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Effectiveness of an educational intervention targeting homophobic language use by young male athletes: a cluster randomised controlled trial

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ABSTRACT

Objective Homophobic language is common in male sport and associated with negative physical and mental health outcomes for all sport participants, but particularly for gay or bisexual youth populations. Evidence-based interventions are needed to reduce such language and mitigate harm. This study evaluated the effectiveness of a short social-cognitive educational intervention delivered by professional rugby union players in youth sport.

Methods In a two-arm, cluster randomised controlled trial, 13 Australian youth rugby teams from 9 clubs (N=167, ages 16–20, mean 17.9) were randomised into intervention or control groups. Professional rugby players delivered the intervention in-person. Frequency of homophobic language use was measured 2 weeks before and 2 weeks after the intervention. Hypothesised factors underpinning homophobic language were also measured, including descriptive (other people use), prescriptive and proscriptive injunctive norms (approval/disapproval by others), and attitudes towards the acceptability of homophobic language.

Results At baseline, 49.1% of participants self-reported using homophobic language in the past 2 weeks and 72.7% reported teammates using homophobic language. Significant relationships were found between this behaviour and the hypothesised factors targeted by the intervention. However, generalised estimating equations found the intervention did not significantly reduce homophobic language, or alter the associated norms and attitudes, relative to controls.

Conclusion Use of professional rugby athletes to deliver education on homophobic language was not effective. Other approaches to reduce homophobic language (and other forms of discrimination) such as peer-to-peer education, and enforcement of policies prohibiting specific language by coaches, should be explored.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Homophobic language is used regularly by males in school and community sport settings. Effective interventions are needed to stop this behaviour because it is harmful to all sport participants, but particularly to gay and bisexual young people.

WHAT THIS STUDY ADDS

⇒ This is the first randomised controlled trial of an anti-homophobia educational intervention delivered by professional athletes. The study found this widely used intervention approach did not reduce the frequency of homophobic language that was being used by young male rugby union players in Australia.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Our findings are consistent with recent trials of prejudice-reduction interventions delivered in non-sport settings and they suggest that one-off educational interventions, even when delivered by professional athletes, are insufficient to stop homophobic behaviours in male sport settings. Other approaches should be investigated, such as ongoing education delivered by team captains and the monitoring of coaches to ensure they are enforcing existing anti-discrimination policies.

INTRODUCTION

Male sport participants of all sexualities and competitive levels are regularly targeted with homophobic slurs and insults by their peers, coaches or school physical education (PE) teachers.[1–3] This language is particularly common in youth sport settings, where it is generally used during social interactions in locker rooms (eg, banter, 'locker room talk'), at team training/practice sessions, social events or during PE classes.[1–3] Male (sex) sport participants typically use homophobic language to performatively reject anything deemed to be 'feminine' and to demonstrate their conformity to masculine norms (eg, heterosexuality, emotional restraint, dominance, aggression).[4–6] This language is also often directed at boys who do not conform to these norms (eg, gay boys, boys who are uninterested in playing sports).[2 5 6]

The American Medical Society for Sports Medicine (AMSSM) is concerned about homophobic language being used to extract conformity to restrictive masculine norms associated with a host of negative health and social outcomes in athlete populations, including alcohol and drug abuse, violence, bullying, hazing, dangerous risk taking and the avoidance of medical care.[7–9] Since 2007, the International Olympic Committee (IOC) has similarly warned sports organisations that homophobic language is associated with a range of negative outcomes, including sexual violence, abuse and harassment.[9–11] The links with sexual violence and the harassment of women emerge from this language being used to denigrate any trait or behaviour deemed to be 'women-like'.[2 12 13] This, in turn, appears to normalise the objectification

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and subordination of women (for an additional explanation see Brush and Miller).[12] The links with sexual abuse emerge from this language creating homophobic sport cultures in which sexual abuse by coaches, as well as sexual violence by peers during hazing rituals may go unreported because victims fear they will be stigmatised as gay.[14–16]

On a more individual level, research with students has found homophobic victimisation is a risk factor for self-harm and suicide for all young men,[17 18] however, it is particularly harmful to gay and bisexual youth.[1 3] The severity of harm is illustrated by a decision by all United Nations agencies (eg, UNICEF, WHO) to issue a joint statement in which they called for urgent action to protect gay and bisexual youth from discrimination.[19] The IOC has similarly twice issued Scientific Consensus statements which have called for gay and bisexual young people to be protected in sport settings because it has found they are at uniquely 'high risk' (relative to their peers) of experiencing discrimination and all other forms of abuse.[9 11] Consistent with this conclusion, a recent international study (six countries; N=1173; ages 15–21) found more than half (52%) of the gay and bisexual boys had experienced homophobic victimisation in sport settings (eg, slurs, bullying, physical assaults).[20] Concerningly, the study found the teenage males who 'came out' as gay or bisexual to their teammates were the most likely to report these victimisation experiences.[20] The study challenges a common misperception,[3] or 'illusion',[21] that gay people are now generally accepted in western-society sport settings. Instead, as a British Parliamentary Inquiry concluded, sport cultures have lagged behind general society and 'homophobia remains a problem in sport across all levels'.[22 23] The Inquiry further concluded that gay and bisexual youth often try to avoid sport environments due to fears of discrimination.[3 22] This conclusion is supported by population-level data from Canada, which shows gay and bisexual youth play coached team sports at half the rate of their heterosexual peers (33% vs 68%).[24] The avoidance of sport by this population from a young age helps explain the near total absence of openly gay and bisexual adult males playing professional team sports.[3 22 25]

The need for effective interventions to stop homophobic language and other behaviours, and to shift homophobic sport cultures, has been repeatedly identified,[3 5 9] yet systematic reviews have found no published trials of interventions.[26–28] This gap in the literature reflects a long-documented lack of engagement and resourcing from politicians and sport leaders for programmes designed to address sexuality-based discrimination in sport.[3 5 29] Research suggests some sport leaders fear a backlash from athletes or parents if they take action, whereas other leaders are hesitant because they are uncertain about how to stop this pervasive behaviour.[3 29 30] This uncertainty is shown by a 2018 paper[30] in which a New Zealand Rugby executive noted that homophobic behaviours were common in his sport, and accepted the behaviours were causing harm, but he was hesitant to take action because: 'I don't want to roll out meaningless [educational] videos … it's not about PR, it's about doing the right thing and actually raising a level of societal change'.

Academics, lesbian, gay, bisexual, trans, questioning and other sexuality and gender diverse minority (LGBTQ+) community groups, and medical organisations have issued recommendations which suggest this behaviour could be stopped through delivering education to athletes to help them understand the harm caused by homophobic language.[3 5 7] This untested recommendation has been put into practice around the world, with LGBTQ+ organisations and sports teams often using professional athletes to deliver this education through videos or in-person talks.[7 25 29]

Table 1 Baseline demographic characteristics

	Control (n=76)	Intervention (n=91)
Age, M (SD)	18.0 (1.3)	17.7 (1.2)
Ethnicity, n (%)		
Pasifika	34 (44.7)	46 (50.6)
Anglo-European	36 (47.4)	34 (37.4)
Other	5 (6.6)	10 (11.0)
Missing	1 (1.3)	1 (1.1)
Sexuality, n (%)		
Heterosexual	72 (94.7)	81 (89)
Gay	1 (1.3)	NA
Bisexual	NA	1 (1.1)
Not listed	1 (1.3)	2 (2.2)
Missing	2 (2.6)	7 (7.7)

The aim of this study was to evaluate the effectiveness of this intervention approach in reducing the frequency of homophobic language used by young male athletes.

METHODS

A two-arm cluster randomised controlled trial (RCT) tested a short (30 min) educational intervention delivered to young male rugby union teams and coaches in Australia. The intervention was designed to complement a specific policy adopted by Rugby Australia which explicitly prohibits the use of day-to-day, normative homophobic language (eg, banter).[31] The development of this policy followed signed public commitments by World Rugby, Rugby Australia and Australian state rugby governing bodies to 'eradicate' and 'eliminate' homophobic behaviours from their sport.[30 32]

Recruitment and participants

Rugby governing body leaders directly communicated with their volunteer coaches and the committees which run their community clubs and secured the participation by all nine clubs in the Australian state of Victoria with male (gender) 'under 18' (ages 16–18) and 'Colts' (ages 18–20 years) teams (table 1 provides participant details). Rugby's leaders felt securing participation in the study from the total population would help to overcome the noted problem[26] of selection bias with prejudice-reduction field trials (ie, the most problematic sports clubs choosing not to participate in the study).

Allocation into conditions

Randomisation using computer numbers generated by the first two authors was by club rather than by team because five of the participating clubs had one eligible team and four of the clubs had two eligible teams. Thus, clubs with two teams had both teams allocated to either the control or the intervention condition to reduce the risk of unintended exposure to the intervention by a control team if it was at a club with a team that received the intervention. Randomisation was stratified by the size of club ('single team'/'two team') to ensure similar numbers of single and two-team clubs were allocated to each arm of the trial.[33]

Data collection

Data were collected using a short (10 min) paper-and-pen survey at club grounds prior to team training sessions. Baseline data (T1) was collected 2 weeks prior to the intervention being delivered and follow-up data (T2) was collected 2 weeks after delivery to the clubs in the intervention arm. The RCT began

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in the middle of the season (June–August, 2018). Researchers visited clubs up to three times over a 1-week period to collect T2 data (eg, Tuesday and Thursday practice, and Saturday game).

Public and end-user involvement

The intervention content was developed through the collaborative effort of coaches (including the fifth author), amateur and professional athletes (including members of the LGBTQ+ rugby community), governing body leaders and academics (including the study authors). This type of collaborative intervention development approach, whereby end-users work alongside academics, is thought to improve real-world effectiveness, acceptability, sustainability and scalability.[34]

Equity, diversity and inclusion statement

The study included the total-available population of rugby players between the ages of 16–20 living in a large Australian state, and thus, the study population included participants from a broad range of ethnic/racial and socioeconomic backgrounds. The research focused on changing homophobic language in men's sport because the drivers of this discrimination in women's sport are different and thus, different interventions would be needed. The research team included 7 women and 10 men, 5 researchers with diverse ethnic/racial backgrounds (including a child of a refugee), 3 with LGBTQ+ identities and 2 have learning disabilities. The author team includes two senior academics (man and woman), two junior scholars and an industry practitioner (coach).

Intervention content and approach

Six professional rugby union players from the Melbourne Rebels rugby union team (Rebels), including the team's captain, travelled to rugby clubs throughout the state to deliver the intervention to rugby teams and coaches in their clubhouses prior to a normal weekly practice session. The Rebels compete in the international Super Rugby competition. Delivery of the intervention in-person, prior to normal practice, was seen to be sustainable because it caused little disruption and required little time investment from the volunteer coaches and club leaders. Furthermore, research and theory suggest face-to-face education versus videos could be more effective because it would allow for personal connections between the professional athletes and the young rugby players. Research with high-school American football teams found homophobic behaviours were strongly associated with the perceived endorsement of this behaviour by respected older men, such as a coach or professional athlete.[35] These findings could be explained by social cognitive theory, which was the framework used to inform the intervention approach.

The theory posits that respected men exert a strong influence on teenage athletes because these young people learn behaviours through observing others, particularly those who have a desired and admired social status (ie, 'role models').[36] The theory further posits that behaviours are driven by an interaction of environmental factors (eg, behavioural norms) and individual factors, such as the personal values of athletes or, perhaps, a desire to conform to the behaviours of idolised professional athletes.[36] Drawing on this theory, the intervention was designed to alter the norms in rugby which support the use of homophobic language and designed to alter the individual beliefs of rugby players that their use of homophobic language is harmless and acceptable.

The final intervention content was refined through practice sessions with the Rebels (see online supplemental material for script). The Rebels began by acknowledging that homophobic language is often used in sport, and then expressed their strong disapproval of this behaviour because of the serious harm that it causes. The Rebels supported this with statistics about the high rates of suicide and self-harm among gay and bisexual youth, and shared statistics on the low rates of sport participation. They then explained why homophobic language contributes to these problems. The Rebels continued by asking players to indicate by a show of hands if they would support their teammate if he was struggling with his sexuality and if they would like homophobic language to stop. The Rebels closed by demonstrating simple, non-confrontational ways to react negatively when others use this language (ie, don't laugh, give a disapproving look).

Outcomes

The primary outcome was the frequency of self-reported homophobic language used by the rugby players. The study also examined whether the intervention altered environmental and individual factors, including descriptive norms (what others do) and prescriptive (approving) and proscriptive (disapproving) injunctive norms, as well as the attitudes of players towards the acceptability of using homophobic language. Data on the age, ethnicity and sexuality of participants were also collected.

Measures

Homophobic language and descriptive norms

The Homophobic Content Agent Target (HCAT) measurement approach[37] was used to measure both participant self-reported homophobic language and measure descriptive norms (ie, the extent to which participants perceived their teammates used homophobic language). HCAT is widely used in school research and does not ascribe homophobic intent to language. This is important because research has consistently found homophobic language in sport is largely normative and that male athletes may not recognise their use of words like 'fag' as being 'homophobic' unless maliciously directed towards someone who is openly gay.[6 38] The stem asked 'some people use words such as fag, poof. In the past 2 weeks how often have you (or have your teammates) used words like these, for any reason?' Response options include: never (0), 1–2 times (1), 3–4 times (2), 5–6 times (3) or 7+times (4).

Injunctive norms

Proscriptive injunctive norms were measured using the Team Norms measurement approach.[38 39] Participants were asked 'what percentage of your teammates do you think would be critical of you (think or act negatively) if you' and then two scenarios were provided 'made a joke about gay people' and 'called an opponent a 'fag' in a game.' (0=0%–10=100%). The two proscriptive items were averaged to form a composite scale (r=0.78). Prescriptive injunctive norms were measured by asking participants to indicate what percentage of their teammates would agree 'it is okay to make jokes about gay people, if no gay people can hear the jokes' (0=0%–10=100%).[38]

Attitudes

Participant attitudes towards the acceptability of homophobic language were measured through asking their agreement with the same statement used in the prescriptive norm measure using a six-point Likert scale (1=strongly disagree, 6=strongly agree).

Homophobic attitudes (preregistered exploratory variable) were measure using the three-item attitudes towards gay men scale[40] ('sex between two men is just plain wrong,' 'I think male homosexuals are disgusting' and 'homosexuality is a natural

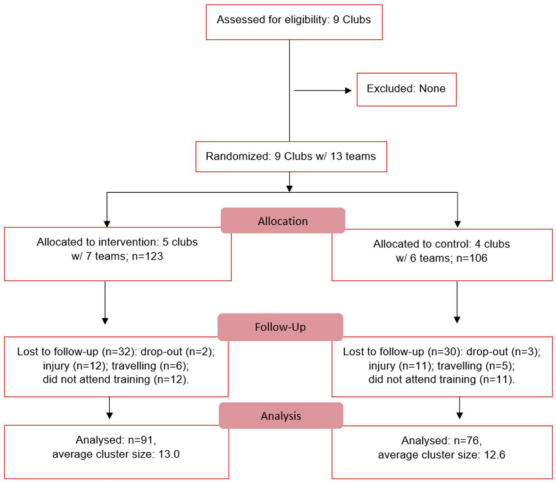

Figure 1 Study flow chart.

expression of sexuality in men' (reverse scored)). Response options ranged from 1=strongly disagree to 6=strongly agree. The Cronbach's alpha (α=0.58) was acceptable for exploratory analyses.

Fidelity

Debriefs with the Rebels were recorded immediately post-intervention to assess whether the script was followed and to gather information about the perceived responses of participants.

Statistical methods

Pearson and Spearman correlation coefficients were calculated using SPSS (V.25) to examine relationships between factors targeted by the intervention and language use at baseline. Generalised estimating equations (GEEs) were calculated using R (V.4) and investigated whether the intervention had an effect on homophobic language use, and associated factors. GEEs were modelled such that the dependent variable was the time 2 score of the relevant outcome (eg, homophobic language), and the predictor variables were the time 1 score of that outcome (eg, homophobic language use at time 1), experimental condition (control or intervention) and club size ('single team'/'two team').

The analyses adjusted for club size because it was used as a balancing variable in the stratified randomisation.[41] The GEEs accounted for clustering of individual participants within teams (ie, the clustering variable was 'team'). GEEs usually use a Huber-White sandwich estimator that requires a large number of clustering units (eg, n∼50) to generate accurate estimates of standard errors.[42 43] Given we had only 13 teams, we used a one-step jack-knife estimator to avoid this potential limitation.[44–46] We calculated Cohen's d standardised effect size measures using techniques appropriate for trials utilising a two independent groups, pretest/post-test design.[47] This technique involves converting the GEE estimate to a Cohen's d, which has the benefit of accounting for the variables included in the GEE analysis.

RESULTS

Demographic data

Table 1 provides demographic details. Follow-up surveys were completed by 73.9% (n=91) in the intervention and 71.7% (n=76) in the control conditions. Figure 1 provides reasons for drop-out.

Homophobic language use

Table 2 reports frequency data on language used by participants and mean scores for all variables. Across both conditions, at baseline, nearly half (n=80; 49.1%) of participants self-reported using homophobic slurs and more than a quarter (28.3%) self-reported using this language three or more times in the previous 2 weeks. In addition, at baseline, most (n=117; 72.7%) participants reported their teammates had used slurs in the previous 2 weeks, and this behaviour was reported by players on every team (43.5% reported this language had been used by others three or more times).

Relationships between language and other variables

At baseline, significant bivariate relationships were found between the language used by participants, and descriptive and prescriptive (approval by others) injunctive norms, as well as the belief of athletes about the acceptability of homophobic language (see table 3). No relationship was found between language and proscriptive (disapproval) injunctive norms.

Intervention effect on language and other outcome variables

GEEs investigated whether the intervention had an effect on participant language use, norms and perceived acceptability at T2 (see table 4). Standardised effect size measures indicated that behaviours and other measures at T1 predicted measures at T2, for example, if participants used or heard homophobic language at T1, they were more likely to report this behaviour

Table 2 Descriptive statistics: homophobic language use and means (SD) for all measures

	Control (n=76)		Intervention (n=91)	
	T1	T2	T1	T2
Used language	0.84 (1.26)	1.17 (1.19)	1.09 (1.21)	1.28 (1.33)
N/% who used homophobic language at least once	32/42.7%	44/58.7%	47/55.3%	52/61.2%
Acceptability of language*	2.23 (1.46)	2.48 (1.34)	2.06 (1.42)	2.49 (1.36)
Norm measures				
Descriptive norms*	1.39 (1.29)	1.62 (1.28)	1.57 (1.29)	1.75 (1.29)
N/% who perceived teammates used homophobic language	51/68.9%	56/75.7%	65/77.4%	69/82.1%
Proscriptive injunctive norms (others disapprove of language)	4.18 (3.14)	4.50 (2.97)	3.43 (2.56)	4.28 (2.93)
Prescriptive injunctive norms (others approve of language)	2.70 (3.12)	2.85 (2.84)	2.31 (2.81)	2.95 (2.63)
Exploratory				
Homophobic attitudes *	3.16 (1.34)	3.04 (1.24)	3.09 (1.36)	3.01 (1.29)

*Measured 1 (strongly disagree) to 6 (strongly agree).
ATG, attitudes towards gay men.

Table 3 Relationships between variables at baseline (Pearson below/Spearman above)

	1	2	3	4	5
1.Used language	–	0.31***	0.68***	−0.05	0.21**
2.Acceptability of language	0.36***	–	0.26***	−0.06	0.32***
3.Descriptive norms†	0.68***	0.30***	–	−0.01	0.24**
4.Proscriptive inj. norms‡	−0.09	−0.06	−0.05	–	0.17
5.Prescriptive. inj. norms§	0.18*	0.26**	0.19*	0.15	–
Exploratory (Pearson)					
6.Homophobic attitudes	0.13	0.23**	0.10	−0.28***	0.02

*p<0.05, **p<0.01 ***p<0.001.
†Perception that teammates used language.
‡Proscriptive injunctive norms (others disapprove of language).
§Prescriptive injunctive norms (others approve of language).

at T2. However, the intervention had no significant effect on homophobic language use by the rugby players (d=0.05, 95% CI (−0.21 to 0.29)), descriptive norms (d=0.12, 95% CI (−0.16 to 0.40)), proscriptive (d=−0.01, 95% CI (−0.31 to 0.29)) and prescriptive (d=0.17, 95% CI (−0.18 to 0.52)) injunctive norms or perceived acceptability of using homophobic language (d=0.09, 95% CI (−0.09 to 0.28)).

Results of fidelity analysis

A review of debrief notes suggested the Rebels completely followed the intervention script in four out of seven sessions. In these four sessions, the Rebels reported engagement and discussion with participants. In the other sessions, there was little interaction or engagement and the content was delivered more like a lecture, than a discussion.

Exploratory analyses

Given the problem with fidelity, exploratory per-protocol analyses examined data collected from teams where the intervention was delivered as a discussion. We found this did not improve the intervention effect on language (d=0.04, 95% CI (−0.20 to 0.27)), or other measures (see online supplemental material). Exploratory analyses further examined and found no significant effect from the intervention on the homophobic attitudes of athletes (d=−0.04, 95% CI (−0.52 to 0.46)). Finally, we examined and found pre-existing homophobic attitudes of participants did not moderate the effect of the intervention (condition×attitudes) on the use of homophobic language (b=−0.11, SE=0.10, p=0.263).

DISCUSSION

Our study evaluated whether a widely used educational intervention reduced the frequency of homophobic language in sport. We found no significant changes to this behaviour, the associated norms, or change to the beliefs of the young rugby players that using homophobic language is an unacceptable behaviour. We also found no change to the homophobic attitudes of some participants, however, as expected, we found no relationship between the homophobic attitudes of some rugby players and the use of homophobic language. Instead, as other researchers have consistently found,[2 13 38] the athletes appear to use homophobic language to conform to the behavioural norms in rugby. This language was not, necessarily, used with an explicit intent to express homophobia or to be homophobic (anti-gay).

Implications

The near total invisibility of self-identified gay and bisexual rugby players in our study (just two rugby players) highlights the urgent need for effective methods to stop homophobic language in sport settings. Sports organisations often use professional athletes to deliver education about the harm caused by this behaviour (and other similar types of behaviours), yet, we found no short-term benefit from this approach.[7 25 29] Our results suggest a need to rethink this intervention method. This suggestion gains support from a 2021 meta-analysis[26] of over 400 prejudice reduction intervention studies. The meta-analysis[26] found little benefit from 'sensitivity', 'antibias' or 'diversity' seminars delivered by outsiders in school or work settings. The authors of this review[26] concluded that changing prejudice-related behaviours is difficult and requires comprehensive, multicomponent intervention

Table 4 Generalised estimating equation results—effect of intervention on T2 variables

	Homophobic lang. use N=160/Nteams=13			Acceptability of lang. N=155/Nteams=13			Descriptive norms N=158/Nteams=13		
	Est	95% CI	P value	Est	95% CI	P value	Est	95% CI	P value
Intervention condition	0.06	−0.26 to 0.37	0.722	0.12	−0.12 to 0.37	0.315	0.16	−0.20 to 0.51	0.388
Time 1 score	0.34	0.14 to 0.55	<0.001	0.23	0.15 to 0.30	<0.001	0.27	0.17 to 0.37	<0.001
Club size	0.06	−0.22 to 0.33	0.682	0.01	−0.23 to 0.24	0.98	0.33	0.02 to 0.67	0.063
	Proscriptive injunctive norms N=154/Nteams=13			Prescriptive injunctive norms N=130/Nteams = 11*			Exploratory Homophobic attitudes N=152/Nteams=13		
Intervention condition	−0.02	−0.90 to 0.85	0.957	0.45	−0.50 to 1.40	0.355	−0.04	−0.066 to 0.58	0.908
Time 1 score	0.38	0.21 to 0.56	<0.001	0.19	0.03 to 0.36	0.024	0.67	0.40 to 0.95	<0.001
Team size	−0.10	−1.01 to 0.82	0.837	0.62	−0.26 to 1.50	0.167	−0.18	−0.89 to 0.52	0.607

*Survey misprint omitted question from one club in the intervention arm (two teams) at T1.

strategies. The IOC has arrived at a similar conclusion,[9 11] but has additionally highlighted the need for strong support for change from sport leaders and coaches.

It is noteworthy that the Rebel's intervention was supported by global rugby leaders and designed to reinforce a unique policy which specifically prohibits day-to-day normative homophobic language (ie, 'locker room talk').[31] Sport leaders rely on volunteer coaches to enforce their policies. If this enforcement was occurring we would have expected to find few rugby players using homophobic language at baseline and strong proscriptive injunctive norms (disapproving).[26] Instead, nearly half the young rugby players said they had recently used homophobic slurs and few strongly believed their coaches and teammates disapproved of this behaviour. Importantly, this language was used by multiple players on every team.

Potential failures by the coaches in our study to stop the use of homophobic language would be consistent with recent work in school, community and university sport settings.[2 3 48] Researchers found coaches in these settings used homophobic language themselves and they defended this behaviour as harmless and 'boys being boys.'[2 5 22] This is problematic because these adults are legally required to protect children from this harmful behaviour.[3 4 49] Moreover, coaches set the standards of behaviour. If a coach is not actively supporting efforts to stop homophobic language, it seems unlikely that this behaviour could be changed by an intervention delivered by outsiders, including by respected professional athletes.[2 26]

Recommendations

The AMSSM says clinicians working in sports settings (ie, high schools or universities) have a professional responsibility to ensure young people are protected from homophobic language because 'the creation of a supportive environment that is welcoming to sexual minorities is key to the health of athletes and their teams'.[7] The AMSSM[7] has recommended the delivery of education to sports participants, however, in our study we found no immediate benefit from education delivered by professional athletes. Research in schools suggests that using respected peers to deliver education, such as a team captain, may be a more effective because captains could exert an ongoing influence through role modelling and social sanctions for non-compliance.[26 50] However, the influence of captains would be limited without the support of coaches.[2] This points to the need for effective training, monitoring and financial sanctions to ensure coaches fulfil their legal and moral obligations to stop the frequent use of harmful homophobic language in youth sport settings.[9 49]

Finally, efforts to stop homophobic behaviours will require strong support from sport leaders, though this was not lacking in rugby.[3 30] Our findings, therefore, add to growing evidence of a disconnect between the safety (eg, concussion prevention) and diversity agendas (eg, antiracism, gender equity) of sport leaders and the day-to-day practices of the volunteers they rely on to deliver their sports.[23 51 52] Advancing important health, diversity and child safeguarding agendas will require dedicated effort to find ways to close the gaps between research, sport policies and day-to-day practices.[4 23 52]

Limitations

Although our results are consistent with the findings of a recent large-scale review of prejudice reduction intervention trials delivered in non-sport settings,[26] further research would be needed to confirm our findings can be generalised to other types of sports, locations or population groups. In addition, the athletes in our study may not have accurately self-reported their behaviour. The lack of long-term follow-up is another limitation, given the normative nature of homophobic language and evidence that norms require time to change.[50]

CONCLUSION

The frequent use of homophobic language is detrimental to the well-being of all sport participants, but particularly to gay or bisexual young people. In addition, this behaviour is a risk factor for sexual violence and abuse. Stopping homophobic language needs to be a safeguarding priority. This study found that one-off educational interventions, even when delivered by professional athletes, were insufficient to stop homophobic behaviours in young male rugby athletes. Changing these deeply entrenched normative behaviours will require comprehensive, multicomponent intervention strategies.[9]

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Contributors All authors contributed to the conception and design of the work; ED, NF, KSO'B contributed to analysis; All authors contributed to interpretation of the data. ED and NF drafted the manuscript and all authors contributed revisions. ED is study guarantor.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved by Monash University—Human Ethics Low Risk Review Committee 13136. Participants gave informed consent to participate in the study before taking part.

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Supplementary materials

Effectiveness of an educational intervention targeting homophobic language by young male athletes: a cluster randomised controlled trial

Supp. Table 1: Intervention script

Section	Purpose	Content
Introduction	Introduce topic of diversity and how it relates to growing the sport, identify and engage with the leaders in the group	- Share that you are there to ask for their help to make the game even better - Grow participation, make all feel welcome Share that you are there to ask for their help to make the game even better, grow participation, make all feel welcome **Questions:** • Does everyone want to grow the sport? • Do you want everyone to feel welcome to play the game?
Section 1	Establish the value of diversity in rugby to team performance/cohesion. Demonstrate acceptable forms of banter through traditional rugby stereotypes (back line players are fast and stylish; forwards are slow and like to eat)	**Questions:** • Where are people from? (Samoa, NZ, Aus) • Who is the fastest in the room? • Who is the joker? • Who is the best prop? • What would happen if everyone was a prop? Wing? Good team? • Why is diversity better? • How does it help? **Critical: Make point that a good team is diverse. Strong evidence that diverse teams are better.**
Section 2	Introduce how homophobic language use, or any discriminatory banter, is counterproductive to diversity. Educate about the harm. Role model disapproval. Highlight misperception that everyone approves of language to shift norms.	- Share personal stories about how language made you feel unwelcome and how you used the language yourself; express regret - Highlight how racist language is not as common anymore but homophobic is (potential questions: has anyone experienced racist language? How did it feel) - Talk about homophobic being harmful (5x higher suicide) - Ask if anyone would want to harm their teammate? **Critical: How many of you would support a mate if he was struggling and thinking of leaving team or hurting himself? How many want the language to stop? (hands)**
Conclusion	Teach new ways to react negatively to language used by others, build confidence to react negatively in future	- The easiest thing you can do is stop language is not react - If you hear something, don't laugh, give a frown - If you feel confident you can say something - Demonstrate how to do this

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Supp. Table 2: Generalised estimating equation results Per-Protocol – effect of intervention on T2 variables when the intervention was delivered as designed (as a discussion)

	Homophobic lang. use *N* = 128 / *N*teams = 10			**Acceptability of lang.** *N* = 127 / *N*teams =10			**Descriptive norms** *N* = 127 / *N*teams = 10		
	Est	*95% CI*	*p*	*Est*	*95% CI*	*p*	*Est*	*95% CI*	*p*
Intervention condition	0.05	-0.24 – 0.33	.749	0.17	-0.04 – 0.38	0.117	0.19	-0.19 – 0.56	0.331
Time 1 score	0.37	0.17– 0.56	<0.001	0.21	-0.12 – 0.29	<0.001	0.29	0.20 – 0.37	<0.001
Club size	0.17	-0.10 – 0.44	0.214	0.05	-0.18 - 0.28	0.677	0.33	-0.16 – 0.82	0.183
Cohens d	0.04	-.20 - .27		0.13	-0.03 – 0.29		0.15	-0.15 – 0.44	
	Proscriptive injunctive norms *N* = 125 / *N*teams =10			**Prescriptive injunctive norms** *N* = 107 / *N*tgeeeams = 9[a]			*Exploratory* **Homophobic attitudes** *N* = 118 / *N*teams = 10		
Intervention condition	-0.03	-.83 – 0.88	0.951	0.49	-0.40 – 1.38	0.279	-0.10	-2.11 – 1.92	0.925
Time 1 score	0.34	0.14 – 0.53	<0.001	0.20	0.03 - 0.37	0.024	0.66	-1.60 – 2.91	0.568
Team size	-0.27	-1.50 - 0.96	0.671	0.56	-0.12 – 1.23	0.108	-0.09	-1.96 - 1.78	0.924
Cohens d	0.01	-0.29 – 0.30		0.18	-0.15 – 0.51		-0.09	-1.79 – 1.62	

Note: [a]*survey misprint omitted question from one treatment club*