

The Interrelations between Sexual Orientation, Sense of Belonging and Dysphoria
Among Australian Women

Suzanne McLaren

School of Behavioural & Social Sciences & Humanities
Centre for Health Research and Practice
University of Ballarat

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Dr Suzanne McLaren, BA (Hons), PhD

School of Behavioural & Social Sciences & Humanities

University of Ballarat

University Drive

Mt Helen Vic 3353

Australia

Telephone: +61 3 5327 9628

Fax: +61 3 5327 9840

E-mail: s.mclaren@ballarat.edu.au

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Abstract

The current research examined whether sense of belonging in the community and sexual orientation were associated with dysphoria among women. Australian female heterosexuals ($n = 202$) and lesbians ($n = 184$) completed the Sense of Belonging Instrument and the Depression, Anxiety, Stress Scales. Results indicated that lesbians experienced a decreased sense of belonging and more dysphoria compared with heterosexual women. Subsequent analyses indicated that sense of belonging to the community mediated the relation between sexual orientation and dysphoria. In addition, sexual orientation moderated the relation between sense of belonging and dysphoria. It appears that the enhancement of lesbians' sense of belonging in the community would be associated with a reduction in dysphoria.

Key Words: sense of belonging, dysphoria, sexual orientation, lesbians, women

Research has demonstrated that lesbians are at an increased risk for depression (Case et al., 2004; Fergusson, Horwood, & Beautrais, 1999; Westefeld, Maples, Buford, & Taylor, 2001) compared with heterosexual females. The mental health problems experienced by lesbians can be traced to the broader community's negative perceptions of homosexuality. The idea of homosexuality often generates hostility and contempt from the heterosexual community, particularly in the form of homophobia (also known as sexual prejudice) and discrimination (Fontaine & Hammond, 1997). Both externalized and internalized homophobia has been related to mental ill-health among lesbians (Carrion & Lock, 1997; Lewis, Derlega, Griffen, & Krowinski, 2003; Szymanski, Chung, & Balsam, 2001). It is likely that homophobia results in lesbians feeling a reduced sense of belonging to the community compared with heterosexual women. This proposition, however, has yet to be tested.

The importance of belonging should not be underestimated. The theory of human relatedness proposes that an individual's involvement with others occurs at various levels and that such involvement is associated with differing experiences of comfort/discomfort (Hagerty, Lynch-Sauer, Patusky, & Bouwsema, 1993). One state of relatedness is sense of belonging (Hagerty et al., 1993). Previous research has defined sense of belonging from a psychological perspective as the experience of personal involvement and integration within a system or environment to the extent that a person feels they play a special role in that system or environment (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). This definition of belonging acknowledges that individuals can be a part of many different communities. The current study focuses on the "general" community in which we live, a community that is predominantly heterosexual.

Sense of belonging appears necessary for psychological well-being (Thompson-Fullilove, 1996). Research suggests that individuals who report a lesser sense of belonging are more likely to report lower levels of self-esteem, self-worth and self-sufficiency (Lee & Robbins, 1998). In addition, a deficit in sense of belonging has been associated with higher levels of anxiety and associated disorders (Herbert, 1997; Lee & Robbins, 1998), depression (Bailey & McLaren, 2005; Hagerty, Williams, Coyne & Early, 1996; McLaren, Jude, Hopes, & Sherritt, 2001) suicidal ideation (Bailey & McLaren, 2005), and fewer reasons for living (Kissane & McLaren, 2006).

In summary, sexual orientation and sense of belonging are related to depression, and it is likely that sexual orientation is related to sense of belonging. Therefore, it is probable that all three variables are interrelated. One possibility is that both sexual orientation and sense of belonging are simultaneously related to depression, but independent from each other in terms of their relationship with depression (additive effect). Alternatively, as sense of belonging and sexual orientation are related to depression, and sexual orientation is likely to affect sense of belonging, it is possible that sense of belonging mediates the relation between sexual orientation and depression. It is also possible that the relation between sense of belonging and depression is stronger for lesbians than heterosexual women. This would indicate an interaction between sexual orientation and sense of belonging, or that sexual orientation moderates the relation between sense of belonging and dysphoria.

The current research examined the interrelations between sexual orientation, sense of belonging, and dysphoria among women in terms of the additive, moderation and mediation models.. In support of the additive model, it was hypothesized that sense of belonging and self-identifying as heterosexual would be positively associated with

dysphoria. This implies a negative association between self-identifying as lesbian and dysphoria. It was hypothesized that sexual orientation would moderate the relation between sense of belonging and dysphoria. Due to the lack of previous research, the exact nature of the moderation effect was not predicted. Finally, it was hypothesized that sense of belonging would mediate the relation between sexual orientation and dysphoria.

Method

Participants

Women aged 18 years or over were recruited from the state of Victoria, Australia, and lived in urban, regional, and rural areas. Participants were recruited by a number of methods over a 4-month period. Initially, women were approached through friendship groups of the researcher, her postgraduate students and the research assistant. Many of these women took questionnaires that were then passed on to family, friends and work colleagues. Women were also approached at sporting clubs, social events, community centers, health centers, shopping centers, on the street and via random house visits.

In terms of increasing the opportunity for collecting data from lesbians, the research assistant initially relied on her own contacts within the lesbian community and her lesbian friends. This enabled a network to be established whereby these people took questionnaires to pass on and informed other members of their community of the research. Participants from the lesbian community were also recruited at prominent lesbian social events and via advertisements in lesbian magazines. Key organizations also assisted with promoting the research to the lesbian community.

Participants were also recruited via the Internet. Advertisements in magazines gave readers a web address, as well as a log in name and password. User groups were also e-mailed and notified of the study, the web site, log in name and password.

Materials

A Plain Language Statement described the research and invited the women to volunteer. In addition, the statement provided available resources that could be accessed in the event of participants experiencing any distress whilst completing the questionnaire or after the research, including contact telephone numbers of the researcher, a general telephone counseling service and a telephone counseling service specifically for lesbians.

The demographic section of the questionnaire asked participants to report their age, relationship status, postcode and length of time at that postcode, highest education level achieved, current employment status and occupation, annual income and extent of religious beliefs. Participants answered the question “Would you consider yourself to be predominately: heterosexual, lesbian or homosexual, bisexual, transgender or unsure?”. Thus, participants self-identified as lesbians or heterosexual. Some women indicated “other” responses, such as bisexual and were excluded from the analyses ($n = 32$).

The Psychological subscale of the Sense of Belonging Instrument (Hagerty & Patusky, 1995) consists of 18 items, which assessed the extent to which participants felt they belonged to the general community. The Psychological subscale assessed the women’s experience of feeling valued, needed and accepted and the perception of fit or connectedness within the general community (e.g., “I feel like an outsider in most situations”, “I feel like a piece of a jigsaw puzzle that doesn't fit into the puzzle”). Respondents gave ratings on a 4-point Likert scale (1 = strongly disagree; 4 = strongly

agree). Scores could range from 18 to 72, with higher scores indicating a greater sense of belonging. Previous research has shown the Instrument to be a valid and reliable measure. The test-retest reliability coefficient for the Psychological subscale was $r = .84$ over an eight-week period (Hagerty & Patusky, 1995). Cronbach's alpha for a sample of Australians was .95 (McLaren et al., 2001). In terms of the present research, reliability analysis found that for heterosexual females, the alpha was .94 and for the lesbians, the alpha was .94.

The Depression Anxiety Stress Scales is a 42-item questionnaire divided into three self-report scales designed to measure the negative emotional states of depression, anxiety and stress (Lovibond & Lovibond, 1995). Only the 14 items pertaining to depression were included in the analyses. The depression subscale measures symptoms associated with a dysphoric mood (e.g., hopelessness, devaluation of life, lack of interest and involvement, anhedonia, and inertia). Participants used a 4-point Likert scale (0 = did not apply to me at all; 3 = applied to me very much, or most of the time) to rate the extent to which they had experienced each symptom over the past week. Scores could range from 0 to 42, with higher scores indicating the presence of more dysphoria. Research indicates that Cronbach's alpha for the Depression subscale is .97 (Antony, Bieling, Cox, Enns, & Swinson, 1998). Concurrent validity is demonstrated by the correlations with a range of scales, including the Beck Depression Inventory ($r = .77$), the Beck Anxiety Inventory ($r = .84$) and the State-Trait Anxiety Inventory – Trait Version ($r = .59$) (Antony et al., 1998). Test-retest reliability was adequate over a two-week period ($r = .71$) (Brown, Chorpita, Korotitsch, & Barlow, 1997). For the current sample, internal reliability results for the depression subscale were .97 for heterosexual women and .96 for lesbians.

Procedure

The research was approved by the University's Human Research Ethics Committee prior to commencement of data collection. Participation was voluntary, and this was explained to potential participants in the plain language statement and during the course of speaking to them. The plain language statement stated that returning the completed questionnaire indicated that they understood the research and freely consented to participate. Interested participants were also provided with additional questionnaires so that these could be passed on to other friends that were not as involved in social events or the lesbian social scene. A total of 600 paper questionnaires were distributed.

The questionnaire was also available on the Internet. Once on the web site, an information page explained the research with contact phone numbers if necessary, and a link to the current study. Women were able to complete the questionnaire online and send it anonymously via e-mail to the researcher. Almost 18% of women participated in this manner, with both heterosexual women (17%) and lesbians (18%) equally likely to use the Internet.

Data analysis

The dysphoria and sense of belonging variables were assessed for skew. Whereas the sense of belonging variable was acceptable (skew = -0.58, $SE_{\text{skew}} = 0.12$, $z = 4.83$), the dysphoria variable was highly skewed (skew = 2.72, $SE_{\text{skew}} = 0.12$, $z = 22.67$). A reciprocal transformation was performed, and reduced the skew to an acceptable (skew = -0.25, $SE_{\text{skew}} = 0.12$, $z = 2.08$). This transformed variable was used in all analyses.

Initially, means and standard deviation scores were calculated for sense of belonging and dysphoria for the heterosexual and lesbian women. A series of independent samples *t*-tests were used to test for differences between the two groups of women on sense of belonging and dysphoria. Correlations between the sense of belonging and dysphoria variables were calculated for the whole sample and for the two groups of women, separately. A significance level of .05 was used for all analyses.

The additive and moderation effects were examined using hierarchical regression analysis. At Step 1, any demographic variables on which the two groups of women differed were entered to provide statistical control. Sexual orientation and sense of belonging to the community were entered at Step 2, and the interaction term (sexual orientation x sense of belonging to the community) was entered at Step 3.

Prior to calculating the interaction term for the hierarchical regression, the sense of belonging term was centered using the mean-deviation method (Tabachnick & Fidell, 1996). Therefore, mean-deviation scores were calculated for sense of belonging. These new centered scores and sexual orientation were then multiplied together to create the new interaction term, sexual orientation x sense of belonging. This interaction term has several advantages. Jaccard, Turrisi, and Wan (1990) argue that normal multiplicative interaction terms in regression analyses inflate standard errors of the regression coefficients. Further, Cronbach (1987) suggests that centering the independent variables prior to forming a multiplicative term addresses the issue of multicollinearity.

The variance inflation factor (VIF) was used to test for multicollinearity in the multiple regressions. Francis (2004) suggests that the VIF should be below 3. The VIF for each variable in the regression analyses were below 2, indicating that the variables were not highly correlated.

The mediating effect of sense of belonging was examined using the regression analyses approach proposed by Baron and Kenny (1986). The criterion was initially regressed on the independent variable. A second regression analysis was conducted in which the mediator was regressed on the independent variable. This was followed by a third regression analysis in which the criterion was regressed on the independent variable and the mediator simultaneously. As recommended by Baron and Kenny (1986), mediation was inferred if the independent variable had an effect on the criterion (equation 1) and mediator (equation 2), and if equation 3 indicated that firstly, the mediator had an effect on the criterion, and secondly, the effect of the independent variable on the criterion was either significant but less than that found for this relation in equation 1 (partial mediation), or less and not significant (full mediation).

An R^2 value that was significant at $p < .05$ for the full model was used as an indication of adequate model fit for all regression models tested in this study.

Results

Two hundred and two heterosexual women (M age = 33.91 years, SD = 12.39) and 184 self-identified lesbians (M age = 36.33 years, SD = 10.06) completed the questionnaire. A total of 319 women (83%; 168 heterosexuals, 151 lesbians) completed the questionnaire in paper form, while 17% (n = 67; 34 heterosexuals, 33 lesbians) completed the questionnaire via the Internet. The two groups of women did not differ on mode of participation, $\chi^2(1) = 0.08, p > .05$. The return of 319 paper questionnaires indicated a 53% response rate.

Over half of the sample (55% heterosexuals; 57% lesbians) were married or in a committed relationship. Just under half (48%) of the heterosexual women had listed secondary school as the highest attained educational level, compared with 29% of the

lesbians. In contrast, 47% of the lesbians had completed a university degree, compared with 25% of the heterosexual women. The group of lesbians was more highly educated, $\chi^2(4) = 25.40, p < .001$, and more highly paid, $\chi^2(5) = 28.00, p < .001$, than the group of heterosexual women. Finally, lesbians were more likely to live in urban areas, whereas heterosexual females were more likely to live in regional areas, $\chi^2(2) = 52.28, p < .001$. The variables on which the two groups of women differed (ie., level of education, income and place of residence) were subsequently entered as covariates in all analyses.

Descriptive statistics for the sense of belonging and dysphoria variables for heterosexual women and lesbians are displayed in Table 1. Results from the *t*-tests indicated that heterosexual women reported higher levels of sense of belonging and lower levels of dysphoria compared with lesbians.

PLACE TABLE 1 ABOUT HERE

The results of the partial correlation analyses between the sense of belonging and dysphoria variables, controlling for place of residence, level of education and income, and zero-order correlations indicated that higher levels of belonging were associated with less dysphoria for the whole sample ($r = -.44, p < .001$), and for lesbians ($r = -.33, p < .001$) and heterosexuals ($r = -.52, p < .001$) separately.

Additive and Moderation Effects

The demographic variables accounted for 2% of the variance in dysphoria (Table 2). The introduction of sexual orientation and sense of belonging at Step 2 explained an additional 21% of the variance in dysphoria. Examination of the Beta-values indicated that sexual orientation and sense of belonging significantly contributed to the

explanatory power of the model, indicating support for the additive model. The addition of the interaction term at Step 3 explained an additional 2% of the variance in dysphoria, indicating support for the moderation effect. The sense of belonging and the interaction term significantly contributed to the final model. The final model explained 22% of the variance in dysphoria.

Figure 1 displays the effect of the sexual orientation x sense of belonging interaction on dysphoria. The effects of sexual orientation and sense of belonging on dysphoria were plotted at three points: high, medium and low. High and low values for sense of belonging were $+1 SD$ and $-1 SD$ of the centered mean of zero. The rate of decrease in dysphoria with increasing levels of sense of belonging was greater for lesbians compared with heterosexual females. This implies that sense of belonging had a greater buffering effect on dysphoria for lesbians compared with heterosexual women.

PLACE TABLE 2 AND FIGURE 1 ABOUT HERE

Mediation Effects

The independent variable (sexual orientation) had an effect on the criterion (dysphoria) and the mediator (sense of belonging) (Table 3). Further, the results from equation 3 indicate that the mediator had an effect on the criterion and that the effect of the independent variable was no longer significant. These results indicate a mediating effect of sense of belonging on the relation of sexual orientation to dysphoria.

PLACE TABLE 3 ABOUT HERE

Discussion

The current study examined the interrelations between sexual orientation, sense of belonging and dysphoria among women in terms of additive, moderation and mediation models. It also investigated differences between heterosexual women and lesbians on measures of sense of belonging and dysphoria. Results indicated that lesbians reported higher levels of dysphoria and lower levels of sense of belonging to the community compared with heterosexual women. The results concerning dysphoria were consistent with a body of literature that indicated that lesbians reported higher rates of depression compared with heterosexual females (Case et al., 2004; Fergusson et al., 1999; Westefeld et al., 2001).

The lower levels of dysphoria and sense of belonging among lesbians may be explained by sexual prejudice, or homophobia. Externalized homophobia, manifested in ways such as service refusal, and verbal and/or physical abuse (Hetrick & Martin, 1987), affect the ways in which lesbians live in the broader community. Like residents of many countries, Australians are rather homophobic. Kelley's (2001) report indicated that 48% of Australians believed homosexual behavior was always wrong. Although this figure represents a notable decrease since the 1980 figure of 64%, it remains a substantial percentage at close to half of Australia's population.

The higher levels of dysphoria among lesbians may also be attributed to internalized homophobia, or the self-hatred associated with one's sexual orientation (Carrion & Lock, 1997; Szymanski et al., 2001). Lesbians are faced with being a member of a stigmatized minority group, and accepting their sexual orientation can be extremely difficult. Openly living as a lesbian in a homophobic society may have a significant cost in terms of mental health.

Results supported the additive model, with sexual orientation and sense of belonging being independently related to dysphoria. Being lesbian was associated with higher levels of dysphoria. In addition, sense of belonging was negatively associated with dysphoria. The latter finding is consistent with previous research, showing that feeling valued and as though one fits in the community is negatively related to depression (Bailey & McLaren, 2005; Hagerty et al., 1996; McLaren et al., 2001).

The results supported the hypothesis that sexual orientation moderated the relation between sense of belonging and dysphoria. This suggests that the relationship between sense of belonging and dysphoria varied according to the sexual orientation of the woman. Specifically, the rate of decrease in dysphoria with increasing levels of sense of belonging was greater for lesbians compared with heterosexual women. This indicates that sense of belonging had a greater buffering effect on dysphoria for lesbians compared with heterosexual women. Consistent with the previous discussion, this result highlights the importance for lesbians to belong to the general community to protect against the development of dysphoria.

The hypothesis that sense of belonging would mediate the relation between sexual orientation and dysphoria was supported. The mediation effect indicates that sexual orientation is associated with sense of belonging which, in turn, is associated with dysphoria. These results suggest that lesbians experience dysphoria due to a reduced sense of belonging to the community. Future research needs to address whether there is a causal relationship among these variables.

The findings here for the additive, mediation and interaction effects are not mutually exclusive. While the additive model implies that both sexual orientation and sense of belonging are related to dysphoria, the mediation model suggests that the

relationship between sexual orientation and dysphoria is an indirect relation. In contrast, the moderation effect model suggests that the relation between sense of belonging and dysphoria varied according to the sexual orientation of the woman. In sum, the results suggest that sexual orientation is related to dysphoria both independently and through two different patterns of relationships with sense of belonging.

In relation to intervention, the support for the additive and mediation models suggests that increasing the extent to which both lesbian and heterosexual women belong to the community should reduce dysphoria. The support for the moderation model found here suggests that the focus on sense of belonging may be particularly valuable for lesbians compared with heterosexual women. For lesbians, their dysphoria can be reduced more by increasing their levels of sense of belonging. Interventions which target lesbians themselves, however, can be only part of the solution. It is likely that a relationship exists between lesbians' lower sense of belonging and the wider community's attitude toward them. Thus, sexual prejudice, or homophobia, needs to be reduced to assist lesbians' feeling that there is a place in the general community for them.

The results and implications of this study need to be considered in light of several limitations of the study. The sole use of self-report measures and the non-random selection of participants are methodological issues of concern, which could have resulted in reporting and selection biases, respectively. It is to be noted, however, that conducting research with a minority group such as lesbians inevitably leads to sampling problems. Because this sexual minority can not be identified by a population-based registry, and because it represents a small proportion of the total population, standard

representative sampling methods are inefficient, and non-random sampling methods of the general population must be used. Further, although efforts to recruit women who were not a part of the lesbian social world were made, it is difficult to know just how successful these methods were. The use of snowball recruitment may have resulted in women who were more socially supported being over represented in the sample. It is likely these women would have a greater sense of belonging and better mental health than isolated women. Finally, the distribution of scores on the measure of dysphoria was highly skewed, and the mean score was very low, although the mean score was consistent with that of a normative sample of Australian women (Lovibond & Lovibond, 1995). The mean score indicated that the sample included very few dysphoric women. Indeed, 88% of the sample indicated “normal” levels of dysphoria, 4% “mild”, 2% “moderate”, 4% “severe”, and 2% “extremely severe”, as defined by Lovibond and Lovibond (1995).

It is important to note that this study only assessed sense of belonging to the general community. Research has indicated that lesbians often form social relationships with other lesbians. For example, a study of the social networks of a group of lesbians demonstrated that lesbians reported most of their friends to be lesbians, that they socialized with lesbians most of the time, and that nearly half of the sample was uninvolved in heterosexual networks (D’Augelli, Collins, & Hart, 1987). Other research has also highlighted the importance of the lesbian community for lesbians (Bradford, Ryan, & Rothblum, 1997). It is likely that a sense of belonging to the lesbian community is a protective factor against the development of dysphoria, which will be examined in future analyses.

The results indicate that sense of belonging is indeed a key mental health concept, strongly associated with dysphoria. The study has demonstrated the importance of belonging for lesbian women, as it appears to work as a protective factor against dysphoria. Future research aimed at investigating ways to increase sense of belonging among women, especially lesbians, is clearly needed.

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Table 1

Descriptive Statistics for Key Variables According to Sexual Orientation

Variable	<u>Heterosexuals</u>		<u>Lesbians</u>		<i>t</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	
Sense of Belonging	59.18	8.34	55.38	9.69	4.12***
Dysphoria	3.29	6.25	4.99	7.73	2.40 *
Dysphoria (transformed)	0.40	0.38	0.55	0.35	4.02***

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

Table 2

Summary of Hierarchical Regression Analysis for the Effect of Sexual Orientation, Sense of Belonging and the Interaction between Sexual Orientation x Sense of Belonging on Dysphoria

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Step 1 [$R^2 = .02$, $F(3, 360) = 2.19$, $p > .05$, adjusted $R^2 = .01$, $F(3, 360) = 2.19$, $p > .05$]				
Place of Residence ^a	-0.06	0.03	-.13	-2.35 *
Income	0.01	0.01	.04	0.59
Education	-0.01	0.02	-.03	-0.43
Step 2 [$\Delta R^2 = .20$, $F(2, 358) = 45.80$, $p < .001$ adjusted $R^2 = .21$, $F(5, 358) = 19.96$, $p < .001$]				
Place of Residence ^a	-0.02	0.03	-.05	-0.91
Income	0.01	0.01	.05	0.89
Education	0.00	0.02	-.01	-0.15
Sexual Orientation ^b	0.07	0.04	.10	1.96 *
Sense of Belonging	-0.02	0.00	-.42	-8.68***
Step 3 [$\Delta R^2 = .02$, $F(1, 357) = 8.97$, $p < .04$ adjusted $R^2 = .22$, $F(6, 357) = 18.50$, $p < .001$]				
Place of Residence ^a	-0.03	0.03	-.05	-1.03
Income	0.01	0.017	.04	0.78
Education	0.00	0.02	-.01	-0.17
Sexual Orientation ^b	0.07	0.04	.09	1.87
Sense of Belonging	-.004	0.01	-.88	-5.49***
Sexual Orientation ^b x Sense of Belonging	0.01	0.00	.48	3.00**

^aurban = 1, regional = 2, rural = 3. ^bheterosexual = 1, lesbian = 2.

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

Table 3

Mediation Effect of Sense of Belonging on the Relation of Sexual Orientation to Dysphoria

		β
Equation 1 [$R^2 = .05$, $F(4, 361) = 5.13$, $p < .001$]		
Criterion on	Place of Residence ^a	-.09
	Income	.01
	Education	-.05
	Sexual Orientation ^b	-.20***
Equation 2 [$R^2 = .08$, $F(4, 359) = 7.70$, $p < .001$]		
Sense of Belonging on	Place of Residence ^a	.13 *
	Income	.08
	Education	.11
	Sexual Orientation ^b	-.23***
Equation 3 [$R^2 = .22$, $F(5, 358) = 19.96$, $p < .001$]		
Criterion on	Place of Residence ^a	-.05
	Income	.05
	Education	-.01
	Sexual Orientation ^b	.10 *
	Sense of Belonging	-.42***

Note. The β values are the standardised beta coefficients. ^aurban = 1, regional = 2, rural = 3.

^bheterosexual = 1, lesbian = 2.

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

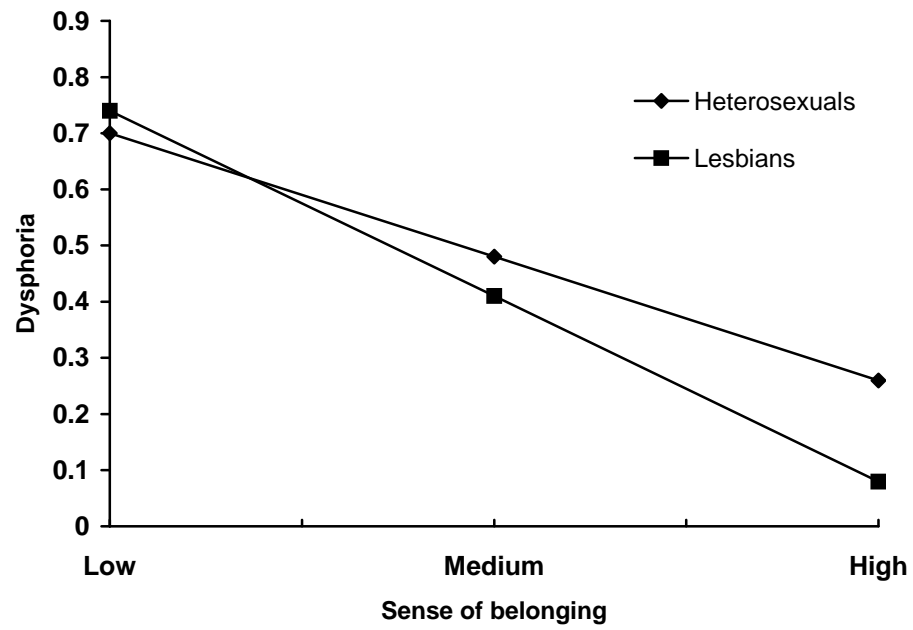


Figure 1. The interaction effect of sexual orientation x sense of belonging on dysphoria.