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Psychiatric Symptoms and Same-Sex Sexual Attraction and Behavior in Light of Childhood Gender Atypical Behavior and Parental Relationships

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This study explores the relation between the level of current symptoms of depression and anxiety and recalled childhood gender atypical behavior (GAB), and quality of relationships with parents among men and women who reported same-sex sexual attraction or engaged in same-sex sexual behavior and men and women who did not. Matched pairs, 79 men ($n = 158$) and 148 women ($n = 296$), with equal levels of GAB were created of Finnish participants with either same-sex sexual attraction or behavior and participants without. The measures used were retrospective questionnaires. Ratings of maternal and paternal over-control and coldness differed as a function of same-sex sexual attraction or behavior. Childhood GAB was correlated with negative ratings of parental relationships. Both same-sex sexual attraction or behavior and a history of childhood GAB affected the reported levels of current depression and anxiety. Only gender typical participants with no same-sex sexual attraction or behavior reported significantly lower levels of symptoms. The findings suggest that childhood GAB is related to later distress both among hetero- and homosexual individuals. The elevated level of psychological distress among homosexual individuals, reported in several studies, might—to some extent—be caused by their generally higher levels of childhood GAB as opposed to a homosexual orientation per se.

Gay men, lesbians, and persons behaving in a gender atypical manner report more negative parental relationships than heterosexual men and women (D'Augelli, Grossman, & Starks, 2008; Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004; Milic & Crowne, 1986; Siegelman, 1974). Gender atypical behavior (GAB) refers to behavior traditionally considered more typical for children of the opposite gender. In population-based studies, gay men and lesbians have also been found to display elevated rates of psychiatric symptoms (for a review, see Cochran, 2001; Meyer, 2003) compared to heterosexual men and women. In this study, we used a matched-groups design to examine how childhood gender atypicality and same-sex sexual attraction

or behavior, when considered independently of each other, were related to recalled quality of relationships with parents and to the level of current symptoms of depression and anxiety for both men and women. This resulted in four groups: gender typical individuals with no same-sex sexual attraction or behavior (i.e., heterosexual men and women without childhood GAB), gender atypical individuals with no same-sex sexual attraction or behavior present (heterosexual men and women with childhood GAB), gender typical individuals with same-sex sexual attraction or behavior (gay men and lesbians without childhood GAB), and gender atypical individuals with same-sex sexual attraction or behavior present (gay men and lesbians with childhood GAB). In light of existing findings, we hypothesized that (a) childhood GAB would predict the recollections of parent–child relationships. Both gay men and heterosexual men with a history of GAB would report negative relationships with their fathers compared to men who do not report GAB. (b) Gay men and lesbians would report more negative parent–child relationships than heterosexual men and women. Lesbians would tend to report of more distant relationships with their fathers than heterosexual women. (c) Childhood GAB, more than same-sex sexual attraction or behavior (i.e., sexual

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orientation) would predict the level of current symptoms of depression and anxiety. This effect would be stronger for men than for women.

We recognize that the operationalization of sexual orientation is difficult and should include components of identity, same-sex sexual interest, and same-sex sexual behavior (Savin-Williams, 2006; Sell, 1996). In this study, we have included measures of same-sex sexual attraction and same-sex sexual behavior during the past year, but have not measured actual sexual identity of the participants. Identity can be seen as a larger concept, including political and social elements. In fact, many of those who feel attracted to the same sex or engage in same-sex behavior do not identify as homosexuals (Dunne, Bailey, Kirk, & Martin, 2000; Laumann, Gagnon, Michael, & Michaels, 1994). Sexual orientation can, according to some researchers, be defined with regard to a person's sexual arousal and attraction pattern (Zucker et al., 2006), and some large-scale studies have used past sexual behavior as an indicator of sexual orientation (e.g., Gilman et al., 2001; Sandfort, Melendez, & Diaz, 2007). Savin-Williams suggested that researchers should focus on same-sex attraction, as it is not as prone to be affected by self- and other deceptions, social conditions, and varying meaning. Dunne et al. pointed out that even sporadic same-sex attraction or behavior should be seen as true variation in psychosexual orientation. In a study by Dunne et al. the measure of GAB was able to distinguish between "complete" heterosexuals and those who felt same-sex attraction or engaged in same-sex sexual behavior. Those with both some same-sex attraction and some same-sex behavior were more gender atypical than were those who reported only one of these two. These findings are important for this study, as we focus on the presence of either same-sex sexual attraction or behavior. On the basis of these arguments, we have chosen to operationalize sexual orientation dichotomously by the presence of same-sex sexual attraction or same-sex sexual behavior during the year preceding data collection.

To introduce the article, we review existing literature hypothesis by hypothesis.

H1: Childhood GAB is Related to a Negative Parent–Child Relationship

Childhood GAB has been seen as a precursor for adult homosexual orientation, at least for men (Bailey & Zucker, 1995) and can be seen as a behavioral indicator of later sexual orientation that might cause distress in parents who fear a homosexual child (Harry, 1983). Indeed, a number of parent–child relationship problems associated with GAB have been identified. Parental reactions to GAB vary, but seem negative overall (Green, 1987, as cited in Harry, 1983). In a sample of lesbian, gay, and bisexual (LGB) American youth,

D'Augelli et al. (2008) found that homo- and bisexual youth started feeling different, mostly related to their GAB, at a mean age of eight years. This age coincided with the age at which they were first called "tomboys" or "sissies." First identification as gay, lesbian, or bisexual occurred at about the age of 14. About one half of female and two thirds of male participants reported that their parents had tried to discourage their GAB during their childhood (D'Augelli et al., 2008). Landolt et al. (2004) found that individuals exhibiting GAB recalled being rejected by their parents and peers, which in turn led to adult attachment anxiety. Fathers, when compared to mothers, tend to be more concerned with GAB (Lytton & Romney, 1991), although this does not always seem to be the case. A study undertaken in Finland showed that fathers of five-year-old boys were more accepting of their sons' cross-gender behavior than were mothers (Sandnabba & Ahlberg, 1999). It has also been found that GAB diminishes with age (Whitam, 1977), probably due to parental and peer pressure (Harry, 1983). McConaghy and Silove (1992) found that GAB was related to negative parental relationships for both boys and girls. It is interesting to note that maternal overprotection was positively associated with childhood GAB for boys, whereas maternal care was positively associated with a wish to belong to the opposite gender for girls. Childhood GAB correlated with negative parental relationships in early adolescence, further indicating that parents react negatively to GAB instead of GAB being a response to parenting style.

H2: Homosexual Orientation is Related to a Negative Parent–Child Relationship

Gay men, compared to a control group of heterosexual men, reported that both their mothers and fathers were more rejecting and less loving (Milic & Crowne, 1986; Siegelman, 1974). In a retrospective study, Newcomb (1985) found no differences between parents of gay and heterosexual men; however, mothers of lesbian women were more independent and aggressive–dominant and fathers more dependent than were parents of heterosexual women. Johnson, Stockard, Rothbart, and Friedman (1981) reported that fathers of heterosexual women were more affectionate, involved, and supportive of expression of anger than were fathers of lesbian women. In fact, lesbians described their fathers as less likely than other fathers to show affection, to respect them, to protect them, to encourage them to be independent, or to allow them to express anger. Johnson et al. concluded that the relationship to the father is central in gender typing.

An important, yet stressful, event in the life of LGB persons is the "coming-out" process. For youths, fear

of parental reactions is a common reason for not telling about one's sexual orientation and youth who had disclosed their sexual orientation to their families were actually more verbally victimized than youth who had not (D'Augelli & Hershberger, 1993). On the contrary, closeted youth reported more fear of verbal and physical abuse than did youth whose families already knew about their sexual orientation (D'Augelli, Grossman, & Starks, 2006). It can be assumed that disclosing one's sexual orientation in the long run brings about honesty and trust in the family, whereas having to hide an important aspect of one's personality causes more strained relationships to family members.

Homosexuality has been thought to have a biological basis (Bailey & Pillard, 1991; Hamer, 2002). If this view is correct, the strained relationships with parents reported by homosexual men and women could be a reaction of their parents to early signs of future homosexual orientation in the children. An assumption that has to be made here is that parents would be aware of the same-sex sexual interest of their child, sometimes even before the child experiences such interest at a conscious level. Assuming expressions of sexuality and sexual orientation are limited during childhood, what exactly causes the response in the parents? GAB might be an explanatory factor that emerges before explicit awareness of sexual orientation.

H3: Childhood GAB, More Than Current Sexual Orientation, Predicts the Level of Current Psychiatric Symptoms

In recent studies, gay men and lesbians have been found to show elevated levels of psychiatric symptoms (e.g., Alexander, 2002; Cochran, 2001; Meyer, 2003), although not all studies have been able to demonstrate such findings (Rosario, Schrimshaw, Hunter, & Gwartz, 2002). It has been found that mood, anxiety, and alcohol use disorders are sensitive to social influences (Dohrenwend, 2000; Kendler, 1995), and the decreases in psychological well-being of gay men and lesbians are most likely a consequence, rather than a cause, of adverse experiences. In fact, when adverse social experiences, such as discrimination, were accounted for, Mays and Cochran (2001) found no differences between homo- and heterosexual individuals. Meyer proposed a model where the minority distress (i.e., stress related to stigma, prejudice, and discrimination) in exposed groups of people cause the mental health problems that have been reported in LGB samples. Herek (2000) proposed sexual prejudice as a term that refers to all negative attitudes based on sexual orientation.

A number of studies have explored how GAB is related to adjustment. GAB in childhood has been associated with general problems (Van Beijsterveldt,

Hudziak, & Boomsma, 2006); higher risk for being victimized (D'Augelli et al., 2006); and being sexually, verbally, or physically abused as a child (Sandfort et al., 2007). Continued GAB into adult age was associated with low self-esteem (Harry, 1983). Aubé and Koestner (1992) found, in a longitudinal study of White Americans, that GAB at age 12 was negatively associated with adjustment at age 31. However, this was true only for men. In 2006, Skidmore, Linsenmayer, and Bailey (2006) replicated the finding that GAB was related to psychological distress for gay men but not for lesbians, indicating that the social pressure to conform may cause greater distress for men. In fact, GAB has been suggested to mediate the relation between sexual orientation and psychiatric symptoms (Skidmore et al., 2006). That many homosexuals are affected by negative reactions could be due to the higher reported levels of childhood and adult GAB among gay men and lesbians compared to heterosexual men and women (Bailey & Zucker, 1995) resulting in discrimination based on presumed homosexuality deduced from GAB. In fact, heterosexual gender atypical individuals have been found to be less well-adjusted (Siegelman, 1978). In a study where high- and low-feminine gay and heterosexual men were compared on various variables measuring adjustment, there were few differences between gay and heterosexual men low on femininity and gay and heterosexual men high on femininity. However, both gay and heterosexual men high on femininity scored less well on several measures of adjustment than gay and heterosexual men low on femininity (Siegelman, 1978).

In light of the literature reviewed earlier in this article, it can be hypothesized that GAB is a visible sign of a possible homosexual orientation in a person, and as such yields more homophobic responses from the environment than does a covert homosexual orientation. Therefore, it can be hypothesized that it actually is GAB, rather than sexual orientation per se, that is associated with psychiatric symptoms, which in turn are presumably caused by adverse social experiences. Parents can be seen as one important factor, but not the only one, in the process.

It has been empirically shown (Parker, Hadzi-Pavlovic, Greenwald, & Weissman, 1995) that the relationship to the parents affects the mental health of children, and a related issue of interest is if and how the relationship to the parents affects the mental health of gay men, lesbians, and heterosexual men and women exhibiting GAB. If there is greater evidence that parental relationships affect homosexuals and individuals with GAB to a greater extent than heterosexual individuals and those without GAB, this holds important clinical implications. Then, for instance, when treating patients with anxiety or mood disorders, an important focus could be on the experienced rejection by parents due to GAB.

Method

Sample

Matched pairs, 79 men (n of individuals = 158) and 148 women (n of individuals = 296), consisting of gay and heterosexual men and lesbian and heterosexual women with equal levels of GAB were created for the analyses. Therefore, the sample consisted of 79 gay and 79 heterosexual men and 148 lesbian and 148 heterosexual women. The participants were part of the first data collection of the Genetics of Sex and Aggression study—a genetically sensitive study of genetic, hormonal, and environmental factors involved in human sexuality and aggression. The sample for the first data collection was drawn from the National Population Registry in Finland. A sample of 5,000 twin pairs (2,000 male same-sex pairs; 2,000 female same-sex pairs; and 1,000 opposite-sex pairs) was sought, which was obtained by sampling all twin pairs born in 1971 or earlier until the number of 10,000 persons was reached. The data collection was carried out in 2005 and targeted 33- to 43-year-old twins. Mean age for men was 37.4 years ($SD=2.95$) and for women, 37.5 years ($SD=2.91$) with no significant gender difference in age. Originally, a questionnaire covering different aspects of sexuality was sent to 10,000 twins. A cover letter explaining that participation was voluntary and anonymous was sent, along with a pre-paid return envelope. The questionnaire covered highly sensitive topics such as number of sexual contacts, cross-dressing, and sexual interest in children. Therefore, it was decided that the questionnaire should not contain any questions about the identity of the participants to make responding more likely. Reminder letters were sent after two weeks and a new questionnaire after a few more weeks.

A total of 3,604 (men, $n=1,313$; women, $n=2,245$) participants returned the questionnaires, resulting in an overall response rate of 36%. Not all participants completed the questions regarding sexual orientation, presumably some of them due to the content of the questions. The response rate was lower for male (27%) when compared to female (45%) respondents. The response rates are largely comparable with prior sexuality-related survey studies (Bailey, Dunne, & Martin, 2000), to other gender-related studies with population-based samples in Finland (40% in Ojanlatva, Helenius, Rautava, Ahvenainen, & Koskenvuo, 2003). Haavio-Mannila, Kontula, and Kuusi (2001) noted lower response rates for Finnish male compared to Finnish female respondents, as well as a trend for diminishing response rates to questionnaires on gender-related topics in Finland, with a reduction in response rates from 91% in 1971 to 67% in 1991 and an even lower 46% in 1999. They suggested that the diminishing response rates were due to differing methods of data collection, with mailed surveys achieving the lowest response rates. The

response rate in this study can be seen to follow the same trend. Compared to an earlier study of adult Finnish twins (Mustanski, Viken, Kaprio, Winter, & Rose, 2007), the Genetics of Sex and Aggression sample seems to be representative concerning several measures (age of commencing sexual activity, etc.), which leads us to assume that the sample included in this study is representative of the population. For a discussion of the representativeness of this sample, see Varjonen et al., 2007, and for discussion about the response rates, see Alanko et al., 2007. The research plan was approved by the Ethics Committee of the Department of Psychology at Åbo Akademi University.

Instruments

The Sell Assessment of Sexual Orientation (Sell, 1996). Two items from the Sell Assessment of Sexual Orientation instrument were used to assess the existence of same-sex sexual interest and behavior among the respondents:

- Item 1: During the past year, on average, how often were you sexually attracted to a man (woman for female respondents)?
- Item 2: During the past year, on average, how often did you have sexual contact with a man (woman for female respondents)?

The response alternatives to both items were as follows: never, less than one time per month, one to three times per month, one time per week, two to three times per week, four to six times per week, or daily. On the basis of the responses to the two items, the participants were grouped into one of two groups: those reporting any same-sex sexual interest or behavior and those reporting no same-sex sexual interest or behavior. In the former category, all participants who responded having experienced any same-sex sexual interest or behavior or both during the 12 preceding months were included.

Recalled Childhood Gender Identity/Gender Role Questionnaire (RCGIGR) (Zucker et al., 2006). A shortened scale with 13 items from the RCGIGR Questionnaire was used to assess GAB of the participants before age 12. Cronbach's alpha was .69 for male and .85 for female participants. The factor structure is described in more detail in Alanko et al. (2007). The items were always scored so that a higher score indicated a gender typical or "conventional" response. The scale ranged from one to five, with an alternative 6 (*did not participate in such behavior*) to some questions. If a participant indicated that a specific item did not apply, it did not add or reduce the summary score. The summary score was calculated by summing the items together and dividing by the number of valid responses.

Measure of Parenting Style (Parker et al., 1997). The Measure of Parenting Style assesses aspects of “care,” “over-control,” and “abuse” during the first 16 years using 15 different items. Factor analyses were computed with both two and three factors. A two-factor model, for men and women, was found to be theoretically clearest in contrast to the suggested three-factor model, which was found in the original study. The factor structure and loadings are presented in detail in Alanko et al. (2008). The two-factor model can largely be divided into “coldness” (including both the care and the abuse factors from the original study) and “over-control.” Cronbach’s alphas were .82 and .82 for paternal and maternal over-control, and .92 and .94 for paternal and maternal coldness, respectively, suggesting acceptable internal consistency of the derived scales. A lower value on the scales implies more problematic parenting, and a higher value implies less problematic parenting. A continuous parenting variable was used in analyses where parenting was used as the dependent variable (to explore the associations between sexual orientation and GAB and parenting), whereas a dichotomized variable was used when parenting was used as the independent variable (to explore the effects of parenting on psychiatric symptoms). Dichotomized variables were created using a median split for both parenting variables. The dichotomizing was done across the two genders for these variables, creating a group with less, and a group with more, problematic parent–child relationships.

Brief Symptom Inventory–18 (BSI–18) (Derogatis, 2001). To screen for psychological distress, the depression and anxiety subscales, both consisting of six items of the BSI–18, were used. The respondents reported the frequency of experiencing a number of psychiatric symptoms during the preceding seven days. The response options ranged from zero to four, with a higher score indicating more psychological distress. A composite variable was calculated for each participant for a scale combining items for both depression and anxiety. The reliability of the composite variable was excellent ($\alpha = 0.91$). Test–retest correlations for the BSI–18 scales range from 0.68 to 0.90 (Derogatis, 2001).

Creating Matched Pairs

In the whole sample, there was a significant difference between gay men and lesbians and heterosexual participants regarding gendered behaviors, as measured on the RCGIGR Questionnaire, $F(1, 2,490) = 69.206, p < .001$, with heterosexual participants ($M = 4.097, SE = 0.007$) reporting more gender typical behavior in childhood compared to homosexual participants ($M = 3.651, SE = 0.053$).

To be able to compare the effects of childhood GAB and sexual orientation without the two factors being confounded, we created groups of gay and heterosexual men with equal levels of GAB. The same procedure was used to create equivalent groups of lesbian and heterosexual women. For each homosexual individual, the same-sex heterosexual individual with the closest score on the RCGIGR Questionnaire was chosen. This left us with 79 male pairs (158 individuals) and 148 female pairs (296 individuals).

A statistical analysis confirmed that the matched groups did not differ from each other in terms of GAB during childhood. There was no main effect of sexual orientation on GAB ($p < .348$), neither was there any interaction between sexual orientation and gender ($p < .240$). However, men and women differed significantly in terms of GAB, $F(1, 438) = 117.355, p < .001$, with higher gender atypicality reported among women ($M = 3.315, SE = 0.049$) compared to men ($M = 4.051, SE = 0.047$).

Next, we split the participants into groups of gender typical and gender atypical participants using a median split separately in the male and female groups. This allowed us to explore how the participants had described their fathers’ and mothers’ parenting depending on their gender, sexual orientation, and gender atypicality.

Statistical Analyses

Analyses comparing groups, as well as multiple regression analyses, were conducted with the General Linear Model of the SPSS for Windows (Version 14) Complex Samples module. The R^2 effect size estimates from these analyses were reported.

Results

H1: Childhood GAB is Related to a Negative Parent–Child Relationship

Results related to childhood GAB were relatively clear-cut. There was a significant difference between gender atypical and typical participants on both coldness and over-control dimensions describing parenting. In each instance, participants who reported childhood GAB described the parenting practices of their fathers and mothers in more negative terms (father cold: typical, $M = 3.333, SE = 0.044$ and atypical, $M = 3.075, SE = 0.048$; mother over-control: typical, $M = 2.937, SE = 0.044$ and atypical, $M = 2.741, SE = 0.052$; mother cold: typical, $M = 3.557, SE = 0.038$ and atypical, $M = 3.358, SE = 0.041$). However, the effect on the father over-control dimension was complicated by an interaction with the gender of the participant. The difference between the descriptions of the fathers

Table 1. Effects of Participant Gender, SO, and GAB as a Child on Descriptions of Fathers and Mothers as Over-Controlling and Cold

Variable	Descriptions of Fathers		Descriptions of Mothers	
	Over-Control (<i>F</i>)	Coldness (<i>F</i>)	Over-Control (<i>F</i>)	Coldness (<i>F</i>)
Gender	0.708	1.333	19.439***	7.245**
SO	0.905	6.238*	7.341**	2.105
GAB	10.219***	15.820***	8.455**	12.861***
Gender × SO	2.538	7.460**	2.248	4.623*
Gender × GAB	4.812*	2.174	0.962	1.790
SO × GAB	0.179	0.192	3.008†	1.224
Gender × SO × GAB	0.061	0.167	0.219	0.057
<i>R</i> ²	.039	.077	.088	.057

Note. Degrees of freedom for analyses concerning descriptions of fathers = 1, 407. Degrees of freedom for analyses concerning descriptions of mothers = 1, 430. SO = sexual orientation; GAB = gender atypical behavior.

p* < .05. *p* < .01. ****p* < .001. †*p* < .10.

on this dimension was larger for men (typical, $M = 3.132$, $SE = 0.072$ and atypical, $M = 2.778$, $SE = 0.074$) than for women (typical, $M = 2.932$, $SE = 0.055$ and atypical, $M = 2.871$, $SE = 0.059$), even though in both groups the gender atypical individuals gave more negative descriptions than the gender typical individuals.

H2: Homosexual Orientation is Related to a Negative Parent–Child Relationship

There were main effects for gender and sexual orientation on some of the parenting variables, as can be seen in Table 1. However, some of these were complicated by interactions. Women described their mothers as more over-controlling ($M = 2.687$, $SE = 0.045$) than men did ($M = 2.991$, $SE = 0.052$). Overall, sexual orientation was related to the descriptions of how over-controlling the participants' mothers had been, with gay men and lesbians describing their mothers as more over-controlling ($M = 2.747$, $SE = 0.054$) than heterosexual participants ($M = 2.931$, $SE = 0.042$). The descriptions of the fathers on the coldness dimension depended on an interaction between the gender and sexual orientation of the participants. Heterosexual men ($M = 3.235$, $SE = 0.067$) described their fathers as colder compared to gay men ($M = 3.246$, $SE = 0.074$), whereas heterosexual women ($M = 3.335$, $SE = 0.053$) described their fathers as less cold compared to lesbian women ($M = 3.000$, $SE = 0.062$). A similar interaction affected the descriptions of the coldness of the mothers. Again, heterosexual men ($M = 3.514$, $SE = 0.051$) described their mothers as colder compared to gay men ($M = 3.553$, $SE = 0.062$), whereas heterosexual women ($M = 3.483$, $SE = 0.048$) described their mothers as less cold than lesbian women ($M = 3.281$, $SE = 0.062$).

H3: Childhood GAB, More Than Current Sexual Orientation, Predicts the Level of Current Psychiatric Symptoms

The next step in the analyses was to explore the effects of gender, sexual orientation, and childhood GAB, as well as their interactions, on psychiatric symptoms. Both sexual orientation and GAB had significant main effects, as shown in Table 2. However, these were complicated by the trend toward an interaction between these factors. Gender did not have a main effect on psychiatric symptoms; therefore, subsequent analyses were conducted across both genders.

As can be seen from Figure 1, the gender atypical heterosexual participants had approximately the same level of psychiatric symptoms as gay men and lesbian women. The only group with a clearly lower level of psychiatric symptoms was the gender typical heterosexual group. To explore the effects shown in Figure 1 in more detail, we compared each group separately to each of the other groups. The four groups (gender typical heterosexual participants, gender atypical heterosexual participants, gender typical homosexual participants, and gender atypical homosexual

Table 2. Effects of Participant Gender, SO, and Childhood GAB on Psychiatric Symptoms

Variable	<i>F</i>
Gender	1.074
SO	8.855**
GAB	8.618**
Gender × SO	0.288
Gender × GAB	1.137
SO × GAB	2.779*
Gender × SO × GAB	0.761
<i>R</i> ²	.053

Note. *df* = 1, 437. SO = sexual orientation; GAB = gender atypical behavior.

p* < .01. *p* < .01.

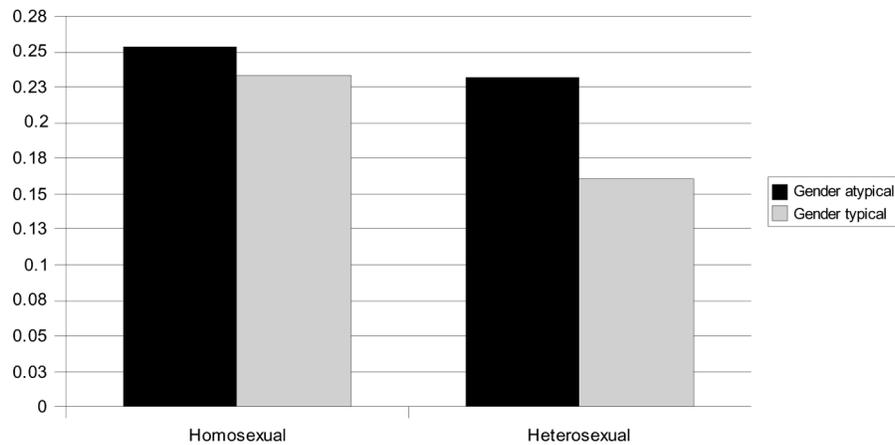


Figure 1. Effects of adult sexual orientation and childhood gender atypical behavior on psychiatric symptoms. *Note.* Higher values on the y axis indicate more psychiatric symptoms.

participants) significantly differed, overall, from each other, $F(3, 435) = 7.968, p < .001$. Pairwise comparisons of the groups using simple contrasts indicated that the gender typical heterosexual group significantly differed from all of the other three groups (all $ps < .001$), whereas the other three groups did not differ from each other (all $ps > .178$).

Finally, we conducted a series of analyses allowing for a main effect of each of the dichotomized parenting variables on psychiatric symptoms, as well as possible interactions with participant gender, sexual orientation, and GAB in childhood. In each instance, the parenting variable was related to psychiatric symptoms (see Table 3). However, there were no significant interactions. The effects of parenting were, therefore, the same irrespective of the characteristics of the participant.

Discussion

H1: Childhood GAB is Related to a Negative Parent–Child Relationship

As expected, we found that childhood GAB had a main effect on recalled parental relationships. Both hetero- and homosexual participants that behaved gender atypically

reported more cold and over-controlling relationships with both mothers and fathers. Sandnabba and Ahlberg (1999) reported that Finnish parents predicted girls would grow out of GAB, whereas boys were expected to continue behaving gender atypically and grow up to be gay. The parents also predicted that gender atypical boys and girls would be psychologically less well adjusted as adults than typical boys and girls. Parents rated themselves to feel worse if they had a gender atypical boy than an atypical girl. Sandfort et al. (2007) found that experiences with homophobia mediated the association between sexual orientation and mental distress, and stated that parental reactions to gender atypicality can be seen as homophobia. In the Finnish study (Sandnabba & Ahlberg, 1999), the parental reactions might be interpreted in terms of homophobia, as parents feared a gay adult son—the main reason for this fear being the childhood GAB of the son. D’Augelli et al. (2008) found that parental efforts to discourage GAB happened shortly before the age of puberty, perhaps indicating augmented concern with GAB in adolescence. In line with the reasoning previously stated in this article, we found that gender typical and atypical men reported more differences in the paternal relationship than women did, possibly reflecting the fathers’ homophobic reactions to the gender atypical boy.

Table 3. Means and Standard Errors for Participants Describing Their Fathers and Mothers as More Problematic or Less Problematic on the Dimensions of Over-Control and Coldness and Their Effect on Psychiatric Symptoms in the Offspring

Variable	More Problematic		Less Problematic		F
	M	SE	M	SE	
Over-controlling father	0.233	0.010	0.197	0.012	4.729*
Coldness of father	0.249	0.011	0.176	0.012	21.184***
Over-controlling mother	0.234	0.010	0.192	0.012	6.909**
Coldness of mother	0.241	0.011	0.190	0.011	10.688***

Note. Higher values indicate more psychiatric symptoms. Scale ranges from zero to four.

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

The possibility that negative parenting could cause some children to behave in a gender atypical manner cannot be disregarded. Bradley and Zucker (1990) proposed that GAB in its extreme form, gender identity disorder, is a defensive mechanism working to protect the child from anxiety caused by difficulties in early attachment, reactivity to stress, and familial or situational factors that increase the child's anxiety. To resolve the causal processes involved, the relation between childhood GAB and parenting needs to be studied further.

H2: Homosexual Orientation is Related to a Negative Parent-Child Relationship

Gay men and lesbians reported more maternal over-control than heterosexual men and women. Heterosexual men, more than gay men, and lesbian women, more than heterosexual women, reported parental coldness. A distant (cold) relationship with the father of gay men was expected on the basis of previous studies; however, in this study, gay men reported warmer paternal, as well as maternal, relationships than heterosexual men did. Mothers of the gay men in this sample seem to need to control their boys, although they do it lovingly. The relationship to the father was hypothesized to differ between heterosexual and lesbian women, so that lesbians would report more distant relationships than heterosexual women. The hypothesis was confirmed; however, not only the paternal but also the maternal relationship was rated colder by lesbians than by heterosexual women.

Mothers might try to over-control the openly gender atypical behavior of their offspring, as reflected by their over-controlling parenting style. It is interesting to note that lesbian women seem to have the least affectionate relationship with their parents, maybe reflecting a certain degree of autonomy and distance from the parents of the tomboyish girl. Clearly, however, differences in the way parents handle children that seem to be associated with their future sexual orientation exist. Special features of these children, possibly of the same origin as their adult sexual orientation, may influence the style of parenting.

It was also found that negative parenting, irrespective of any interactions with other variables, was significantly related to symptoms of depression and anxiety in the participants, confirming our second hypothesis. This means that parenting, overall, is important for the mental health of the offspring, and that this effect was found irrespective of any effects of childhood GAB or sexual orientation.

H3: Childhood GAB, More Than Current Sexual Orientation, Predicts the Level of Current Psychiatric Symptoms

There were main effects of both childhood GAB and adult sexual orientation on psychiatric symptoms.

The effects of childhood GAB and sexual orientation were not additive in this study, as we found no statistically significant interaction between childhood GAB and sexual orientation. The stress related to perceived pressure to conform to gender norms probably starts early in childhood, as these children become aware of their atypicality before awareness of sexual orientation, and continues throughout adolescence to adult life, parallel with the insight of emerging same-sex sexual interest.

Later on in adulthood, the stress might diminish as a result of enhanced self-acceptance often associated with a rejection of possible internalized homophobic attitudes and disclosure of sexual orientation to others (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001). This theory is supported by the findings of Aubé and Koestner (1992) that the adverse effects of GAB on adjustment were present at age 31 but no longer at age 41. On the other hand, continued exposure to antigay attitudes might lead to continued internalized homophobia in homosexual men and women (Meyer, 2003). Skidmore et al. (2006) suggested that the relation between GAB and psychological distress found in gay men might be due to lack of social support, victimization, and the fact that gay men displaying GAB may face rejection even from other gay men, both socially and romantically (Bailey, Kim, Hills, & Linsenmeier, 1997). These findings further support that it might be difficult to deal with internalized homophobia. Skidmore et al. suggested that it is actually the way in which gay men and lesbians think about their own gender atypicality, rather than the gender atypicality itself, that is related to psychological distress.

Both hetero- and homosexual individuals with a history of GAB seem to experience similar types of environmental stressors related to the GAB and subsequently develop similar levels of depressive and anxious symptoms. As GAB, especially for men, is strongly associated with a homosexual orientation (Bailey & Zucker, 1995; Sandnabba & Ahlberg, 1999), it can be hypothesized that at least part of the negative experiences these children undergo are of homophobic origin. There is little data on GAB and heterosexuals, making the finding that heterosexual individuals displaying GAB also suffer from societal distress extremely important.

It can be concluded from our analyses, with psychiatric symptoms as the dependent variable, that childhood GAB, or possibly some other form of early signs of later homosexual orientation that the parents and other persons can perceive, contributes to the symptoms of anxiety and depression. There is a possibility that GAB and sexual orientation are distinct developmental processes and that parents react differently to childhood GAB and childhood signs of sexual orientation. In this study, we found no interaction between sexual orientation and GAB when examining both parenting and psychiatric symptoms, which could actually be a sign of different

developmental processes. Future research could focus on the developmental pathways and try to enlighten the differences, as well as differing environmental reactions.

Surprisingly, and contrary to our hypothesis, we found no interactions between gender and childhood GAB or sexual orientation in predicting psychiatric symptoms, which implies that, at least on a superficial level, the effects of social pressure are similar for men and women. Although differing parental and societal expectations are directed at boys and girls, it might be that homophobic reactions toward gender atypicality and homosexual orientation in adulthood are perceived as equally distressing by both gay men, lesbians, and gender atypical heterosexual individuals. This finding differs from, for example, Skidmore et al.'s (2006), where GAB in gay men was correlated to psychological distress, whereas such a connection was not found for lesbians. Skidmore et al. suggested gender differences in social consequences of GAB, but these findings indicate that such differences cannot be found in Finnish society.

Understanding how GAB may lead to longer term psychological distress has implications for education and questioning of sociocultural norms; these results support the view that social relationships can have adverse effects on the mental health of individuals behaving in a gender atypical manner, as well as for gay men and lesbians. In terms of practical interventions, we suggest openness of discussion and directing resources to support of parents of gender non-conforming children. Awareness of the effects of parental relationships of individuals displaying GAB—for gay men, lesbians, as well as heterosexual gender non-conforming individuals—in the treatment of depression and anxiety disorders in adulthood should also be augmented.

Limitations of the Study

A limitation of this study, as with all research on sexual orientation, relates to the definition adopted, as discussed in the introduction. We chose to measure same-sex interest or behavior during the preceding 12 months to avoid problems with defining identity. Clearly, not everybody who engages in same-sex sexual activities identifies as gay or lesbian (Remafedi, Resnick, Blum, & Harris, 1992; Savin-Williams, 2006). Dunne et al. (2000) argued that higher than average GAB among heterosexuals could indicate that these individuals are more likely than most to reach one of the lower thresholds of a homosexual continuum. However, we chose to use the terms *gay* and *lesbian*, as same-sex sexual attraction and same-sex sexual behavior can be seen as descriptive elements of sexual orientation. In addition, the age group of this study was 33 to 43, and one could assume that a relatively stable sexual identity was established for the participants, which might not have been the case with younger participants. Therefore, it can be assumed that most participants who reported

same-sex sexual interest or behavior during the previous 12 months also identify as gay or lesbian. However, a risk for misclassification still exists, as the operationalization of sexual orientation was not based on identity of the participants. However, other large-scale studies have also successfully used such operationalizations; these classified respondents as homosexual or heterosexual only on the basis of past sexual behavior—in one year (Sandfort et al., 2007), in five years (Gilman et al., 2001), or over the lifetime (Cochran & Mays, 2000). Unfortunately, we did not measure GAB in adulthood, and can not analyze the effects of continuous GAB. However, it has been shown that GAB, at least for some individuals, persists through adult age, despite demands for gender conformity (Skidmore et al., 2006).

Furthermore, one needs to be careful with measures of a retrospective nature. Retrospective measures can be influenced by biased recall, meaning that some memories of childhood relationships and behaviors can be altered to better fit into an existing current identity, or responses can be given according to a picture of what is expected. In this study, recollections of parental relationships, as well as childhood behaviors, may have been affected by biased recall to some extent. It could also be that persons with more current psychiatric symptoms tend to recall their past in more negative terms than individuals with less psychiatric distress. Regardless of the mostly legitimate criticism of retrospective studies, the literature has concluded that the method is useful for studying childhood GAB (McConaghy & Silove, 1992; Zucker et al., 2006) and parenting (Gillespie, Zhu, Neale, Heath, & Martin, 2003).

Conclusion

In summary, the findings suggest that gender atypicality in childhood is related to later distress both among hetero- and homosexual individuals. It therefore seems that the elevated level of psychological distress among homosexual individuals reported in several studies is to some extent caused by their generally higher levels of childhood GAB as opposed to a homosexual orientation per se. In fact, heterosexual participants who reported childhood GAB also suffered from elevated levels of psychological distress to the same extent as the homosexual participants. Support for parents in the process of accepting a gender non-conforming child, who might or might not become homosexual, is especially important when considering the results of this study.

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