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Homophobia in physical education and sport: The role of physical/sporting identity and attributes, authoritarian aggression, and social dominance orientation

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We examined levels of, and reasons for, anti-gay and anti-lesbian prejudice (homophobia) in pre-service physical education (PE) and non-physical education (non-PE) university students. Participants ($N = 409$; 66% female; $N = 199$ pre-service physical educators) completed questionnaires assessing anti-gay and lesbian prejudice, authoritarianism, social dominance orientation (SDO), physical/athletic identity and self-concept, and physical attributes. ANCOVAs revealed that PE students had higher levels of anti-gay ($p = .004$) and lesbian prejudice than non-PE students ($p = .008$), respectively. Males reported greater anti-gay prejudice ($p < .001$), but not anti-lesbian prejudice, than females. Authoritarian aggression was positively associated with greater anti-gay ($\beta = .49$) and lesbian prejudice ($\beta = .37$) among male participants. Among females, higher authoritarian aggression and SDO was associated with greater anti-gay ($\beta = .34$ and $\beta = .25$, respectively) and lesbian ($\beta = .26$ and $\beta = .16$, respectively) prejudice. The physical identity-related constructs of athletic self-concept ($\beta = -.15$) and perceived upper body strength ($\beta = .39$) were associated with anti-gay attitudes among male participants. Physical attractiveness ($\beta = -.29$) and upper body strength ($\beta = .29$) were also associated with male participants' anti-lesbian prejudice. Regression analyses showed that the differences between PE and non-PE students in anti-gay and lesbian prejudice were largely mediated by authoritarianism and SDO. The present study is the first to examine the relationship between investment in physical/sporting identity and attributes and anti-gay and lesbian prejudice in PE/sport participants. In the present sample, anti-gay and lesbian prejudice was greater in pre-service PE students than non-PE students, but these differences appear to be explained by differences in conservative ideological traits. Additionally, physical identity and athletic attributes based around masculine ideals also appear to contribute to this prejudice in males.

Keywords: Homophobia; Sport; Body image; Physical education; Authoritarianism.

Nous avons examiné les niveaux et les raisons des préjugés anti-gais et anti-lesbiennes (homophobie) chez des étudiants universitaires inscrits dans un programme d'éducation physique (EP) et dans d'autres programmes que l'éducation physique (non-EP). Les participants ($N = 409$; 66% femmes; $N = 199$ EP) ont complété des questionnaires évaluant les préjugés anti-gais et anti-lesbiennes, l'autoritarisme, l'orientation de dominance sociale (ODS), l'identité et le concept de soi liés aux aspects physiques/athlétiques, et les attributs physiques. Des ANCOVAs ont révélé que les étudiants EP avaient des niveaux de préjugés anti-gais et anti-lesbiennes plus élevés que les étudiants non-EP ($p = 0,004$ et $p = 0,008$, respectivement). Les hommes ont rapporté des préjugés anti-gais plus forts que les femmes ($p < 0,001$), ce qui n'était pas le cas pour les préjugés anti-lesbiennes. L'agression autoritaire était positivement associée à plus de préjugés anti-gais ($\beta = 0,49$) et de préjugés anti-lesbiennes ($\beta = 0,37$) chez tous les participants. Parmi les femmes, une agression autoritaire et une ODS plus élevées étaient associées à des préjugés anti-gais plus élevés ($\beta = 0,34$ et $\beta = 0,25$, respectivement) et à des préjugés anti-lesbiennes plus élevés ($\beta = 0,26$ et $\beta = 0,16$, respectivement). Les construits liés à l'identité physique du concept de soi athlétique ($\beta = -0,15$) et de la force du haut du corps perçue ($\beta = 0,39$) étaient associés

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aux attitudes anti-gaïes chez les hommes. L'attraction physique ($\beta = -0,29$) et la force du haut du corps ($\beta = 0,29$) étaient aussi associées aux préjugés anti-lesbiennes chez les hommes. Des analyses de régression ont montré que les différences dans les préjugés anti-gaïes et anti-lesbiennes entre les étudiants EP et non-EP étaient affectées par l'effet médiateur de l'autoritarisme et de l'ODS. La présente étude est la première à examiner la relation entre l'investissement dans les attributs et l'identité physique/sportive et les préjugés anti-gaïes et anti-lesbiennes chez les participants EP/sportifs. Dans la présente étude, les préjugés anti-gaïes et anti-lesbiennes étaient plus élevés chez les étudiants EP que chez les étudiants non-EP, mais ces différences paraissent être expliquées par les différences dans les traits idéologiques conservateurs. De plus, l'identité physique et les attributs athlétiques basés sur les idéaux masculins semblent aussi contribuer à ces préjugés chez les hommes.

Examinamos los niveles, y razones, del prejuicio antigay y antilésbico (homofobia) en estudiantes universitarios de preservicio en educación física (PE) y educación no física (non-PE). Los participantes ($N=409$; 66% mujeres; $N=199$ educadores físicos de preservicio) completaron cuestionarios que evaluaban prejuicio antigay y lésbico, autoritarismo, orientación a la dominancia social (SDO), identidad y autoconcepto físicos/atléticos, y atributos físicos. Los ANCOVAs revelaron que los estudiantes de PE tuvieron mayores niveles de prejuicio antigay ($p = .004$) y lésbico ($p = .008$) que los estudiantes de non-PE, respectivamente. Los varones informaron mayor prejuicio antigay ($p < .001$), pero no prejuicio antilésbico, que las mujeres. La agresión autoritaria se asoció positivamente con mayor prejuicio antigay ($\beta = .49$) y lésbico ($\beta = .37$) entre los participantes varones. Entre las mujeres, una mayor agresión autoritaria y SDO se asoció con mayor prejuicio antigay ($\beta = .34$ y $\beta = .25$, respectivamente) y lésbico ($\beta = .26$ y $\beta = .16$, respectivamente). El autoconcepto atlético ($\beta = .15$) y la fuerza percibida en la parte superior del cuerpo ($\beta = .39$), constructos relacionados con la identidad física, se asociaron con actitudes antigay entre los participantes varones. El atractivo físico ($\beta = .29$) y la fuerza en la parte superior del cuerpo ($\beta = .29$) también se asociaron con el prejuicio antilésbico de los participantes varones. Los análisis de regresión mostraron que el autoritarismo y la SDO mediaron ampliamente las diferencias en prejuicio antigay y lésbico entre los estudiantes de PE y los de non-PE. El presente estudio es el primero en examinar la relación entre la dedicación a la identidad y atributos físicos/deportivos, y el prejuicio antigay y lésbico en participantes de PE/deporte. En la presente muestra, el prejuicio antigay y lésbico fue mayor en los estudiantes de preservicio de PE que en los de non-PE, pero diferencias en rasgos ideológicos conservadores parecen explicar estas diferencias en prejuicio. Adicionalmente, la identidad física y los atributos atléticos basados en los ideales masculinos también parecen contribuir a este prejuicio en los varones.

Prejudice against gays and lesbians (homophobia) pervades numerous life settings including sport and physical education (Gill, Morrow, Collins, Lucey, & Schultz, 2006; Morrow & Gill, 2003). University settings, which typically have strong egalitarian views and antidiscrimination policies, are not immune to the problem of homophobia. One Australian study found that approximately 30% of health care students said they would feel uncomfortable working with gays and lesbians (Jones, Pynor, Weerakoon, & Sullivan, 2002).

Homophobia appears even more pronounced in university sport, exercise, and physical education settings (Gill et al., 2006). Surprisingly, some sociologists argue that homophobia is dissipating, or has completely dissipated in sport (see Anderson, 2011). However, this work ignores social research showing that subtle forms of prejudice have merely supplanted the more blatant (old-fashioned) forms, and goes against other evidence. For example, research from Canada in a large ($N=1501$) random population sample found that 61% agreed or strongly agreed that sport was not a welcoming environment for homosexual men (Leger Marketing, 2010).

Additionally, the relative absence of openly gay and lesbian athletes in sport, and recent efforts of national sporting bodies to reduce anti-gay sentiment (e.g., Australian Sports Commissions), suggest that homophobia continues in athletic and sport settings. Further, the theme of the 2010 International Day against Homophobia (Homophobiaday.org) was "Speaking about Silence: Homophobia in the sports world." Clearly, there is need for quantitative work exploring whether homophobic attitudes are prevalent in sport and physical education populations, and what psychological variables explain the presence of such attitudes (Gill et al., 2006).

The handful of quantitative studies conducted in university sport science and physical education programs suggest that participants in these settings may have high levels of anti-gay and anti-lesbian attitudes. Gill et al. (2006), for instance, found that exercise and sport science students viewed gay men and lesbians less positively than other targets for discrimination (i.e., four non-European ethnic groups, elderly people, disabled people). Since heterosexual masculinity is expressed and reinforced through displays of physical strength,

sporting ability, and body appearance; and heterosexual masculinity is in turn posited as a driver of homophobia (Robertson, 2003); it seems logical that high levels of homophobia would exist in sport and physical education programs (Morrow & Gill, 2003). Indeed, gay men are viewed as the antithesis of heterosexual physical and sporting ideals, and stereotyped as walking and talking in a physically effeminate way, and looking physically effeminate (Herek, 1988; Messner, 1992).

Lesbians are also seen to contravene the “accepted” physical ideal for their gender, but for different reasons. Lesbians, particularly those involved in sports, are frequently stereotyped as muscular, tough, manlike, and thus posing a threat to heterosexual females because they do not adhere to idealized feminine appearance and behavior. Lesbians may also threaten male physical identity and body esteem through their stereotyped physical characteristics (e.g., butch, muscular, sporty, and perceived physical dominance over other females), which are considered the domain of males and lending themselves to the reinforcement of masculinity, and physical dominance over females (Parrott, Adams, & Zeichner, 2002).

Like other forms of bias (e.g., racism, weight), homophobia appears to be associated with conservative ideologies and personality traits such as authoritarianism and social dominance orientation (SDO; Pratto, Sidanius, & Levin, 2006). People with authoritarian personalities tend to desire a social and normative structure that guides their social behavior, are submissive to these norms and structures, and are aggressive and discriminatory toward those who are not (Stones, 2006). For example, Herek (1991) found that anti-gay and anti-lesbian attitudes were associated with right-wing authoritarianism, or the belief in strong moral values and the rule of law. SDO generally refers to “the motivation that is assumed to drive people’s tendency to adopt certain beliefs, attitudes or values” (Pratto et al., 2006), and, as a personality trait, to the tendency to support social hierarchies. People with high SDO see their own group as superior to and dominant over other relevant groups. However, a test of the relationship between both SDO and authoritarianism on one hand and anti-gay prejudice on the other found authoritarianism to be the stronger predictor of prejudice (Stones, 2006).

There is, however, little quantitative research on other psychological origins of homophobia in sport-related samples to complement qualitative work in the sociological field (e.g., Gill et al., 2006). Because heterosexual masculinity and

physical identity are defined by physical attributes such as strength, ability, and appearance, and, femininity is idealized through physical appearance and behavior (e.g., soft, pretty, slim; Gallup & Frederick, 2010), it seems important to explore relationships between physical/sporting identity and athletic self-concept related constructs and homophobia. This is particularly important in populations heavily invested in physical attributes and social identities, and where homophobia appears strong (i.e., physical education and sport science programs).

The high levels of anti-gay and anti-lesbian sentiment found in physical education and sport-related settings may be due to contextual influences that enhance/support the expression of homophobia. Social identity theory (SIT; Tajfel & Turner, 1986) and associated work on group socialization (Hunter et al., 2004; Sechrist & Stangor, 2001) suggests that negative beliefs about certain groups may be learned (or over-learned) over time when one is placed in a group of like-minded individuals (Dambrun, Guimond, & Duarte, 2002). Importantly, displays of prejudice against those seen as a threat to one’s identity enhance group-relevant domains of identity and self-esteem/self-concept (Hunter et al., 2005; O’Brien et al., 2009). Similarly, homophobia has been found to vary between academic disciplines, with art and social science students more accepting of homosexuality than students in business and law majors (Schellenberg, Hirt, & Sears, 1999). Thus, individuals who identify strongly as members of a physically oriented group (e.g., physical education/sport science), place a high value on physical attributes, abilities, and appearance (e.g., strength, skill), or have more conservative ideologies, may hold more negative beliefs and attitudes (prejudice) toward those who have attributes or behaviors seen as deviant from their own (i.e., gays and lesbians).

Theoretically, and consistent with previous research, one might expect there to be differences between genders, age groups, and academic disciplines in levels of SDO and authoritarianism, and these factors should be related to anti-gay and lesbian prejudice (Pratto et al., 2006). However, the role of physical/sporting psychological identity and physical self-concept have not been examined in relation to anti-gay and lesbian prejudice; nor have constructs related to assessment of one’s own physical characteristics/attributes as they pertain to masculine and feminine ideals.

This study sought, first, to address the paucity of quantitative work examining anti-gay and lesbian prejudice in physical education and sport

settings, and, second, to examine the role of established psychological constructs (SDO, authoritarianism). We expected that PE students and men would have higher levels of anti-gay and lesbian prejudice than non-PE students and women. We also expected SDO and authoritarianism to be predictors of both anti-gay and anti-lesbian prejudice. We sought to establish whether physical identity-related factors that are central to masculine sports and culture, physical/athletic identity and investment, and self-evaluated physical/athletic abilities/attributes are also related to anti-gay and anti-lesbian prejudice. Given the valuation of masculine physical attributes and abilities in sport, and the vilification of those stereotyped as not adhering to such ideals, we expected anti-gay, and potentially anti-lesbian, attitudes to be related to physical/sport identity and investment, and self-evaluated physical/athletic attributes.

METHODS

Participants

Four hundred and nine New Zealand university students (mean age 20.7 years, $SD=3.2$; 95.4% Caucasian) participated in the study. One hundred and ninety-nine of the participants were pre-service physical education students completing a restricted entry four year professional degree program (PE; female=106, 53%). A matched sample (age, gender, academic status) of 210 non-physical education (non-PE) students enrolled in psychology, education, business, and biology courses (female=163, 77%) also participated in the study. Sixty-five percent of PE students were elite-level athletes (national or international competitors), with the remaining (35%) being senior-level athletes. None of the non-PE students identified themselves as elite athletes, but approximately 10% reported playing senior sport.

Measures

A paper and pencil questionnaire was used to gather demographic details (gender, age) and to measure anti-gay and lesbian prejudice and associated predictors. A number of filler scales not germane to the present study (e.g., on cognition, substance abuse, nutrition) were included to conceal the nature of the study.

Authoritarianism

Authoritarianism was measured using Zakrisson's (2005) four-item authoritarian aggression scale. A nine-point Likert scale was used to assess agreement (1 = very strongly disagree, 9 = very strongly agree) with items (e.g., "If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within"). In the present study Cronbach's alpha for the scale (.75) was acceptable. Higher scores indicate greater authoritarian aggression.

SDO

The 14-item Social Dominance Orientation Scale (Sidanius & Pratto, 1999) was used to measure participants' beliefs in the superiority and dominance of oneself and ingroup members over other groups. A nine-point Likert scale was used to indicate participant agreement (1 = very strongly disagree, 9 = very strongly agree) with statements such as "Some people are just inferior to others" (Cronbach's alpha = .86). Higher scores indicate greater SDO.

Physical/Sporting identity and self-concept

To assess the level of importance of physical/sporting identity to the self, participants were asked, "How important is the following attribute/ability to you? physical/sporting." Participants used seven-point Likert scales to indicate importance (1 = unimportant, 7 = important). Athletic self-concept was measured with the Self-Description Questionnaire III (Marsh, 1986). An eight-point Likert scale (1 = definitely false, 8 = definitely true) recorded responses to items such as "I am a good athlete." Here we used the single-item version of the scale, which has been shown to retain the same exceptional psychometric qualities as the full SDQ III, with item correlations ranging between $r=.83$ and $.90$ and test-retest reliability of $.71$ to $.80$ for single items (Marsh, 1986).

Self-evaluation of physical attributes

The Body Esteem Scale (Franzoi & Shields, 1984) is a 35-item measure that assesses participants' feelings toward their body, physical abilities, and attributes. The scale has three female subscales (sexual attractiveness, weight concern, and physical condition) and three male subscales (physical

attractiveness, upper body strength, and physical condition). Participants indicated their feelings toward specific body parts, functions, and abilities using a five-point Likert scale (1 = strong negative feelings, 5 = strong positive feelings). Higher scores indicate greater satisfaction with the respective physical characteristics. Cronbach's alphas ranged from .78 to .88.

Anti-gay and anti-lesbian prejudice (homophobia)

The 10-item Attitudes toward Lesbians and Gays scale (Herek, 1988) assessed prejudice towards lesbians (five items) and gays (five items). The measure uses a nine-point Likert scale to indicate agreement (1 = strongly disagree to 9 = strongly agree) with statements such as "Lesbians are sick" and "Male homosexuality is a perversion." Cronbach's alpha was .79 for the anti-lesbian scale and .87 for the anti-gay scale. Higher scores represent greater prejudice.

Procedure

The nature of the study was concealed in order to avoid self-selection bias; instead, the study was advertised as an ongoing survey of general perceptions and beliefs about psychological and social issues in subpopulations of university students. Questionnaires were administered to participants in groups of 20–40 while seated 1.5 m apart in teaching room settings. Institutional Review Board ethical approval was obtained for the study.

Statistical analysis

We conducted 2 (males/females) \times 2 (PE vs. Non-PE) ANCOVAs, controlling for age, to assess differences in anti-lesbian and anti-gay prejudice. Paired *t*-tests were also conducted to assess cell differences. Because the Body Esteem Scale has different subscales for males and females, separate regression analyses were conducted for male and female participants. Age and academic program (PE vs. Non-PE) were entered in the first block. Authoritarian aggression and SDO were added in the second block; the importance of physical/sporting attributes and athletic self-concept, and evaluation of physical attributes (e.g., upper body strength) were entered in a final block. Statistical significance was set at the .05 level for *p* values.

RESULTS

Anti-gay and lesbian prejudice

Anti-gay prejudice was greater than anti-lesbian prejudice, 17.76, *SD* = 10.24 vs. 15.01, *SD* = 7.81; $t(393) = 7.03$, $p < .001$. A 2 (males vs. females) \times 2 (PE vs. Non-PE) ANCOVA demonstrated that PE students had significantly higher levels of anti-lesbian prejudice than non-PE students, 16.20, *SD* = 7.59 vs. 13.98, *SD* = 7.93, $F(3, 396) = 7.07$, $p = .008$. PE students also reported significantly greater anti-gay prejudice than non-PE students, 19.89, *SD* = 10.02 vs. 15.94, *SD* = 10.06; $F(3, 396) = 8.38$, $p = .004$. Males reported greater anti-gay prejudice than females, males = 21.17, *SD* = 10.70 vs. females = 16.14, *SD* = 9.43; $F(3, 396) = 16.67$, $p < .001$, and there were no significant gender differences in anti-lesbian prejudice, males = 14.63, *SD* = 7.51, females = 15.24, *SD* = 8.00; $F(3, 396) = 1.16$, $p = .28$. There were no significant interaction effects.

Predictors of anti-gay and anti-lesbian prejudice

Table 1 gives the cell means, standard deviations, and significance levels for differences between males and females in the PE and non-PE student samples for predictor variables and prejudice. There were no significant differences between gender and academic majors in authoritarian aggression, but men reported higher SDO than women, males = 52.98, *SD* = 16.79 vs. females = 47.37, *SD* = 16.64; $F(2, 396) = 10.39$, $p < .001$. PE students rated physical/sporting identity as significantly more important than non-PE students. Surprisingly, PE students had lower athletic self-concept than non-PE students.

There was no significant difference between male PE and male non-PE students in body esteem subscales; however, the difference for upper body strength approached significance ($P = 0.07$), with PE males trending towards higher satisfaction with upper body strength. Female PE students reported less satisfaction with their sexual attractiveness, $F(1, 264) = 2.81$, $p = .029$, but greater satisfaction with physical condition, $F(1, 264) = 15.99$, $p < .001$.

Hierarchical regression analyses for male participants (Table 2) showed that the first model (block) accounted (adjusted R^2) for 5.1% and 3.0% of the variance; the second model, 30.3% and 18.5%; and the final model with physical identity and physical attribute evaluations entered,

TABLE 1
Means (SD) for anti-gay and anti-lesbian prejudice and variables for male and female PE and non-PE students

	Males				Females				
Predictors	Male PE		Non-PE		PE		Non-PE		p value
Anti-gay prejudice	22.9 ^a	(10.3)	17.9 ^b	(11.5)	17.3 ^b	(9.1)	15.4 ^b	(9.6)	.001
Anti-lesbian prejudice	15.6 ^{ab}	(7.0)	12.9 ^a	(8.0)	16.7 ^b	(7.9)	14.3 ^{ab}	(7.9)	.019
Authoritarian aggression	18.4 ^{ab}	(5.8)	17.2 ^a	(7.0)	19.7 ^b	(5.6)	17.9 ^{ab}	(6.1)	.042
SDO	52.8 ^a	(17.1)	53.3 ^a	(16.3)	47.8 ^b	(14.7)	47.1 ^b	(17.8)	.016
Physical/sporting identity	5.5 ^a	(1.3)	2.8 ^b	(1.5)	5.5 ^a	(1.4)	2.8 ^b	(1.3)	.001
Athletic self-concept	4.5	(2.1)	5.1	(2.4)	4.3	(2.1)	4.6	(2.2)	.17
Physical attractiveness (males)	38.7	(7.2)	38.9	(6.2)					.92
Upper body strength (males)	33.3	(6.4)	31.2	(6.7)					.07
Physical condition (males)	46.7	(9.3)	47.7	(9.1)					.54
Sexual attractiveness (females)					42.8 ^a	(7.2)	44.5 ^b	(6.0)	.04
Weight concern (females)					27.1	(8.2)	26.7	(8.6)	.73
Physical condition (females)					32.6 ^a	(6.2)	29.3 ^b	(6.2)	.001

Within rows, mean scores with different superscript letters are different at $p < 0.05$ level.

TABLE 2
Hierarchical multiple regression analyses for prediction of male participants' anti-gay and anti-lesbian prejudice

Predictor	Anti-gay attitude				Anti-lesbian attitudes			
	<i>B</i>	<i>SE B</i>	β	<i>p</i>	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<i>Block 1</i>								
Age	-0.24	0.22	-0.10	0.28	-0.14	0.15	-0.09	0.34
PE (1) vs. Non-PE students (0)	5.07	2.04	0.22	0.01	2.05	1.41	0.13	0.15
<i>Block 2</i>								
Age	-0.06	0.22	-0.03	0.76	-0.04	0.14	-0.03	0.76
PE vs. Non-PE	3.86	1.75	0.17	0.03	1.36	1.29	0.09	0.30
Authoritarian aggression	0.84	0.14	0.48	0.001	0.47	0.10	0.39	0.001
SDO	0.10	0.05	0.14	0.06	0.07	0.04	0.14	0.08
<i>Block 3</i>								
Age	0.02	0.19	0.01	0.91	-0.05	-0.14	-0.03	0.74
PE vs. Non-PE	-0.07	2.35	-0.01	0.97	1.50	1.77	0.10	0.40
Authoritarian aggression	0.87	0.13	0.49	0.001	0.48	0.10	0.37	0.001
SDO	0.08	0.05	0.12	0.10	0.06	0.04	0.12	0.14
Physical/Sporting identity	0.76	0.61	0.13	0.22	-0.34	-0.46	-0.10	0.46
Athletic self-concept	-0.11	0.06	-0.15	0.04	-0.03	-0.04	-0.06	0.46
Physical attractiveness	-0.19	0.16	-0.12	0.23	-0.31	-0.12	-0.29	0.01
Upper body strength	0.63	0.21	0.39	0.004	0.33	0.16	0.29	0.04
Physical condition	-0.18	0.14	-0.16	0.20	-0.01	0.11	0.01	0.93

B = unstandardised coefficients, *SE B* = standard error, β = standardized coefficient.

36.5% and 21.6% of the variance in anti-gay and anti-lesbian prejudice, respectively. The regression models for female participants (Table 3) showed that the first model (block) accounted for 1.0% and 1.5% of the variance; the second model, 19.6% and 11.4%; and the final model with physical identity and physical attribute evaluations entered, 20.3% and 11.1% of the variance in anti-gay and anti-lesbian prejudice, respectively.

Although academic major (PE vs. non-PE) was a significant predictor in the first model for male

participants' anti-gay prejudice (Table 2), the result became nonsignificant with the entry of SDO and authoritarian aggression. In the final model, authoritarian aggression was positively related to anti-gay and anti-lesbian prejudice, whereas SDO was not. Additionally, athletic self-concept was negatively related to anti-gay prejudice. That is, as athletic self-concept decreased, anti-gay prejudice increased. Lower self-ratings of males' physical attractiveness were associated with greater anti-lesbian prejudice. Finally, higher

TABLE 3
Hierarchical multiple regression analyses for prediction of female participants' anti-gay and anti-lesbian prejudice

Predictor	Anti-gay attitudes (<i>n</i> = 140)				Anti-lesbian attitudes (<i>n</i> = 140)			
	<i>B</i>	<i>SE B</i>	β	<i>p</i>	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<i>Step 1</i>								
Age	-0.32	0.26	-0.08	0.23	-0.34	0.23	-0.10	0.13
PE (1) vs. Non-PE students (0)	1.55	1.24	0.08	0.21	1.6	1.05	0.10	0.11
<i>Step 2</i>								
Age	0.08	0.25	0.02	0.74	-0.08	0.22	-0.02	0.71
PE vs. Non-PE	0.91	1.12	0.05	0.42	1.23	1.00	0.08	0.22
Authoritarian aggression	0.52	0.09	0.34	0.001	0.34	0.09	0.25	0.001
SDO	0.13	0.03	0.2	0.001	0.08	0.03	0.17	0.005
<i>Step 3</i>								
Age	0.05	0.24	0.01	0.84	-0.10	0.22	-0.03	0.64
PE vs. Non-PE	1.10	1.56	0.05	0.95	0.76	1.40	0.05	0.60
Authoritarian aggression	0.53	0.09	0.34	0.001	0.36	0.09	0.26	0.001
SDO	0.14	0.03	0.25	0.001	0.07	0.03	0.16	0.01
Physical/Sporting identity	0.26	0.40	0.05	0.52	0.31	0.36	0.07	0.39
Athletic self-concept	-0.05	0.04	-0.08	0.14	-0.15	0.03	-0.03	0.64
Sexual attractiveness	-0.13	0.09	-0.09	0.18	-0.01	0.09	-0.01	0.88
Weight concern	0.08	0.07	0.07	0.25	0.08	0.07	0.09	0.22
Physical condition	-0.10	0.11	-0.07	0.35	-0.15	0.10	-0.12	0.13

B = unstandardized coefficients, *SE B* = unstandardized coefficients standard error, β = standardized coefficient.

self-evaluation of participants' upper body strength was associated with greater anti-gay and anti-lesbian prejudice.

Academic major was not a significant predictor of females' anti-gay or anti-lesbian prejudice (Table 3). After accounting for all other variables, only authoritarianism and SDO remained significant predictors of anti-gay and anti-lesbian prejudice, with higher scores on these conservative personality traits related to greater prejudice.

DISCUSSION

There is a paucity of quantitative research on anti-gay and anti-lesbian prejudice and its underpinnings in sport and physical education settings. The present exploratory study sought to address this gap. As hypothesized, anti-gay and anti-lesbian prejudice was greater in PE students than non-PE students, and males had greater anti-gay, but not anti-lesbian, prejudice than females. However, after accounting for differences in SDO and authoritarian aggression in regression models, differences between PE and non-PE participants were not significant.

Consistent with previous research in nonathlete samples (Herek, 1991; Pratto et al., 2006), authoritarianism and SDO were related to higher levels of anti-gay and anti-lesbian prejudice. We also examined, for the first time, the relationship

between athletic identity and self-concept, and whether evaluations of one's own physical identity and attributes that reflect stereotypically masculine and feminine ideals also predicted anti-gay and anti-lesbian prejudice. In male participants, athletic self-concept and upper body strength were also related to anti-gay prejudice. The finding that physical/sporting attributes and identities are related to higher homophobia is consistent with suggestions that homophobia is closely linked with physical characteristics central to masculinity and males, rather than femininity and females (Robertson, 2003).

The findings are also consistent with SIT (Tajfel & Turner, 1986). Athletes and physical educators are strongly invested in physical and sporting attributes and associated masculine characteristics. Both gays and lesbians contravene and threaten the idealized masculine physical characteristics and attributes that athletes represent and value (Robertson, 2003). As such, these threats to the masculine and physical ideals of sport may result in prejudice (Hunter et al., 2005; Parrott et al., 2002). Indeed, it is worth suggesting that males' satisfaction with upper body strength, associated here with anti-gay and anti-lesbian prejudice, may act as a surrogate for self-perceived masculinity. Theorists have also posited that displays of masculinity and expectations that males fulfil cultural norms of masculinity support anti-gay prejudice (Messner, 1992). Because upper body

strength is a valued physical attribute in sportsmen, and indeed a symbol of masculinity in males generally, those who violate stereotyped masculine ideals (i.e., gays) may be worthy of sanction and vilification by those holding strong masculine ideals and identity. The relationship between upper body strength and anti-lesbian prejudice could also be explained via threat-based reasoning. Lesbians are stereotyped as possessing more masculine than feminine attributes, and it may be that lesbians are viewed as a threat to men's masculinity (Parrott et al., 2002). Additionally, the relationship between males' physical attractiveness and anti-lesbian prejudice suggests that men who have a high investment in personal appearance may dislike lesbians because they stereotypically contravene feminine appearance ideals.

Although the role of social dominance and authoritarianism in homophobia has been previously studied in nonsporting samples (Herek, 1991; Pratto et al., 2006; Stones, 2006), there has been no previous empirical research exploring physical identity and physical attribute related constructs, despite qualitative reports about their potential importance. Physical educators, who are strongly invested in physical and sporting attributes and ideals, have a central role to play in confronting homophobia in sport and physical education settings (Grossman, 1992). Evidence already suggests that physical education teachers are failing to deal adequately with homophobia (Morrow & Gill, 2003). Other work suggests that gay men avoid team sports because of anti-gay prejudice (Robertson, 2003). Here we provide some initial evidence that suggests that males' masculinity and associated physical identity/esteem play a role in prejudice against gays and lesbians. Interestingly, PE students reported lower, albeit not significantly, athletic (sporting) self-concept than non-PE students. This finding is consistent with previous research that has shown that self-concept is highly labile, and dependent on the social context in which one establishes one's self-concept. Because PE students and sports people are surrounded by other physically elite individuals, their targets for physical ability and appearance comparison will be higher than those for non-PE students, and this may result in lower self-evaluation (Marsh, Richards, & Barnes, 1986; O'Brien, Halberstadt, Hunter, & Anderson, 2007). We also found that differences in homophobia scores for PE and non-PE students can be accounted for by authoritarian aggression. Given the relative stability of traits such as authoritarianism and SDO, further research is needed to investigate how these traits might be

altered and their potential negative consequences prevented.

Several limitations and important interpretations need to be considered. The sample was one of convenience and from only one physical education program. Also, we did not take a measure of sexual identity; thus, we do not know whether there were different proportions of heterosexuals in groups. It is also possible that the content of the physical education program and attitudes of academic staff led to the different levels of prejudice. Future studies should investigate the levels of anti-gay and lesbian prejudice, and the potential communication of negative attitudes, among university-level PE instructors.

The present findings provide new quantitative evidence to support qualitative and anecdotal reports that homophobia is higher in sport and physical education than in other settings (Gill et al., 2006). The results suggest that physical education and sport settings may benefit from prejudice reduction initiatives that address the overinvestment in physical attributes and masculine ideals and reinforce social equality and diversity. Finally, while anti-gay and anti-lesbian prejudice interventions are much needed in sport settings, these interventions need to address the contextual and psychosocial factors that underpin this prejudice. As the literature stands, these factors are poorly understood and new directions for research in this area are needed.

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