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Elite athletes report lower psychological safety and are less likely to report interpersonal violence compared to recreational athletes: A cross-sectional study

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ABSTRACT

Third party mechanisms for athletes to report experiences of interpersonal violence are highly recommended for safeguarding and a priority for sport organizations worldwide. Despite this, athletes can be reluctant to report experiences of interpersonal violence. This could be due to the environment of elite sport where interpersonal violence is often normalized, and there is a lack of psychological safety. The aims of this study were to: 1) determine differences between three competition levels (i.e., recreational, sub-elite, and elite) in psychological safety and intention to report interpersonal violence; and 2) examine if differences between competition levels in intention to report interpersonal violence are attributed to competition level differences in psychological safety. Athletes participating in different competition levels (N = 383) completed an anonymous questionnaire that measured psychological safety and intention to report interpersonal violence. Results showed that compared to recreational athletes, elite and sub-elite athletes indicated lower intention to report interpersonal violence, which was attributed to lower feelings of psychological safety reported by these athletes (Partially standardized indirect effect = −0.10 to −0.05). Our results highlight the need to ensure sport leaders (e.g., coaches, managers, directors) actively promote psychologically safe environments that facilitate the reporting of interpersonal violence at all competition levels. Additional support may be required for those at elite and sub-elite levels to help improve feelings of psychological safety in voicing concerns and incidents of interpersonal violence.

Lay Summary: In this study, we found that compared to recreational athletes, elite and sub-elite athletes are less inclined to report interpersonal violence (e.g., sexual harassment from a coach), which can be attributed to lower psychologically safety that these athletes feel in their sports club.

IMPLICATIONS FOR PRACTICE

- Sport organizations need to encourage athletes to come forward and report experiences of interpersonal violence
- Sport leaders should focus on improving psychological safety so athletes feel safe in reporting incidents of interpersonal violence without fear of repercussion

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- Compared to recreational athletes, sub-elite and elite athletes require additional support to improve feelings of psychological safety in voicing incidents of interpersonal violence.

The term interpersonal violence, used interchangeably with maltreatment, abuse and harassment (Tuakli-Wosornu et al., 2024), refers to the "intentional use of physical force or power, threatened or actual, against oneself, another person or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al., 2002, p. 5). In sport, interpersonal violence is omnipresent (c.f. Tuakli-Wosornu et al., 2024). The widely publicized case of Larry Nassar, who between 1998 and 2015 sexually assaulted over 250 young female gymnasts, highlights the significant abuse athletes can experience and the importance of ensuring effective safeguarding practices (Mountjoy, 2019). As with the Nassar case, it was only until Rachel Denhollander and a further 156 survivors exposed the interpersonal violence they had experienced from their medical physician (Mountjoy, 2019). An urgent need, therefore, exists to ensure athlete experiences of interpersonal violence are reported from the outset.

The authors of the International Olympic Committee's (IOC) consensus statement on safeguarding in sport (Tuakli-Wosornu et al., 2024), reported that interpersonal violence is highly prevalent amongst athletes. Interpersonal violence can range from acute, one-off incidents to systemic cases where an athlete can experience multiple types of interpersonal violence (e.g., physical, sexual, psychological) over a sustained period. Several studies conducted in Europe (Hartill et al., 2023; Hurst et al., 2025; Hurst & Kavussanu, 2025; Muhonen et al., 2024), North America (Kerr et al., 2019; Willson et al., 2023) and Oceania (McPherson et al., 2017; Pankowiak et al., 2023) indicate that between 44% to 86% of sport participants experienced interpersonal violence. The consequences of interpersonal violence can be severe, with those who experience it more likely to report lower-wellbeing (Hurst et al., 2025), depression (Parent et al., 2022; Willson et al., 2023), anxiety (Vertommen et al., 2018), psychological distress (Parent et al., 2022) and self-harm (Willson et al., 2023).

In one of the largest studies (N = 10,302) examining interpersonal violence in sport (Hartill et al., 2021), while 82% of respondents indicated experiences of interpersonal violence in sport, only between 4% and 6% formally reported the incident. Reluctance to report interpersonal violence has been linked to the environment of elite sport, which can normalize and foster a code of silence in speaking up about abuse and harassment (Kavanagh, 2014; McPherson et al., 2017; Walton et al., 2024). In an independent review of sexual abuse in UK Sport between 1970 and 2005 (Sheldon, 2021), from the 893 survivors, many remained silent and did not report it due to fear it would disrupt their goal of becoming a professional athlete. In a sample of elite swimmers, many discussed that prior to making it to the highest level, they were socialized into the culture of emotional abuse and accepted that this was part of the training process to becoming an elite athlete (Stirling & Kerr, 2008). Taken together with findings from other studies (McPherson et al., 2017; Newman et al., 2022; Solstad, 2019), it is likely that as an athlete progresses through the competition ranks of sport, the normalization of interpersonal violence can become acceptable, which in turn, may decrease the likelihood of it being reported.

Elite sport environments are inherently different to recreational ones (Lentillon-Kaestner & Carstairs, 2010; Stirling & Kerr, 2008), in that elite athletes are often expected to sacrifice their health and well-being in order to achieve their goals, which will often include accepting interpersonal violence (Coker-Cranney et al., 2018; Hughes & Coakley, 1991; McPherson et al., 2017; Stirling & Kerr, 2008). Those who speak out against such cultures are likely to experience consequences, such as criticism from their team and leaders (e.g., coach), being outcasted and prevented from progressing in the team or termination of their contract (Newman et al., 2022; Solstad, 2019; Tuakli-Wosornu et al., 2022). McPherson et al. (2017) revealed that elite sport environments are underpinned by a strive for success (e.g., an Olympic medal), which can create a culture of "secrecy" in which athletes are afraid of losing their place in an elite team if they report incidents of interpersonal violence. Enduring interpersonal violence can, therefore, be perceived to be a much lesser consequence than what may occur if it is reported (McPherson et al., 2017; Newman et al., 2022; Stirling & Kerr, 2008).

Reluctance to report interpersonal violence may be related to low feelings of psychological safety, which is defined as the "belief that the team is safe from interpersonal risk taking" (Edmondson, 1999, p. 354). Psychological safety is a positive emotional state that originates from interpersonal interactions, whereby the words and behaviors of those within a team can influence how safe a person feels. Underpinned by voicing ideas, questions, concerns or mistakes without fear of reprisal, rejection or ridicule, those in psychologically safe environments are more likely to ask for help than those who are not (Edmondson, 2018; Walton et al., 2024). Given that those in elite sport environments have reported a fear in speaking out (McPherson et al., 2017; Newman et al., 2022; Solstad, 2019; Tuakli-Wosornu et al., 2022), it is reasonable to suggest that they may not have felt psychologically safe to report the interpersonal violence.

While psychological safety has often been examined as an antecedent of performance enhancement and a catalyst for fostering learning in businesses and organizations (Edmondson & Bransby, 2023), researchers have also examined this construct in relation to speaking up and communicating ethical concerns (Edmondson & Bransby, 2023). Specifically, empirical evidence indicates that people who feel psychologically safe are more likely to report issues of wrongdoing in the workplace (El-Gazar et al., 2025; Liu et al., 2015), including abusive supervision (Agarwal et al., 2022) and sexual harassment (Benjes-Small et al., 2024).

In the context of sport, athletes who feel psychologically safe are more likely to express their true self to team members (McLaren & Spink, 2022), have candid discussions (e.g., stating opinions) with their coach (Jowett et al., 2023), and are able to have uncomfortable conversations (e.g., under performing in a competition; Cooke et al., 2024). While this evidence highlights the role psychological safety can have in improving communication between various people in a team, no research has examined whether feelings of psychological safety are related to reporting incidents of interpersonal violence in sport.

Understanding athletes' decision to report interpersonal violence is made difficult by the fact that they can be reluctant to report it (Solstad, 2019; Tuakli-Wosornu et al., 2022), and while prevalence of interpersonal violence in sport is high (Hartill et al., 2021), not all athletes will report their experiences. As such, identifying relationships

between variables that are attributed to decisions to report are challenging. To overcome this, hypothetical scenarios can be used whereby participants are asked to read a vignette depicting a case of interpersonal violence that they imagine themselves in and indicate their intention to report. Such an approach has been used in other areas of sport, such as reporting concussion (Rosenbaum & Arnett, 2010), cheating (Hurst et al., 2023), and match-fixing (O'Shea et al., 2021). As there are several types of interpersonal violence, ranging from relatively mild (e.g., swearing), to moderate (e.g., physically threatened), to severe (e.g., sexual assault), hypothetical scenarios can provide a high degree of control (c.f. Christensen & Gomila, 2012) and offer a pragmatic and reliable proxy in which to understand athlete intention to report interpersonal violence.

In this cross-sectional study, we examined intentions to report four types of interpersonal violence, namely psychological, physical, sexual and neglect using hypothetical scenarios to depict interpersonal violence and had two aims. Our first aim was to examine whether athletes taking part in three competition levels, namely elite, sub-elite and recreational, differ in their perceptions of psychological safety and intention to report interpersonal violence. We hypothesized that (a) both sub-elite and elite athletes would report lower psychological safety and intention to report interpersonal violence than recreational athletes; and (b) compared to sub-elite, elite athletes would report lower psychological safety and intention to report interpersonal violence. Our second aim was to examine whether mean differences between competition levels in the intention to report interpersonal violence are attributed to concomitant mean differences in psychological safety. We hypothesized that the lower intention to report violence in higher (compared to lower) competition levels would be attributed to the lower psychological safety experienced by athletes at higher levels of competition.

Materials and methods

The study is reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (see supplementary material; Von Elm et al., 2014) for cross-sectional reports checklist.

Participants

A criterion-based, purposive sampling strategy was used to recruit 426 athletes to the study. Post-hoc sample size calculations using G*Power (Faul et al., 2009) with a linear multiple regression (fixed model, R^2 increase), two predictors, a moderate effect size of 0.09 and α of .05 indicated the sample size has a power .99 to detect a medium effect. Inclusion criteria stipulated that participants were 16 years or older, intended to compete in the upcoming season, were registered to a sports club and English speaking.

Measures

Competition level

We asked participants what the highest level of sport competition they participated in the previous 12 months. Using the descriptions outlined by Swann et al. (2015), participants selected one of five options: 1. club or recreational, 2. regional level, university

level, semiprofessional or 4th tier leagues or tours, 3. involved in talent development, 3rd tier professional leagues or tours, 4. national level, selected to represent nation, 2nd tier professional leagues or tours, and 5. international level, top tier professional leagues or tours. Participants were then grouped into the following: 1. "recreational" (club or recreational), 2. "sub-elite" (regional, university, semiprofessional, talent development, 3rd or 4th tier) and 3. "elite" (national, international, 2nd or top tier).

Psychological safety

We used an adapted version of the Psychological Safety Scale (Edmondson, 1996) to measure participants' perceptions of psychological safety at their sports club. We changed the original wording of the questionnaire from "this team" to "my club," given that some athletes may not be part of a team per se but a club in which they compete. Participants rated their agreement to 7 items (e.g., "It is safe to take a risk in my club" and "Members of my club are able to bring up problems and tough issues") on a 7-point Likert-type scale anchored by 1 *(strongly disagree*) and 7 (*strongly agree*). The mean of all items was calculated to give a score of psychological safety, with higher scores indicating greater psychological safety. The scale has shown good validity, model fit and internal consistency for use with athletes (Fransen et al., 2020; Jowett et al., 2023). Cronbach alpha with the current sample indicated internal consistency slightly lower ($\alpha = .65$) than the .70 criterion for acceptable values.

Intention to report interpersonal violence

We used an indirect approach to measure the intention to report interpersonal violence. First, participants were provided with a definition of safeguarding. That is, they were informed that safeguarding relates to protecting a person's health, wellbeing, and human rights and were informed that sport clubs often appoint a safeguarding officer to protect them from physical or mental violence, injuries and abuse, neglect or negligent treatment or exploitation, including sexual abuse. They were then presented with four hypothetical scenarios that described a situation of interpersonal violence (i.e., psychological, physical, sexual and neglect).

The four scenarios were created after reviewing the types of interpersonal violence and their severity (Tuakli-Wosornu et al., 2020; Vertommen et al., 2016) and in consultation with athletes and experts in the field, adapted to ensure appropriate wording and how the interpersonal violence could be experienced. To ensure applicability and clarity for each scenario, we conducted pilot testing with a separate group of competitive athletes (N = 34, 38% female, age = 24.3 ± 6.2 years old). The initial scale was uploaded onto Jisc surveys and, in person, participants were asked to consider the applicability (scored on Likert-type scale from 1 [not applicable] to 7 [applicable]) and clarity (scored on Likert-type scale from 1 [unclear] to 7 [very clear]) of each scenario. A free-text box at the end of each scenario was available for participants to provide further comments. All scenarios were rated as applicable (mean score range = 6.1 to 6.6) and clear (mean score range = 6.2 to 6.8). After considering the free-text box comments, we made minor changes, including the removal of slang (e.g., banter), ensuring active voice and including a description of a "welfare officer" when explaining safeguarding in sport.

The final scenarios are found in the supplementary material, with the psychological interpersonal violence scenario presented below:

> "While training at your club over the past month, your performances have been below your best. During training sessions, your coach regularly shouts at you aggressively about your performance and curses and belittles you. In the last training session, your coach was very angry about your performance and told you that if you do not improve by the next session then you should not return to the club."

After reading each scenario, participants indicated their intention to report the hypothetical incident to a safeguarding officer at their club using Ajzen (2002) recommendations. That is, they first read "If I was in this situation, reporting this to a safeguarding officer at my club is something I would … " followed by three items ("intend to do", "try and do", and "plan to do") on a 7-point Likert-type scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*). The scale consisted of 12 items, with the mean of all items calculated as intention to report interpersonal violence. Higher scores were indicative of stronger intentions to report interpersonal violence. Internal consistency was very good for each scenario (Cronbach's alpha range = .85 to .88) and excellent for all combined (Cronbach's alpha = .90).

Procedure

The study received ethical committee approval from the lead author's institution. Participants were recruited via social media (e.g., Facebook, Instagram, and X) between May and August 2024 and were sent a web address to an anonymous online survey on a Jisc platform, which stores data on an encrypted server within Amazon Web Services. They were first presented with an information sheet and informed about the purpose of the study, that participation was voluntary, and that all data were anonymous and would be kept confidential. They then provided informed consent before completing the measures described above.

Data analysis

Data were visually checked against eligibility criteria, non-responses, careless responses and missing data. We followed the guidance of Ward and Meade (2023) and Curran (2016) for dealing with careless responses and checked for response pattern indices (i.e., participants scoring the same for each item) and response time (i.e., completing the questionnaire quickly). We calculated the standard deviation of each participant's responses and the quickest response times. Missing data were checked with Little's missing completely at random test (Little, 1988). Missing data was replaced using multiple imputation, which has shown to be a more reliable approach than others (e.g., listwise deletion) as it uses available information about participants to adjust for parameter estimates (Woods et al., 2024). The multiple imputation model generated five data sets with the maximum parameters set at 100 and the mean of the five data sets was used to replace missing data. Finally, we scrutinized the skewness and kurtosis scores for psychological safety and intention to report interpersonal violence. Values between −1 and +1 for skewness and close to 0 for kurtosis indicate normal distribution. Descriptive statistics and zero-order correlations (r) were calculated, with r interpreted as small (.1), medium (.2) and large (.3) effect size (Gignac & Szodorai, 2016).

For our first study aim, we conducted a multivariate analysis of variance (MANOVA) to examine differences between the three competition levels in psychological safety and intention to report interpersonal violence. Post-hoc Least Significant Difference (LSD) tests were used when a significant multivariate effect was found. For our second study aim, we used PROCESS v4.2 (Hayes, 2012) SPSS macro (model 4) to examine whether the differences between competition level in intention to report interpersonal violence were related to differences in psychological safety. We used indicator coding to examine the differences between competition level, whereby recreational level was coded ("0") as the reference group and compared to sub-elite and elite competition levels (coded as "1"). Thus, we compared recreational vs. sub-elite (D_1) and recreational vs. elite (D_2)[1]. Bootstrapping was set at 10,000 samples and bias corrected 95% confidence intervals (CI) were calculated. An effect was significant when the CI did not cross zero and the partially standardized indirect effect (PSIE) is reported as the effect size, with values of 0.01, 0.09 and 0.25 representing small, moderate and large effect sizes, respectively (Preacher & Kelley, 2011).

Results

Preliminary analysis

Upon inspection of the data, 8 participants did not play sport, 31 provided informed consent but did not answer any questions and 12 were shown to have a very similar scoring for all items (low standard deviation). No participants were identified as careless responders from the time they completed the questionnaire. This left a final sample size of 383 (mean ± SD: age = 24.0 ± 4.6 years old, years competing = 6.6 ± 4.0, years competing at current club = 4.0 ± 3.3), who identified as a woman (62.1%), a man (32.9%), non-binary (2.3%) or preferred not to say (2.6%). Participants competed in 15 different sports, with the most popular being football (soccer; 37.1%), cricket (29.5%) and athletics (track and field; 8.4%), at recreational (46.0%), sub-elite (37.6%) and elite (16.4%) levels.

Little's MCAR test revealed data was missing at random (χ^2 = 129.597, df = 126, p = .395) from 9 participants for the reporting interpersonal violence (n = 5) and psychological safety (n = 4) measures. Skewness and kurtosis scores indicated normally distributed data for both psychological safety (mean ± standard error of the mean; skewness = 0.44 ± 0.13 and kurtosis = 0.96 ± 0.25) and intention to report interpersonal violence (skewness = −0.17 ± 0.13 and kurtosis = −0.65 ± 0.25). Descriptive statistics for psychological safety and intention to report interpersonal violence are reported in Table 1 where it can be seen that participants across the three competition levels, on average, displayed moderate levels of psychological safety and intention to report

Table 1. Descriptive statistics and MANOVA results comparing competition levels (N = 383).

	Competition Level				
Variable	Recreational (n = 176)	Sub-elite (n = 144)	Elite (n = 63)	$F_{(2, 382)}$	η^2
Psychological safety	4.36 ± 0.60[a]	4.21 ± 0.58	4.04 ± 0.55	7.68*	0.04
Intention to report interpersonal violence	4.90 ± 1.28[a]	4.53 ± 1.21[b]	3.42 ± 1.16	33.43*	0.15

Note. Numbers in the columns of the three competitive levels are means ± standard deviations. Possible range of scores is 1-7 for both variables. η^2 = partial eta squared.
*= p <.01.
[a]= significantly different from sub-elite and elite.
[b]= significantly different from elite.

interpersonal violence. Zero-order correlation showed that psychological safety was positively and moderately related to intention to report interpersonal violence ($r = .25$, $p < .01$).

Differences between competition levels

For our first study aim, the results of the one way MANOVA indicated a significant multivariate effect of competition level on psychological safety and intention to report interpersonal violence ($F_{4, 760} = 16.77$, $p < .01$, partial eta squared $[\eta^2] = 0.08$). Results of follow-up univariate ANOVAs and effect sizes can be seen in Table 1, with post-hoc LSD tests reported in Table 2. Significant univariate effects were shown for both psychological safety and intention to report interpersonal violence. Post-hoc LSD tests revealed that participants competing at both sub-elite and elite level reported lower psychological safety than recreational level participants, whereas no differences in psychological safety were found between sub-elite and elite. For intention to report interpersonal violence, both sub-elite and elite athletes reported lower intention than recreational athletes and sub-elites reported higher intention than elites.

Mediation analysis

For our second study aim, we examined whether differences between sub-elite and elite participants and recreational participants in intention to report interpersonal violence could be attributed to competition level differences in psychological safety. Results are reported in Table 3 and illustrated in Figure 1. In line with the MANOVA results (Tables 1 and 2), sub-elite and elite level participants indicated lower psychological safety and intention to report interpersonal violence compared to recreational level participants. Psychological safety positively predicted intention to report interpersonal violence. The lower intention to report interpersonal violence for sub-elite and elite level participants compared to recreational level participants, was, in part, attributed to lower psychological safety experienced by elite and sub-elite, as indicated by the significant indirect effect. The effect size of the indirect effect was small for recreational vs. sub-elite (D_1), and moderate for recreational vs. elite (D_2). The model explained 15% of the variance in intention to report interpersonal violence ($R = .39$, $F_{2, 380} = 33.43$, $p < .01$).

Table 2. Results of post-hoc tests examining differences between competition levels in psychological safety and intention to report interpersonal violence (N = 383).

Comparison	$M_{Diff} \pm$ SE	95% CI	p
Psychological safety			
Recreational vs. Sub-elite	0.15 ± 0.06	0.02 to 0.27	.02
Recreational vs. Elite	0.31 ± 0.08	0.15 to 0.48	<.01
Sub-elite vs. Elite	0.17 ± 0.09	0.00 to 0.34	.05
Intention to report interpersonal violence			
Recreational vs. Sub-elite	0.37 ± 0.14	0.09 to 0.64	.01
Recreational vs. Elite	1.48 ± 0.18	1.12 to 1.84	<.01
Sub-elite vs. Elite	1.11 ± 0.19	0.75 to 1.48	<.01

Note. M_{Diff} = estimated marginal mean difference. SE: standard error; CI: Confidence interval.

Table 3. Total, direct and indirect effects of competitive level on intention to report interpersonal violence via psychological safety.

Pathway	Estimate (SE)	95% CI	PSIE	95% CI
Direct effect on psychological safety				
Recreational vs. sub-elite	−0.15 (0.06)	−0.27 to −0.02		
Recreational vs. elite	−0.31 (0.08)	−0.48 to −0.15		
Direct effects on intention to report interpersonal violence				
Recreational vs. sub-elite	−0.30 (0.14)	−0.57 to −0.03		
Recreational vs. elite	−1.35 (0.18)	−1.70 to −0.99		
Psychological safety	0.42 (0.11)	0.21 to 0.64		
Indirect effect of competition level on intention to report interpersonal violence via psychological safety				
Recreational vs. sub-elite	−0.06 (0.03)	−0.14 to −0.01	−0.05 (0.02)	−0.10 to −0.01
Recreational vs. elite	−0.13 (0.05)	−0.24 to −0.05	−0.10 (0.04)	−0.18 to −0.04
Total effect on reporting interpersonal violence				
Recreational vs. sub-elite	−0.37 (0.14)	−0.64 to −0.09		
Recreational vs. elite	−1.48 (0.18)	−1.84 to −1.12		

Note. Unstandardized regression coefficients are shown. Recreational was coded as 0, sub-elite and elite as 1. Therefore, a negative estimate indicates that elite and sub-elite had lower estimated scores than recreational level athletes. SE = standard error. PSIE = partially standardized indirect effect.

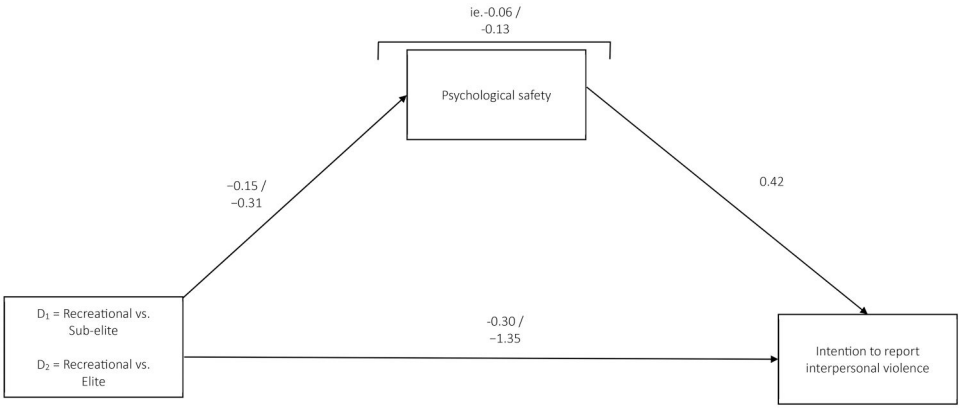

Figure 1. The effects of competition level on intention to report interpersonal violence via psychological safety.
Note: ie = indirect effect. The first number refers to recreational vs sub-elite mean difference, while the second number refers to recreational vs elite mean difference. Values are unstandardized regression coefficients. Recreational was coded as 0 and sub-elite and elite as 1. Therefore, a negative value indicates that sub-elite or elite scored lower than recreational in psychological safety or intention to report interpersonal violence.

Discussion

In this study, we found that elite and sub-elite athletes are less likely to feel psychologically safe and have lower intentions to report interpersonal violence than recreational athletes. We also showed that in comparison to recreational athletes, the lower intention to report interpersonal violence in both elite and sub-elite athletes was attributed, in part, to lower feelings of psychological safety experienced by these athletes. No differences in psychological safety were found between elite and sub-elite athletes. Our results highlight the importance for sport organizations to create psychologically safe environments whereby sport leaders, such as coaches, managers and directors, engender a culture that promotes speaking up when experiencing interpersonal violence and supporting athletes who come forward in speaking out.

We found that elite and sub-elite athletes are less likely to report interpersonal violence than those at a recreational level, and elite athletes are less likely to report violence than sub-elite athletes. With previous research showing that athletes are reluctant to speak out about interpersonal violence concerns through fear of exclusion from their sport (Newman et al., 2022; Solstad, 2019; Tuakli-Wosornu et al., 2022), our results indicate that this may be related, in part, to the level at which they compete. Elite sport can often engender a culture that promotes sacrificing health in order to achieve goals and ambitions (Tuakli-Wosornu et al., 2024), which in turn, could develop the acceptance of interpersonal violence (Coker-Cranney et al., 2018; Hughes & Coakley, 1991; Stirling & Kerr, 2008).

Compared to recreational athletes, elite and sub-elite athletes reported lower psychological safety, whereas no differences in psychological safety were found for elite vs. sub-elite. Explanations for this could be associated with the relationships athletes have with those in leadership. That is, sport is characterized by power differentials whereby leaders, such as coaches, managers and directors, can decide to include or exclude a person in their club. Many athletes are therefore dependent on the decision of leaders to remain in the club, and for elite and sub-elite athletes, to make a living or achieve a goal they have committed to for years. As a result, athletes at a higher competition level may be more fearful of speaking up than those at a recreational level in case it results in being excluded from the team. Elite athletes have reported being fearful of speaking up in case of de-selection or removal from the team (Moriconi & De Cima, 2020; Newman et al., 2022; Solstad, 2019). Newman et al. (2022) found that professional footballers normalized interpersonal violence and were reluctant to report it due to fear of de-selection and the potential of being ostracized by team members and coaches. Similarly, Cooke et al. (2024) reported that athletes who experienced less psychological safety were more likely to remain silent about serious issues. Our results add to these findings and provide further understanding of psychological safety, which may be experienced less by elite and sub-elite than recreational athletes.

It could be speculated that compared to elite and sub-elite athletes, recreational athletes may be more willing to report interpersonal violence as it holds less of a consequence than those at elite levels. That is, sub-elite and elite athletes may believe they will be deselected or cast out by team members if they speak out about interpersonal violence, which in turn, will be detrimental to their career. Recreational athletes may find it easier to relocate to another club, find a new coach or drop out of the sport entirely, whereas an elite or sub-elite athlete is bound by their regional/national organization or contracted to a club and as such may not be able to move as easily. This finding could underscore a survivorship bias in elite athletes (Uphill & Hemmings, 2017), whereby those at the pinnacle of sport normalize and accept interpersonal violence compared to recreational athletes who may drop out after experiencing interpersonal violence. Such a normalization and acceptance at elite levels is likely to continue and potentially develop into more severe violence that goes overlooked and unreported.

For our final study aim, we examined whether competition level differences in intention to report interpersonal violence are attributed to feelings of psychological safety. When we adjusted for competition level differences in psychological safety by including it as a mediator in our analyses, we found that the mean difference (for recreational vs.

sub-elite and for recreational vs. elite) in intention to report violence was reduced. This suggests that an elite or sub-elite level athlete may not feel as psychologically safe than a recreational level athlete and in turn, be more reluctant to speak out about interpersonal violence. It has been reported that psychological safety (Vella et al., 2024; Walton et al., 2024) and characteristics highly related to it (e.g., fear of raising concerns, club culture, need to appear "strong"; Cosh et al., 2024) can regulate whether an athletes speaks out about their concerns. As such, for those aiming to encourage athletes to report interpersonal violence, a need exists to ensure that they feel psychologically safe in speaking out about interpersonal violence at all competition levels.

Study limitations and future research

The results of our research should be interpreted in light of the following limitations. First, while our intention to report interpersonal violence measure was developed in line with Ajzen (2002) recommendations for measuring intention and consultation with athletes and experts in the field, the measure did not undergo full psychometric validation. Future research should aim to conduct further assessment of the measure's validity to ensure it represents athletes' intention to report interpersonal violence. Second, we only measured the intention to report interpersonal violence in hypothetical situations, which may be different from actual behavior. A need exists to understand if relationships exist between actual reporting of interpersonal violence, competition level and psychological safety. Third, our intention measure only considered four types of interpersonal violence. Given that there are many different types of interpersonal violence (see Tuakli-Wosornu et al., 2020) and degrees of severity (Vertommen et al., 2016), participants' intention to report it is likely to change depending on the interpersonal violence experienced. As such, future research should consider other types of interpersonal violence of varying severity (e.g., hazing from teammates, sexual maltreatment from a physiotherapist, physically attacked by a coach) and the relationship with an athlete's intention to report it.

Finally, our study was cross-sectional and as such, it is not possible to establish the direction of causality. For example, we suggest that the lower intention to report interpersonal violence typically experienced at a higher competition level is attributed to lower psychological safety at that level. That is, the lower psychological safety may lead to lower intention to report interpersonal violence. However, as psychological safety can originate from interpersonal interactions, including being heard when speaking up (Edmondson & Bransby, 2023; Walton et al., 2024) it is possible, although less likely, that athletes' intention to report interpersonal violence may lead to changes in psychological safety. Future research using longitudinal and/or experimental designs is needed to shed light on the direction of the effects reported here.

Practical implications

The practical applications of our findings highlight the need for sport organizations of all levels to encourage athletes to report interpersonal violence. A cultural shift in elite and sub-elite sport is needed, whereby athletes do not condone or accept interpersonal violence. Fundamentally, athletes at all stages of their career should feel confident and

safe in reporting interpersonal violence without being afraid of the consequences. From a top-down perspective, leaders should create a culture in their club that refutes interpersonal violence (e.g., shouting at athletes for underperforming, encouraging athletes to train while injured), and prevents it from becoming an accepted part of "being an athlete" (c.f. McPherson et al., 2017; Stirling & Kerr, 2008). Leaders need to ensure that athletes know how to report interpersonal violence, that they have access to a safeguarding officer in which to report information confidentiality and are informed about the forms of interpersonal violence and why experiences of it should be reported. From a bottom-up perspective, athletes need to be engaged in the processes of ensuring that their club has appropriate methods in place in which to report interpersonal violence concerns. While educational programmes can raise awareness of safeguarding and reporting interpersonal violence, these are often not created by considering the needs of the athletes. As such, co-creation of interventions (c.f Smith et al., 2023) is required whereby athletes develop the educational materials alongside researchers and those in positions of power to ensure athletes feel psychologically safe and speak up about interpersonal violence.

Psychological safety exists in environments in which athletes feel safe in speaking out about interpersonal violence. This should therefore be an integral goal for all sport clubs at all levels, whereby an explicit and direct focus of destigmatising the consequences of reporting interpersonal violence and encouraging athletes to speak out about their concerns is a cornerstone of the culture of their club. To help with this, we, like others (Jowett et al., 2023; Walton et al., 2024), emphasize that for athletes to feel psychologically safe it is important that sport leaders empower athletes to bring up concerns about interpersonal violence without fear of consequence. Importantly, the leadership style adopted can be significant in shaping this (Vella et al., 2024). Authentic leaders, for example, are aligned to acting as positive role models, are fair and ethical, and encourage athletes to display their authentic selves, which in turn could further promote psychological safety (Hurst & Kavussanu, 2025).

Note

1. We did not compare sub-elite vs. elite given that no differences in psychological safety were found between these groups (see Table 2).

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Data availability statement

The data is available upon request from the corresponding author.

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