Sex differences in sexual prejudice. Contact as mediator variable

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The present article analyzes the relationship between sex and nationality and prejudice toward gay men and lesbians and the rejection of same-sex parents in Spain and Chile. Participants were university students (N=491). Results indicate that men are more prejudiced than women, and the Chilean participants report more prejudice than the Spanish participants. In addition, sex differences in attitudes toward lesbians and gay men and differences by nationality are mediated by the contact variable. Nationality differences in attitudes same-sex parents (normative opposition scale) were fully mediated. Findings from this study suggest that contact may explain the link between sex differences and sexual prejudice. This subscale operationalizes the construct of heterosexism towards families with same-sex parents, and it is quite difficult to intervene in this social construct to reduce the prejudice. Findings of this study may have important implications for reducing sexual prejudice. Knowing, interacting and fostering relationships between the members of the outgroup and the ingroup can reduce differences due to sex and nationality.

Keywords: Attitudes, sex differences, cross-cultural, contact, same-sex parenting.

Diferencias sexuales en prejuicio sexual. El contacto como variable mediadora. El presente artículo analiza la relación entre el sexo y la nacionalidad, y el prejuicio hacia hombres gay y lesbianas, y el rechazo de padres del mismo sexo, en España y Chile. Los participantes fueron estudiantes universitarios (*N*=491). Los resultados señalan que los hombres son más prejuiciosos que las mujeres, y los participantes chilenos mostraron más prejuicio que los participantes españoles. Además, las diferencias sexuales en actitudes hacia las lesbianas y los hombres gay, y las diferencias por nacionalidad, estuvieron mediadas por la variable contacto. Las diferencias en nacionalidad respecto a las actitudes hacia los padres del mismo sexo (escala de oposición normativa) estuvieron completamente mediadas. Esta subescala operacionaliza el constructo de heterosexismo hacia familias con padres del mismo sexo, y es bastante difícil de intervenir en este constructo social para reducir el prejuicio. Los hallazgos de este estudio pueden tener importantes implicaciones para reducir el prejuicio sexual. Conocer, interactuar y fomentar relaciones entre los miembros del exogrupo y del endogrupo puede reducir las diferencias debidas al sexo y la nacionalidad.

Palabras clave: Actitudes, diferencias sexuales, transcultural, contacto, padres del mismo sexo.

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The debate about the social and sexual normality of the homosexual sexual orientation is reopened from time to time, in spite of advances made in recognizing the rights of people with a homosexual sexual orientation. Open and aggressive expression of ideas and behaviors of rejection toward the homosexual orientation has become considerably reduced (Frías-Navarro, Monterde-i-Bort. Pascual-Soler & Badenes-Ribera, 2013). However, sexual prejudice toward people with a homosexual sexual orientation continues to exist in all societies and can occur both openly and subtly (D'Augelli, 1989; Frías-Navarro & Monterde-i-Bort, 2012; Herek, 1988, Kite, 1992, Rhoads, 1995; Sanford & Engstrom, 1995; Simoni, 1996). Allport (1954) defined prejudice as "an antipathy based upon a faulty and inflexible generalization. It may be felt or expressed. It may be directed toward a group as a whole or toward an individual because he is a member of that group" (p. 10).

Recent studies indicate that Spain and Chile have different attitudes toward gay men and lesbians and toward homosexual parenting. For example, the study by the Pew Research Center (2013) shows that 88% of the Spaniards surveyed declare that homosexuality should be accepted, while the same study indicates that only 68% of Chileans state that homosexuality should be accepted. Spain has allowed marriage between people of the same sex since the year 2005, while Chile does not have any type of law regarding couples of the same sex, and it passed its first anti-discrimination law in 2012 (Biblioteca del Congreso Nacional, National Congressional Library, 2013).

Studies that have analyzed the attitudes of heterosexual men and women toward people with a homosexual sexual orientation generally highlight their differences. The results of the research show statistically significant differences between heterosexual men and women in the expression of sexual prejudice (Ahrold & Meston, 2010; Lim, 2002). The attitude toward gay men is more negative, especially when rated by heterosexual men (D'Augelli & Rose, 1990; Ellis, Kitzinger & Wilkinson, 2002; Herek, 1988, 2002; Kerns & Fine, 1994; King & Black, 1999; Kite & Whitley, 1996; LaMar & Kite, 1998; Moskowitz, Rieger & Roloff, 2010; Raja & Stokes, 1998; Simoni, 1996; Yarber & Lee, 1983). Because socially constructed concepts of appropriate male behavior (or masculinity) are more narrowly defined than concepts of appropriate female behavior (or femininity), departures from the norm (i.e., heterosexuality) tend to be judged more harshly by men than by women, and for male than for female homosexuals (Schellenberg, Hirt & Sears, 1999). In her meta-analysis of 24 studies of sex differences in attitudes toward homosexuals, Kite (1984) found that men score an average of 0.21 standard deviations more negatively than do women.

Regarding heterosexual women's prejudice, the results are not unanimous. In general, studies point out that heterosexual women express greater rejection toward lesbians than toward gay men (Gentry, 1987; Herek, 1994; Whitley, 1988), although they usually express greater acceptance of lesbians than men do (Herek, 2000).

However, some studies have not detected statistically significant differences in heterosexual women's prejudice toward gay men and lesbians (Herek, 1988; Kite, 1994). Previous studies have reported differences among countries in the attitudes toward gays and lesbians and toward same-sex parenting. The study by Nierman, Thompson, Bryan and Mahaffey (2007), reported differences between the USA and Chile in the attitudes toward gay men and lesbians, differences that would be explained by differences in gender role beliefs. Likewise, a recent study showed that Spain and Chile difference in their attitudes toward same-sex parenting, with the latter being more homophobic (Frías-Navarro *et al.*, 2013).

Based on the intergroup contact theory (Allport, 1954), research has shown that knowing and interacting with members of the outgroup are related to more favorable attitudes, reducing prejudice and promoting interactions between the groups (Herek, 2000; Herek & Capitanio, 1996). Experiencing these relationships implies the modification of subjects' prior representations and attitudes, thus reducing their sexual prejudice (Cirakoğlu, 2006; Collier, Bos & Sandfort, 2012; Cooley & Burkholder, 2011; Heinze & Horn, 2009; Herek, 2000; Hinrichs & Rosenberg, 2002; Lingardi, Falanga & Augelli, 2005; Lehavot & Lambert, 2007; Mazziotta, Mummendey & Wright, 2011; Smith, Axelton & Saucier, 2009). Interpersonal contact and sexual prejudice are reciprocally related.

Consistent with previous research, we proposed that sex and nationality would predict attitudes toward gay men and lesbians and attitudes toward same-sex parenting, and we tested a mediational model using the contact variable.

This study tested the degree to which the contact variable mediates the effects of sex and nationality on attitudes toward gay men and lesbians and attitudes toward same-sex parenting.

METHOD

Participants

A cross-sectional design and a non-probability convenience sampling were used. The Spanish sample was composed of 217 university students. Nine subjects described themselves as non-heterosexual and were eliminated from the study. Of the 208 Spanish participants, 41 were men (19.7%), 165 were women (79.3%), and 2 people did not answer the question about sex (1%) (Mean age=21.55, *SD*=6.77). The sample of Chilean participants was initially made up of 300 university students. Fourteen subjects described themselves as homosexual, and three did not answer the question. Therefore, 17 participants were excluded from the analyses. The final sample in Chile was composed of 283 participants (Mean age=20.05, *SD*=2.74), 108 men (38.2%) and 175 women (61.8%).

Measures

Demographics. The same evaluation instruments were used with the two samples of participants. The participants answered three personal questions: sex, age and sexual orientation (self-identification as: gay man, lesbian, bisexual or heterosexual).

Contact variable. The contact variable was operationalized with an item on which subjects indicated: *"In my family or among my closest friends, I have a close relationship with homosexuals"*. The response scale ranged from 1 for "completely disagree" to 5 for "completely agree". A higher score on the subscale indicated a greater degree of contact with lesbians and gay men.

Attitudes Toward Lesbians and Gay Men (ATLG, Herek, 1984, 1988, 1994). The ATLG is an instrument designed to measure subjects' attitudes toward lesbian women and gay men. It is considered an instrument for measuring traditional, old-fashioned attitudes of rejection of homosexuality. The scale consists of 20 items distributed in two subscales: attitudes toward lesbians (ATL) and attitudes toward gay men (ATG). The response options indicate the level of agreement or disagreement with the items on a Likert-type scale from 1 for "completely disagree" to 5 for "completely agree". A higher score on the subscales indicated a greater degree of rejection toward lesbians and gay men. The Spanish adaptation of the scale by Cárdenas and Barrientos (2008) was used. The ATLG shows good internal consistency for the samples studied. In Spain, the Cronbach's alpha value for the whole scale is α =.90, for the ATL subscale α =.77, and for the ATG subscale α =.77, and for the ATL subscale α =.77, and for the ATL subscale α =.77, and for the ATL subscale α =.86.

Scale on Beliefs about Children's Adjustment in Same-Sex Families (SBCASSF, Frías-Navarro, 2009; Frías-Navarro & Monterde-i-Bort, 2012; Barrientos, Cárdenas, Gomez & Frías-Navarro, 2012). This instrument measures subjects' beliefs about the effects of the child-rearing and educational practices of same-sex parents on the psychological and social adjustment of their children. The SBCASSF consists of 14 items distributed in two subscales: Normative Opposition (NOp) and Individual Opposition (IOp). A Likert-type response scale is used that ranges from 1 "completely disagree" to 5 "completely agree". A higher score corresponds to a greater degree of rejection of the child-rearing and educational practices of same-sex parents. The Normative Opposition subscale (NOp) identifies beliefs and opinions linked to everyday heterosexism. The items on this subscale attribute to society, and not to the subject's own beliefs, the child's social rejection and, consequently, his or her maladjustment because of belonging to a family with same-sex parents. The Individual Opposition subscale (IOp) identifies opinions involving open and more aggressive rejection toward the effects of the child-rearing and educational practices of same-sex parents. The children's possible psychological difficulties and maladjustments are directly attributed to the sexual orientation of the same-sex parents. The total score on the SBCASSF and

the scores on the two subscales show a high internal consistency for the samples studied. In Spain, the Cronbach's alpha value for the whole scale is .94, for the Individual Opposition subscale α =.91, and for the Normative Opposition subscale α =.90. In Chile, the internal consistency values are also quite acceptable, with a Cronbach's alpha value for the whole scale of .94, for the Individual Opposition sub-scale α =.92, and for the Normative Opposition sub-scale α =.92, and for the Normative Opposition sub-scale α =.91.

Procedure

This study was part of cross-cultural research between Spain and Chile about group relations and attitudes toward different social groups. The participants were guaranteed anonymity in filling out the paper and pencil questionnaires. The questionnaires were filled out during class time, and the participants obtained extra credit in the Chilean sample, but not in the Spanish sample. Participation in the study was voluntary.

RESULTS

Following the recommendations of Curran, West, and Finch (1996), asymmetry values of 2 or more and kurtosis values of 7 or more are considered problematic. When the distribution of the variables approaches these values, normality is not assumed. The results of our analyses show that normality can be assumed for all scores on the measurement instruments utilized. Therefore, no adjustments were made to the scores on the variables measured in our study (Frías-Navarro, 2011). The eta-squared effect size statistic was used as a measure of the magnitude of differences (Monterde-i-Bort, Pascual-Llobell & Frías-Navarro, 2006; Navarro, Llobell & Pérez, 2000).

Relation among the variables

	ATL	ATG	Individual Opposition	Normative Opposition	Contact
ATG	0.83**				
Individual Opposition	0.75**	0.75**			
Normative Opposition	0.64**	0.69**	0.87**		
Contact	-0.41**	-0.43**	-0.38**	-0.32**	-
Participant Sex	-0.32**	-0.39**	-0.28**	-0.23**	0.27**
Nationality	-0.35**	-0.19**	-0.46**	-0.14**	0.22**
Mean	17.6	19.6	17.0	19.3	3.1
SD	7.59	9.19	8.25	7.46	1.55

Table 1. Means, standard deviations and correlations among the variables

**p<0.01. Participant Sex: men=1, women=2. Nationality: Chileans=1, Spanish=2.

First, the bivariate correlations are presented to obtain information about the relationship among the ATL, ATG, Individual Opposition, Normative Opposition and Contact subscales. The results appear in table 1, along with the means and standard deviations. The sex and nationality variables are related to the four dependent variables (ATL, ATG, IOp and NOp). Moreover, the contact variable also has a statistically significant relationship with the four subscales.

Attitudes toward gay men and lesbians: participants' sex and nationality

A two-factor between-subjects ANOVA was carried out on the ATG scores as a function of participants' sex (man or woman) and nationality (Spanish or Chilean).

Results indicated significant main effects for participant sex and nationality. Men's attitudes (*M*=24.8, *SD*=0.76) were more negative than women's (*M*=17.2, *SD*=0.47), $F_{(1, 467)}$ =73.02, p<.01, η^2 =0.14., and Chileans' attitudes (*M*=22, *SD*=0.53) were more negative than those of the Spaniards (*M*=20.1, *SD*=0.72), $F_{(1, 467)}$ =4.19, p=.04, η^2 =0.01. The participants' sex x nationality interaction was not statistically significant ($F_{(1, 467)}$ =2.06, p=.15, $\eta^2<0.01$).

Another two-factor between-subjects ANOVA was carried out on the ATL scores as a function of participants' sex (man or woman) and nationality (Spanish or Chilean). Results indicated significant main effects for participants' sex and nationality. Men's attitudes (M=20.3, SD=0.61) were more negative than women's (M=16, SD=0.38), $F_{(1, 472)}$ =36.8, p<.01, η^2 =0.07 and Chileans' attitudes (M=20.5, SD=0.43) were more negative than those of the Spaniards (M=15.7, SD=0.58), $F_{(1, 472)}$ =43.56, p<.01, η^2 =0.08. The participants' sex x nationality interaction was not statistically significant ($F_{(1, 472)}$ =0.03, p=.86, η^2 <0.01).

Attitudes toward children's adjustment in same-sex families: participants' sex and nationality

The participants' sex and participants' nationality variables have also been analyzed with the Scale on Beliefs about Children's Adjustment in Same-Sex Families (SBCASSF). A two-factor between-subjects ANOVA was carried out on the Individual Opposition scores as a function of participants' sex (man or woman) and nationality (Spanish or Chilean).

Results indicated significant main effects for participants' sex and nationality. Men's attitudes (*M*=18.9, *SD*=0.65) were more negative than women's (*M*=15.3, *SD*=0.39), $F_{(1, 481)}$ =23.42, p<.01, η^2 =0.05. Chileans' attitudes (*M*=20.6, *SD*=0.44) were more negative than those of the Spaniards (*M*=13.6, *SD*=0.62), $F_{(1, 481)}$ =84.77, p<.01, η^2 =0.15. The participants' sex x nationality interaction was not statistically significant ($F_{(1, 481)}$ =0.02, p=.89, η^2 <0.01). The study of the Normative Opposition subscale reveals results similar to those obtained with the Individual Opposition subscale and the ATLG scale. Men's attitudes (*M*=21.4, *SD*=0.66) were more negative than women's (*M*=18.1, *SD*=0.40), $F_{(1, 478)}$ =18.52, p<.01, η^2 =0.04. Chileans' attitudes (*M*=20.6, *SD*=0.45) were more negative than those of the Spaniards (*M*=19, *SD*=0.62), $F_{(1, 478)}$ =4.55, p=.03, η^2 =0.01. The participants' sex x nationality interaction was not statistically significant ($F_{(1, 478)}$ =0.12, p=.73, η^2 <0.01).

Mediation analysis: Contact with gay men and lesbians

As predicted, men's attitudes toward gay men and lesbians were more negative than women's, and Chileans were more anti-gay men and lesbians than Spaniards. Therefore, the anti-gay prejudice differs depending on the sex of the heterosexual participant as well as on the nationality.

The second objective of our study was to investigate whether the variable contact with a gay man and/or lesbian woman could explain the differences in anti-gay prejudice between heterosexual men and women and the differences between Spain and Chile. In other words, the degree of contact could explain the differences found due to the participants' sex (e.g., why men are more negative than women) and the differences based on culture or nationality (e.g., why Chileans are more negative than Spaniards) in the attitudes toward gay men and lesbians and same-sex parents. As mentioned above, no statistically significant interaction effects were found in any of the ANOVA models carried out. Therefore, we propose a mediational model with the contact variable as the mediator in the relationship between sex and sexual prejudice and between nationality and sexual prejudice. Specifically, this model was tested with each of the four dependent or criterion variables (ATL, ATG, IOp, NOp), and the variables sex and nationality were used as independent or predictor variables.

Mediation analysis is accomplished in four steps (Baron & Kenny, 1986; Judd & Kenny, 1981; MacKinnon & Dwyer, 1993). Baron and Kenny (1986) proposed a four-step approach in which several regression analyses are conducted, and the statistical significance of the coefficients is examined in each step. The first step is to determine the statistically significant effect of the predictor variables (sex, A, and nationality, B) on the dependent or criterion variable (sexual prejudice: ATL, ATG, IOp, NOp) in the absence of the mediator. (This step corresponds to line 'a' in figure 1). If there is no direct effect of A on C, then there is no relationship to mediate. The second step is to determine the statistically significant effect of the predictor variables on the mediator (contact variable, C). (This step corresponds to line 'b' in figure 1). If the independent variable does not reliably affect the mediator, the mediator cannot be responsible for the relationship observed between the predictor variable and the dependent variable. In the

third step, the effect of the mediator on the dependent variable is determined, with the effect being statistically significant (line 'c' in figure 1).



Lastly, if the relationship between the predictor variables and the dependent variable disappears or becomes weaker when the mediator is introduced in the prediction model, a mediation effect of the contact variable will have been detected. To meet the criteria for full mediation, the relationship between the independent and dependent variables must be non-significant when the mediator is entered into the model.

To test the reduction in the relationship between the predictor variable and the dependent variable when the effect of the mediator variable is controlled, the Sobel Test can be performed (Sobel Test, 1982, see Baron & Kenny, 1986). If the results of this test are statistically significant, the indirect effect of the mediator variable is shown.



Figure 2. Simple mediation models with the contact variable as mediator and sex as predictor

Correlations coefficients. Coefficients in parentheses represent parameters estimates for a regression model containing both predictors. *p<0.05, **p<0.01.

The results of the eight models with the mediator variable of contact with a gay man or lesbian reveal that this variable does have a mediating function in the relationships with the scores on the ATL, ATG, Individual Opposition and Normative Opposition. In all cases, there was a partial mediation effect, except in the case of the

normative opposition variable and nationality, where the mediation was full. The four mediation models for the independent variable sex are represented in figure 2, which shows the standardized coefficients associated with these analyses. Figure 3 represents the four models for the independent variable of nationality.



Figure 3. Simple mediation models with the contact variable as mediator and nationality as predictor

Correlations coefficients. Coefficients in parentheses represent parameters estimates for a regression model containing both predictors. *p<0.05, **p<0.01.

In figures 2 and 3 show the results of the mediation model related to the dependent variable ATL, revealing that: 1) The predictor variables, participants' sex and nationality maintain a statistically significant relationship with the ATL variable. 2) The relationships between the predictor variables and the mediating contact variable for participants' sex and nationality are statistically significant. 3) The contact variable maintains a negative relationship with the dependent variable ATL. 4) When the two predictor variables, sex and nationality, are introduced in the regression analysis together with the mediator variable, the beta effects diminish in both variables, although they continue to be statistically significant. This is a partial mediation effect, where the contact variable partially mediates in the association between the sex and nationality variables and sexual prejudice toward lesbians. The Sobel Test shows a partial mediation effect for the two independent variables (for sex: Sobel z-value=6.45, p<0.01; for nationality: Sobel z-value=6.57, p<0.01).

Figures 2 and 3 represent the results of the mediation model of the contact variable and the dependent variable ATG. The results with the variable ATG are similar to those obtained with the ATL subscale on the participants' sex variable, with partial mediation. It can be observed that: 1) The predictor variables, sex and nationality of the participants maintain a statistically significant relationship with the ATG variable. 2)

The relationship has been shown between the predictor variables and the mediational variable for participants' sex. The contact variable maintains a negative relationship with the dependent variable ATG. When the two predictor variables are introduced in the regression analysis together with the mediation variable, the results with the ATG variables are similar to those obtained with the ATL subscale, producing a partial mediation effect. The Sobel Test shows a partial mediation effect for the two independent variables (for sex: Sobel z-value=6.46, p<0.01; for nationality: Sobel z-value=6.92, p<0.01).

Figures 2 and 3 represent the mediational analysis with the Normative Opposition and Normative Opposition subscales of the SBCASSF. In the case of the Individual Opposition subscale the results show that 1) The effects of the participants' sex and nationality are statistically significant. 2) The predictor variables are related in a statistically significant way to the contact mediator variable. 3) The contact variable maintains a negative relationship with the dependent variable Individual Opposition. 4) When the two predictor variables are introduced in the regression analyses together with the mediation variable, a partial mediation effect is observed. The Sobel Test shows a partial mediation effect (for sex: Sobel z-value=5.88, p<0.01; for nationality: Sobel z-value=5.79, p<0.01).

In the case of the Normative Opposition subscale a mediation effect of the contact variable was revealed. 1) The results show statistically significant effects of participants' sex and nationality. 2) The predictor variables are related in a statistically significant way to the contact mediator variable. 3) The contact variable maintains a negative relationship with the dependent variable Normative Opposition. 4) Again, when the two predictor variables are introduced in the regression analysis together with the mediation variable, the beta effects diminish in the case of participants' sex (partial mediation) and they disappear in the case of nationality. Therefore, the relationship between the nationality variable and the scores on Normative Opposition are fully mediated by the variable contact with gay men and/or lesbians. The Sobel Test shows a partial mediation effect (for sex: Sobel z-value=4.78, p<0.01; for nationality: Sobel z-value=5.02, p<0.01).

DISCUSSION

The primary goal of this study was to test the extent to which contact with people with a homosexual sexual orientation mediates the relationship between sex and nationality and attitudes toward gay men and lesbians and toward same-sex parenting. Overall, the hypothesized model provided a partial fit to the data and support for the contention that contact mediates the effects of sex and nationality on attitudes.

As expected, in the first place, heterosexual men obtain higher scores than heterosexual women on the sexual prejudice variable, showing greater sexual prejudice and greater rejection of same-sex parents. Second, the Chilean participants have a greater degree of sexual prejudice and rejection of same-sex parents than the Spanish participants.

Furthermore, and most importantly, the results provide support for the proposed model, in which the contact variable mediates in the relationship between the sex variable and the variables of sexual prejudice (ATG, ATL) and rejection of same-sex parents (IOp and NOp). Likewise, the contact variable also mediates in the relationship between the nationality variable and the four dependent variables examined.

The results of our study point out that there was evidence of partial mediation of the association between sex and ATL, ATG Individual Opposition and Normative Opposition. Moreover, the findings also showed the partial mediation of the contact variable and the nationality variable on ATL, ATG and Individual Opposition, with the mediation being full in the case of the Normative Opposition variable. Therefore, a portion of the direct relationships between the participants' sex and nationality variables and the four criterion variables in our study can be explained by the variable contact (mediator) with people who manifest a homosexual sexual orientation.

A number of limitations should be noted regarding the interpretation and generalizability of the results of this study. First, the non-random nature of the sample means that careful interpretation of the results is essential. Because this is a convenience undergraduate sample, its validity and generalization capacity are seriously limited. Future studies should support these findings by using a random sample.

The cross-sectional design was a major limitation of the study, as it limited our ability to draw causal conclusions.

Findings of this study may have important implications for reducing sexual prejudice. Knowing, interacting and fostering relationships between the members of the outgroup and the ingroup can reduce differences due to sex and nationality. The contact variable has a mediator effect on the predictor variables sex and nationality with regard to the prejudice toward people with a homosexual sexual orientation and same-sex parents. The mediation effect is full in the case of the normative valuation that the heterosexual participants make of same-sex parents. This subscale operationalizes the construct of heterosexism toward families with same-sex parents, and it is quite difficult to intervene in this social construct to reduce the prejudice.

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