al., 2006). Thus, it is likely that future studies will also find significant sexual orientation differences independent of the dimension used and how participants were classified as homosexual or bisexual.

A critical issue is where to set the cut-off between heterosexuality and bisexuality on the sexual orientation dimension sexual fantasies, partner preference, and self-identification.

However, it made no substantial difference if predominantly heterosexuals were categorized as bisexual or heterosexual. Of course, it would be best to not collapse categories at all, but this would require much larger samples.

Notably, participants who were not sure of their self-identification seemed to have an increased risk for having attempted suicide. Similar findings were also found in other studies for depression, suicidality, and for some forms of substance abuse/dependency (Espelage et al., 2008; McCabe et al., 2009; Olshen, McVeigh, Wunsch-Hitzig, & Rickert, 2007). Espelage et al. discuss that questioning youth, who had the most problematic indices of mental health in their study, may have no support from other gay and lesbian peers and may use dysfunctional strategies such as alcohol abuse instead. Those who chose the “unsure” category may be still in the process of forming a homosexual identity, which was described by Cass (1979) as “identity confusion” phase. This assumption is undermined by the relatively lower mean age of the questioning participants. Furthermore, the unsure category may have been chosen by those who do not accept their homosexual feelings and this may possibly place them at risk for suicide because of the self-hate involved (Cass, 1979). Rejection of one’s homosexual identity may result from a stronger exposure to homophobia, as found in the study of Espelage et al. (2008). Finally, confusion about or a change of sexual orientation is common among individuals with a borderline personality disorder (Reich & Zaranini, 2008; Wilkinson-Ryan & Westen, 2000), and the association of borderline disorder with suicidality is well known (Paris, 2004). Clearly, more research about those who are not sure or question their sexual identity is needed and using this category would be of great importance in future studies.

A main outcome of this study was that the sexual orientation differences remained or even increased for more rigorous classifications of suicide attempts, i.e., including intent to die or injuries. This replicates previous studies that also used more rigorous definitions of suicide attempts (Bagley & Tremblay, 1997), including several large scaled Youth Risk Behavior Surveys (Bagley & Tremblay, 2000, Table 1; Tremblay & Ramsay, 2004, Table 4). It remains a debate if there is also an increased rate of completed suicides among sexual minorities, mainly because psychological autopsy studies did not find increased rates of homosexual or bisexual individuals among those who died by suicide. However, there are important caveats in these studies, for example the assessment of sexual orientation (McDaniel et al., 2001). An elevated risk for completed suicides was reported by a Danish study that used national registers (and thus overcame self-report problems): individuals in registered same-sex partnerships had about three-times greater risk for having committed suicide than those in opposite-sex marriages (Qin, Agerbo, & Mortensen, 2003). Moreover, a homosexual or bisexual orientation was a strong predictor for future suicides among psychiatric patients (Martin, Cloninger, Guze, & Clayton, 1985; Motto, Heilbron, & Juster, 1985) and a homosexual or bisexual self-identification was clearly overrepresented (25%) among failed suicides (Weyrauch, Roy-Byrne, Katon, & Wilson, 2001). Given these findings, it may be plausible to assume that the increased suicide risk of sexual minorities is not a result of weaknesses of research methods.

Another possible caveat in our study was that the sample differed with respect to age and education from the Austrian population, and there were significant differences for age and education on some dimensions of sexual orientation. However, controlling for age and education did not alter the associations between sexual orientation and suicide attempt rates. Reviewers of this paper also questioned the representativity of the sample because of the high rate of participants – especially women – with homosexual or bisexual fantasies or partner preference.

Besides representativity problems, this may have also resulted from a too liberal cut-off between heterosexual and bisexual participants. Indeed, using a stricter cut-off dropped the proportion of homosexual or bisexual participants to rates that are comparable to those of representative studies (e.g., Mosher, Chandra, & Jones, 2005). Furthermore, high rates of individuals with some degree of homosexual or bisexual orientation were also found in representative samples. For example, 16% of participants reported moderate or strong same sex attraction in a German study (Steffens & Wegner, 2004), and some potential of non-heterosexuality was found in 33% of women and 65% of men in a Finnish study (Santtila et al., 2007). Therefore, the rate of non-heterosexually classified participants seems to depend strongly on the dimensions and criteria used to assess sexual orientation. However, given our sampling procedure, biases are likely to be present in our study. Thus it remains speculative if our sample overestimated or underestimated the population suicide attempt rates across different dimensions of sexual orientation. For example, in snowball samples, popular individuals are likely oversampled, isolated individuals tend to be neglected (Heckathorn, 2002). Isolation is a risk factor for suicide, and this may have lead to an underestimation of the true problem. However, the suicide attempt rates in our study are comparable to those of a German study (Weissman et al., 1999). Thus, given that suicide attempt rates are comparable in Austria and Germany, the suicide attempt rate in our sample seems to be quite representative. Another caveat could have been caused by the homophily bias: the recruiter and the recruited participants tend to be similar (Heckathorn, 2002), thus the results could be biased towards the results that would be obtained from a student sample. Real random samples that investigate the link between sexual orientation and suicidality could overcome these biases, but are still lacking in German speaking regions. However, such studies still may not remove all sampling biases (Meyer, 2009). Another possible caveat is that more rigorous classifications of suicide attempters were again based on self-reports. This may involve similar biases (e.g.,

memory distortions) already apparent in the simple gate question on suicide attempts. There were also some missing data on the follow-up items. Additional information going beyond self-reports would be beneficial but are hard to gather in epidemiological surveys. A possible solution for enhancing the validity of self-reported suicidal behavior would be structured interviews (e.g., Linehan, Comtois, Brown, Heard, & Wagner, 2006); however, a face-to-face approach may lead to underreporting of sexual orientation related information. For some dimensions of sexual orientation, our study was also limited because of the relatively small number of participants classified as homosexual or bisexual, especially homosexual women. This resulted in wide confidence intervals and, in a few cases, no statistical test was possible because no suicide attempter was in the subgroup. Given the previous findings, it is likely that all differences will become statistically significant with increased statistical power, but only larger samples can clarify this issue. Participants who were classified as bisexual had a comparable or smaller risk difference than homosexual participants in most cases when compared with heterosexuals. However, given the relatively small numbers of homosexually or bisexually classified participants, such comparisons should be interpreted with caution.

We did not assess confounding variables that likely influence the suicide attempt risk, such as depression, substance abuse, internalized homophobia, or coming out. It is very likely that controlling for such risk factors may decrease the association of suicide attempts and sexual orientation (e.g., Safren & Heimberg, 1999; Russell & Joiner, 2001). This was already the goal in a previous Austrian study (Plöderl & Fartacek, 2005). The focus of our study was on the importance of different dimensions of sexual orientation, a detailed assessment of suicide attempts, and sampling not explicitly from the gay or lesbian communities. Furthermore, we wanted to keep the questionnaire as short as possible to increase the response rate.

The strengths of this study included that we did not sample LGB participants from gay or lesbian communities. Thus, the study is a unique contribution to the question if suicide attempts are increased among sexual minority individuals in German-speaking Europe. Moreover, our study is one of the few that used different dimensions of sexual orientation simultaneously; additionally, the response rate was relatively high. Finally, only few previous studies assessed suicide attempts in accordance with current taxonomies in suicidology.

The present study found increased lifetime rates of suicide attempts among Austrian men and women who reported homosexual or bisexual attraction, behavior, or self-identification, compared to their heterosexual counterparts. This increased risk remained for even more rigorous definitions of suicide attempts. The results were in line with previous studies and thus indicate that suicide risk is not a methodological artefact but really increased among sexual minority individuals. Therefore, suicide preventive efforts should include sexual minorities as target groups.

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Table 1.

*Age and Education and Relation to Dimensions of Sexual Orientation*

Sexual Orientation	Age		Education (%) <sup>a</sup>		
	<i>M</i>	<i>SD</i>	low	medium	high
Fantasies					
Heterosexual	38.63	14.87	49	38	13
Bisexual	34.85	12.66	41 <sup>†</sup>	42	18 <sup>†</sup>
Homosexual	35.85	10.08	42	32	26
Preferred partner					
Heterosexual	38.37	14.70	49	38	13
Bisexual	33.96	12.27	39	43	18
Homosexual	34.42	9.63	42	37	21
Self-Identification					
Heterosexual	37.91	14.41	48	39	13
Bisexual	34.61	13.81	37	42	21
Homosexual	33.69	8.40	44	31	25
Not Sure	32.89	16.28	33	56	11
Behavior (12 mos)					
Heterosexual	37.53	13.84	47	38	14
Bisexual	31.40	12.62	27	53	20
Homosexual	35.88	12.18	38	46	17
No Sex	40.91	19.29	54	39	7
Behavior (prev.)					
Heterosexual	38.23	14.47	48	38	14
Bisexual	35.23	12.40	38	38	25*
Homosexual	33.33	9.90	33	42	25
No Sex	22.61	9.50	35	65*	0 <sup>†</sup>

*Note.* <sup>a</sup>Percentages add up to 100 row-wise.

<sup>†</sup>Standardized residual  $p < .10$ , \*standardized residual  $p < .05$ .

Table 2.

*Correlations of sexual orientation measures (Women)*

Sexual Orientation	Fantasies	Partner Preference	Identification	Behavior (12 mos)
Preferred partner	.56	-		
Self-Identification	.32	.49	-	
Behavior (12 mos)	.28	.37	.42	-
Behavior (prev.)	.34	.44	.53	.64

*Note.* The original items with five response options were used for sexual fantasies, partner preference, and self-identification. Those who did not report sexual behavior were treated as missing. All correlations were nonparametric Spearman rank correlations and were statistically significant ( $p < .0001$ ).

Table 3.

*Correlations of sexual orientation measures (Men)*

Sexual Orientation	Fantasies	Partner Preference	Identification	Behavior (12 mos)
Preferred partner	.77	-		
Self-Identification	.66	.80	-	
Behavior (12 mos)	.42	.53	.50	-
Behavior (prev.)	.45	.54	.54	.69

*Note.* The original items with five response options were used for sexual fantasies, partner preference, and self-identification. Those who did not report sexual behavior were treated as missing. All correlations were nonparametric Spearman rank correlations and were statistically significant ( $p < .0001$ ).

Table 4.

*Suicide Attempts as a Function of Sexual Orientation (Women, N = 726)*

Sexual Orientation	N <sup>a</sup>	(%)	Suicide Attempts											
			Gate Question				With some intent to die				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Fantasies</b>														
Heterosexual	471	(65)	14	(3)	ref. cat.	9	(2)	ref. cat.	7	(1)	ref. cat.			
Bisexual	243	(33)	18	(7)	2.6 (1.3-5.4) **	16	(7)	3.6 (1.6-8.7) **	8	(3)	2.2 (0.8-6.6)			
Homosexual	9	(1)	1	(11)	4.5 (0.2-28.0)	1	(11)	7.0 (0.3-46.4)	1	(11)	9.0 (0.3-62.7)			
Bisexual / Homosexual Combined	252	(35)	19	(8)	2.7 (1.3-5.5) **	17	(7)	3.7 (1.6-8.8) **	9	(4)	2.4 (0.9-7.0)			
<b>Preferred partner</b>														
Heterosexual	579	(80)	19	(3)	ref. cat.	14	(2)	ref. cat.	10	(2)	ref. cat.			
Bisexual	139	(19)	13	(9)	3.0 (1.4-6.3) **	11	(8)	3.5 (1.5-7.9) **	5	(4)	2.2 (0.6-6.3)			
Homosexual	7	(1)	1	(14)	5.4 (0.2-35.3)	1	(14)	7.4 (0.3-49.4)	1	(14)	10.3 (0.4-72.0)			
Bisexual / Homosexual Combined	146	(20)	14	(10)	3.1 (1.5-6.4) **	12	(8)	3.6 (1.6-8.1) **	6	(4)	2.5 (0.8-6.8)			
<b>Self-Identification</b>														
Heterosexual	622	(86)	22	(4)	ref. cat.	17	(3)	ref. cat.	12	(2)	ref. cat.			
Bisexual	69	(10)	7	(10)	3.1 (1.2-7.3) *	7	(10)	4.1 (1.5-9.9) **	2	(3)	1.6 (0.2-6.2)			
Homosexual	6	(1)	1	(17)	6.0 (0.2-41.2)	1	(17)	7.8 (0.3-54.6)	1	(17)	11.1 (0.4-79.8)			
Bisexual / Homosexual Combined	75	(10)	8	(11)	3.3 (1.3-7.4) *	8	(11)	4.3 (1.7-10.1) **	3	(4)	2.2 (0.5-7.2)			
Not Sure	8	(1)	3	(38)	16.4 (3.0-74.3) **	1	(13)	5.6 (0.2-35.3)	1	(13)	8.0 (0.3-52.0)			

Table 4 (continued)

Sexual Orientation	N <sup>a</sup>	(%)	Gate Question				With some intent to die				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
Behavior (12 mos)														
Heterosexual	626	(86)	24	(4)	ref. cat.		18	(3)	ref. cat.		10	(2)	ref. cat.	
Bisexual	12	(2)	3	(25)	8.5 (1.7-31.5)	*	4	(33)	16.9 (4.0-60.5)	**	2	(17)	12.7 (1.6-58.8)	*
Homosexual	8	(1)	1	(13)	4.0 (0.2-24.4)		1	(13)	5.3 (0.2-33.4)		1	(13)	9.6 (0.4-64.4)	
Bisexual / Homosexual Combined	20	(3)	4	(20)	6.4 (1.7-19.3)	**	5	(25)	11.3 (3.3-33.4)	**	3	(15)	11.1 (2.2-41.1)	**
No Sex	67	(9)	4	(6)	1.6 (0.5-4.4)		2	(3)	1.1 (0.2-4.0)		2	(3)	2.0 (0.3-8.0)	
Behavior (prev.)														
Heterosexual	661	(91)	24	(4)	ref. cat.		17	(3)	ref. cat.		11	(2)	ref. cat.	
Bisexual	37	(5)	6	(16)	5.2 (1.8-13.1)	**	8	(22)	10.4 (3.9-25.8)	**	4	(11)	7.3 (1.9-23.0)	**
Homosexual	5	(1)	1	(20)	7.2 (0.3-54.8)		1	(20)	10.3 (0.4-79.3)		1	(20)	15.9 (0.5-127.2)	
Bisexual / Homosexual Combined	42	(6)	7	(17)	5.4 (2.0-12.8)	**	9	(21)	10.3 (4.1-24.7)	**	5	(12)	8.1 (2.4-23.8)	**
No Sex	11	(2)	1	(9)	3.0 (0.1-16.8)		0	(0)	-		0	(0)	-	

Note. <sup>a</sup>Numbers may not add up to the total sample size because of missing data on some sexual orientation dimensions

Abbreviations: OR: odds ratios, CI: Confidence Interval

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

Table 5.

*Suicide Attempts as a Function of Sexual Orientation (Men, N = 656)*

Sexual Orientation	N <sup>a</sup>	(%)	Suicide attempts											
			Gate Question				Some intent				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Fantasies</b>														
Heterosexual	580	(88)	16	(3)	ref. cat.		12	(2)	ref. cat.		10	(2)	ref. cat.	
Bisexual	65	(10)	7	(11)	4.3 (1.6-10.6)	**	6	(9)	4.9 (1.6-13.1)	**	5	(8)	4.8 (1.4-14.2)	*
Homosexual	11	(2)	3	(27)	13.4 (2.6-52.8)	**	3	(27)	17.9 (3.4-73.0)	**	2	(18)	13.1 (1.7-61.5)	*
Bisexual / Homosexual Combined	76	(12)	10	(13)	5.3 (2.2-12.2)	**	9	(12)	6.4 (2.5-15.7)	**	7	(9)	5.8 (2.0-15.8)	**
<b>Preferred partner</b>														
Heterosexual	605	(92)	18	(3)	ref. cat.		13	(2)	ref. cat.		11	(2)	ref. cat.	
Bisexual	38	(6)	5	(13)	5.0 (1.5-13.6)	**	5	(13)	7.0 (2.1-20.0)	**	4	(11)	6.5 (1.7-20.4)	**
Homosexual	12	(2)	3	(25)	11.1 (2.2-41.8)	**	3	(25)	15.4 (3.0-60.3)	**	2	(17)	11.2 (1.4-50.8)	*
Bisexual / Homosexual Combined	50	(8)	8	(16)	6.2 (2.4-14.9)	**	8	(16)	8.7 (3.2-22.0)	**	6	(12)	7.4 (2.4-20.7)	**
<b>Self-Identification</b>														
Heterosexual	597	(91)	16	(3)	ref. cat.		11	(2)	ref. cat.		9	(2)	ref. cat.	
Bisexual	38	(6)	6	(16)	6.9 (2.3-18.1)	**	6	(16)	10.0 (3.2-28.5)	**	5	(13)	9.9 (2.8-31.0)	**
Homosexual	10	(2)	2	(20)	9.4 (1.2-42.8)	*	2	(20)	13.7 (1.7-65.2)	*	1	(10)	8.0 (0.3-51.4)	
Bisexual / Homosexual Combined	48	(7)	8	(17)	7.3 (2.8-17.8)	**	8	(17)	10.6 (3.9-28.1)	**	6	(13)	9.3 (2.9-27.6)	**
Not Sure	1	(0)	1	(100)	-		1	(100)	-		0	(0)	-	

Table 5 (continued)

Sexual Orientation	N <sup>a</sup>	%	Gate Question				Some intent to die				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
Behavior (12 mos)														
Heterosexual	589	(90)	17	(3)	ref. cat.		12	(2)	ref. cat.		10	(2)	ref. cat.	
Bisexual	3	(0)	1	(33)	17.5 (0.5-227.1)		1	(33)	24.8 (0.8-327.6)		0	(0)	-	
Homosexual	16	(2)	3	(19)	8.0 (1.6-28.1) *		3	(19)	11.3 (2.2-41.9) **		2	(13)	8.6 (1.1-37.7) *	
Bisexual / Homosexual Combined	19	(3)	4	(21)	9.1 (2.3-28.8) **		4	(21)	12.9 (3.2-43.0) **		2	(11)	7.1 (0.9-30.5)	
No Sex	42	(6)	4	(10)	3.6 (1.0-10.5)		4	(10)	5.2 (1.3-15.9) *		4	(10)	6.2 (1.6-19.8) *	
Behavior (prev.)														
Heterosexual	613	(93)	20	(3)	ref. cat.		15	(2)	ref. cat.		13	(2)	ref. cat.	
Bisexual	20	(3)	2	(10)	3.5 (0.5-13.4)		2	(10)	4.7 (0.6-18.6)		1	(5)	2.7 (0.1-15.0)	
Homosexual	7	(1)	1	(14)	5.5 (0.2-35.4)		1	(14)	7.3 (0.3-48.5)		0	(0)	-	
Bisexual / Homosexual Combined	27	(4)	3	(11)	3.8 (0.8-12.4)		3	(11)	5.1 (1.1-17.2) *		1	(4)	2.0 (0.1-10.7)	
No Sex	12	(2)	2	(17)	6.2 (0.8-26.2)		2	(17)	8.3 (1.1-36.1) *		2	(17)	9.6 (1.3-42.5) *	

Note. <sup>a</sup>Numbers may not add up to the total sample size because of missing data on some sexual orientation dimensions

Abbreviations: *OR*: odds ratios, *CI*: Confidence Interval

\**p* < .05, \*\**p* < .01

Table 6.

*Suicide Attempts with Clear Intent to Die and with Medical Treatment as a Function of Sexual Orientation (Total Sample, N = 1382)*

Sexual Orientation	N <sup>a</sup>	%	Suicide attempts											
			Gate Question			Clear expectation of death				With medical treatment				
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Fantasies</b>														
Heterosexual	1051	(76)	30	(3)	ref. cat.		12	(1)	ref. cat.		11	(1)	ref. cat.	
Bisexual	308	(22)	25	(8)	3.0 (1.7-5.2)	**	3	(1)	0.9 (0.2-2.8)		8	(3)	2.5 (1.0-6.4)	
Homosexual	20	(1)	4	(20)	8.7 (2.3-25.7)	**	2	(10)	10.1 (1.4-41.6)	*	3	(15)	17.0 (3.4-61.9)	**
Bisexual / Homosexual Combined	328	(24)	29	(9)	3.3 (1.9-5.6)	**	5	(2)	1.4 (0.4-3.8)		11	(3)	3.3 (1.4-7.8)	**
<b>Preferred partner</b>														
Heterosexual	1184	(86)	37	(3)	ref. cat.		13	(1)	ref. cat.		12	(1)	ref. cat.	
Bisexual	177	(13)	18	(10)	3.5 (1.9-6.3)	**	2	(1)	1.1 (0.2-4.1)		7	(4)	4.1 (1.5-10.3)	**
Homosexual	19	(1)	4	(21)	8.4 (2.3-24.9)	**	2	(11)	11.1 (1.5-45.4)	*	3	(16)	18.7 (3.8-67.5)	**
Bisexual / Homosexual Combined	196	(14)	22	(11)	3.9 (2.2-6.8)	**	4	(2)	1.9 (0.5-5.6)		10	(5)	5.3 (2.2-12.5)	**
<b>Self-Identification</b>														
Heterosexual	1219	(88)	38	(3)	ref. cat.		13	(1)	ref. cat.		14	(1)	ref. cat.	
Bisexual	107	(8)	13	(12)	4.3 (2.1-8.2)	**	0	(0)	-		3	(3)	2.6 (0.6-8.2)	
Homosexual	16	(1)	3	(19)	7.4 (1.6-24.5)	*	2	(13)	13.9 (1.9-58.0)	*	3	(19)	20.3 (4.1-73.4)	**
Bisexual / Homosexual Combined	123	(9)	16	(13)	4.7 (2.4-8.5)	**	2	(2)	1.6 (0.2-6.1)		6	(5)	4.5 (1.5-11.5)	**
Not Sure	9	(1)	4	(44)	24.8 (5.7-101.4)	**	1	(11)	12.8 (0.5-80.0)		1	(11)	11.9 (0.5-73.7)	

Table 6 (continued)

Sexual Orientation	N <sup>a</sup>	%					Clear expectation of death				With medical treatment			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Behavior (12 mos)</b>														
Heterosexual	1215	(88)	41	(3)	ref. cat.		10	(1)	ref. cat.		14	(1)	ref. cat.	
Bisexual	15	(1)	4	(27)	10.6 (2.7-33.0)	**	0	(0)	-		1	(7)	6.8 (0.3-38.5)	
Homosexual	24	(2)	4	(17)	5.9 (1.6-16.6)	*	2	(8)	11.5 (1.5-48.2)	*	3	(13)	12.6 (2.6-43.0)	**
Bisexual / Homosexual Combined	39	(3)	8	(21)	7.5 (3.0-16.6)	**	2	(5)	6.9 (0.9-27.8)		4	(10)	10.0 (2.6-30.0)	**
No Sex	109	(8)	8	(7)	2.3 (1.0-4.8)		4	(4)	4.7 (1.2-14.5)	*	2	(2)	1.7 (0.2-6.3)	
<b>Behavior (prev.)</b>														
Heterosexual	1274	(92)	44	(3)	ref. cat.		12	(1)	ref. cat.		16	(1)	ref. cat.	
Bisexual	57	(4)	8	(14)	4.6 (1.9-9.9)	**	2	(4)	4.1 (0.6-15.6)		3	(5)	4.5 (1.0-14.3)	
Homosexual	12	(1)	2	(17)	5.9 (0.8-23.7)		1	(8)	10.6 (0.4-63.1)		2	(17)	16.4 (2.2-70.6)	*
Bisexual / Homosexual Combined	69	(5)	10	(14)	4.8 (2.2-9.7)	**	3	(4)	4.9 (1.1-16.3)	*	5	(7)	6.2 (2.0-16.7)	**
No Sex	23	(2)	3	(13)	4.4 (1.0-13.5)		1	(4)	5.4 (0.2-29.5)		0	(0)	-	

Note. <sup>a</sup>Numbers may not add up to the total sample size because of missing data on some sexual orientation dimensions

Abbreviations: *OR*: odds ratios, *CI*: Confidence Interval

\**p* < .05, \*\**p* < .01

Table 7.

*Suicide Attempts as a Function of Sexual Orientation with a Stricter Cut-Off for Bisexuality (Women, N = 726)*

Sexual Orientation	N <sup>a</sup>	%	Suicide attempts											
			Gate Question				With some intent to die				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Fantasies</b>														
Heterosexual	675	(93)	29	(4)	ref. cat.	22	(3)	ref. cat.	14	(2)	ref. cat.			
Bisexual	39	(5)	3	(8)	1.9 (0.4-5.8)	3	(8)	2.6 (0.6-8.0)	1	(3)	1.4 (0.1-7.3)			
Homosexual	9	(1)	1	(11)	3.1 (0.1-18.2)	1	(11)	4.1 (0.2-24.6)	1	(11)	6.5 (0.2-40.4)			
Bisexual / Homosexual Combined	48	(7)	4	(8)	2.1 (0.6-5.6)	4	(8)	2.8 (0.8-7.7)	2	(4)	2.2 (0.3-8.2)			
<b>Preferred partner</b>														
Heterosexual	697	(96)	28	(4)	ref. cat.	22	(3)	ref. cat.	14	(20)	ref. cat.			
Bisexual	21	(3)	4	(19)	5.7 (1.5-17.0) *	3	(14)	5.3 (1.1-17.3) *	1	(5)	2.7 (0.1-14.9)			
Homosexual	7	(1)	1	(14)	4.4 (0.2-28.1)	1	(14)	5.6 (0.2-36.5)	1	(14)	8.9 (0.3-59.6)			
Bisexual / Homosexual Combined	28	(4)	5	(18)	5.3 (1.6-14.1) **	4	(14)	5.2 (1.4-15.2) *	2	(7)	4.0 (0.6-15.4)			
<b>Self-Identification</b>														
Heterosexual	677	(93)	26	(4)	ref. cat.	20	(3)	ref. cat.	13	(2)	ref. cat.			
Bisexual	14	(2)	3	(21)	7.0 (1.4-24.6) *	4	(29)	13.2 (3.3-44.4) **	1	(7)	4.4 (0.2-25.2)			
Homosexual	6	(1)	1	(17)	5.5 (0.2-37.6)	1	(17)	7.2 (0.3-49.9)	1	(17)	11.1 (0.4-79.6)			
Bisexual / Homosexual Combined	20	(3)	4	(20)	6.4 (1.7-19.1) **	5	(25)	11.0 (3.2-32.2) **	2	(10)	6.0 (0.8-24.3)			

Note. <sup>a</sup>Numbers may not add up to the total sample size because of missing data on some sexual orientation dimensions

Abbreviations: OR: odds ratios, CI: Confidence Interval

\**p* < .05, \*\**p* < .01

Table 8.

*Suicide Attempts as a Function of Sexual Orientation with a Stricter Cut-Off for Bisexuality (Men, N = 656)*

Sexual Orientation	N <sup>a</sup>	%	Suicide attempts											
			Gate Question				With some intent to die				With strong intent to die			
			n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p	n	(%)	OR (95%-CI)	p
<b>Fantasies</b>														
Heterosexual	634	(97)	21	(3)	ref. cat.	16	(3)	ref. cat.	14	(2)	ref. cat.			
Bisexual	11	(2)	2	(18)	6.8 (0.9-29.2)	2	(18)	8.9 (1.2-39.4)	*	1	(9)	4.9 (0.2-29.2)		
Homosexual	11	(2)	3	(27)	11.1 (2.2-42.8)	**	3	(27)	14.7 (2.8-57.8)	**	2	(18)	10.2 (1.3-45.8)	*
Bisexual / Homosexual Combined	22	(3)	5	(23)	8.7 (2.6-24.7)	**	5	(23)	11.4 (3.3-33.7)	**	3	(14)	7.2 (1.5-24.8)	*
<b>Preferred partner</b>														
Heterosexual	633	(96)	22	(3)	ref. cat.	17	(3)	ref. cat.	14	(2)	ref. cat.			
Bisexual	10	(2)	1	(10)	3.4 (0.1-20.0)		1	(10)	4.5 (0.1-26.5)		1	(10)	5.5 (0.2-32.9)	
Homosexual	12	(2)	3	(25)	9.4 (1.9-35.1)	**	3	(25)	12.3 (2.4-46.6)	**	2	(17)	9.2 (1.2-40.3)	*
Bisexual / Homosexual Combined	22	(3)	4	(18)	6.3 (1.7-18.9)	**	4	(18)	8.2 (2.1-25.3)	**	3	(14)	7.2 (1.5-24.7)	*
<b>Self-Identification</b>														
Heterosexual	624	(95)	20	(3)	ref. cat.	15	(2)	ref. cat.	12	(2)	ref. cat.			
Bisexual	11	(2)	2	(18)	7.0 (0.9-30.3)		2	(18)	9.4 (1.2-41.7)	*	2	(18)	11.7 (1.5-53.7)	*
Homosexual	10	(2)	2	(20)	7.9 (1.0-35.0)	*	2	(20)	10.5 (1.4-48.1)	*	1	(10)	6.3 (0.2-38.6)	
Bisexual / Homosexual Combined	21	(3)	4	(19)	7.2 (1.9-22.0)	**	4	(19)	9.7 (2.5-30.6)	**	3	(14)	8.7 (1.8-31.0)	*

Note. <sup>a</sup>Numbers may not add up to the total sample size because of missing data on some sexual orientation dimensions

Abbreviations: OR: odds ratios, CI: Confidence Interval

\**p* < .05, \*\**p* < .01