PREVENTION OF ABUSE AND HARASSMENT IN ATHLETICS AND SPORTS

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PREVENTION OF ABUSE AND HARASSMENT IN ATHLETICS AND SPORTS

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EDITORIAL
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Editorial: Prevention of Abuse and Harassment in Athletics and Sports

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Editorial on the Research Topic

Prevention of Abuse and Harassment in Athletics and Sports

The Research Topic on Abuse and Harassment in Athletics and Sports recently published in Frontiers aimed at providing athletes, their entourage, and sport governing bodies with new data and concepts about a concern of growing importance. Indeed, following the numerous campaigns to publicly denounce acts of abuse and harassment in the civil society or working environment, the world of sport has also brought its share of scandals and revelations in recent years.

In their epidemiological report on young elite Athletics athletes, Bermon et al. confirmed that the observed lifetime prevalence of verbal, physical and sexual abuses in their studied population is very similar to those reported in recreational athletes and in the general population. Inside Athletics setting, verbal abuse, an often-neglected form of abuse, was frequently reported in both male and female athletes (21–23%). Although some geographical discrepancies were noted, prevalence of physical (12 vs. 9%) and sexual (12 vs. 7%) abuses were on average slightly higher in male than in female elite athletes, respectively. Another interesting finding is the higher prevalence of touching and penetrative sexual abuses in young male athletes compared to young female athletes. Contrary to a common belief, athletics coaches were identified as perpetrators of all these forms of abuse in only 25% of cases; friends, partners and other athletes together representing 58% of the perpetrators of abuses committed in the athletics setting.

In their scoping review, Gaedicke et al. carefully analyzed the coach-athlete relationship and sexual violence. Imbalance of power appeared as a crucial concept favoring the occurrence of sexual or physical abuses. In most countries and sports, these coach positions are still held by men who often develop an authoritarian coaching style, which is believed to be associated with better sports results. However, this coaching style has been identified in many studies as a risk factor for the emergence of violence. The closeness between a coach and an athlete is also identified as a complex component which has been described as a positive factor in the coach–athlete relationship, an important aspect of sporting success, and a risk factor for the emergence of sexual violence. Setting *a priori* clear boundaries in the coach-athlete relationship, clearly defining coach's and athlete's roles and mutual expectations (including a written document or a contract) are effective ways of preventing abuses and maintain trust. The case of a love relationship between a coach and an athlete is an extreme but not rare case. Even in the case of an *a priori* consensual relationship, raises the problem of the value of the consent given by an immature athlete in a situation of emotional dependence or under the effect of an asymmetry of power in the relationship. Finally, as described by Bermon et al.; Gaedicke et al., the phenomenon of heteronormativity must be considered with caution when studying abuse and violence in sports. Indeed, recent statistics show that same-sex abuse is more frequent than assumed and even more often hidden by the victims.

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In an attempt to better define the characteristics of perpetrators responsible for child sexual abuse in sports, Vertommen et al. analyzed the casefiles of sixteen perpetrators of child and teenagers sexual abuse in sports to assess static and dynamic risk factors related to sexual recidivism. There was not a single distinctive profile of the perpetrators and the authors noted that most of them were socially integrated and well-respected within the sport organization where they often had responsibilities in the sport organization. These findings reiterate the importance of general primary and secondary prevention in sport and society at large.

From a sport governing body perspective, it is recommended that beyond the physical and sexual abuse and harassment, a global culture of "Safe Sport" or safeguarding is developed. This culture should for instance consider topic like doping (Guo et al.) or concussion (Malcolm), or new trends in sports like e-sport and their health consequences (Kelly and Leung). Designing and implementing such a "Safe Sport" program is a huge challenge for sport governing bodies. Indeed, it is a multi-faceted approach requiring human and financial resources which are often lacking in small to medium size sports federation or clubs. Among the necessary steps to be completed by governing bodies, education on safeguarding, designing, and implementing policies or rules, developing an independent channel for the victims to report abuses or misbehaviours, and triggering investigations, have been reported as being the most important ones (Gurgis and Kerr). In these policies and regulations design, general counsels with expertise in human right, legal aspects and ethical compliance have an important role to play (Carska-Sheppard and Ammons).

To achieve all goals previously listed, Komaki et al. suggest a paradigm shift: from wrongdoing to right doing and from punishment to reward. Reinforcing initiative accentuating a positive culture is considered as a promising solution. For instance, recruiting and promoting sport coaches with a culture of supporting athlete well-being should be experimented.

The present Research Topic on Abuse and Harassment in Athletics and Sports sheds further light on both the variety and complexity of the problem of verbal, physical and sexual abuses in sport. Although much epidemiological and sociological work is still needed, it invites those responsible for the prevention and eradication of abuses in sport to be very open-minded in their understanding and treatment of this problem affecting all areas of our societies.

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OPINION
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The Impact of the Concussion Crisis on Safeguarding in Sport

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Keywords: brain injury, chronic traumatic encephalopathy, concussion, safeguarding, regulation, medicine

INTRODUCTION

For ∼30 years, sociologists have explored the distinct ways in which athletes experience injury (Young, 2019). This work has explained the apparent high incidence of injury in relation to subcultural factors such as the dominance of masculinity (McGannon et al., 2013) and the specific organizational dynamics of sport (Nixon, 1992). Walk (1997, p. 24) perceptively noted that the implication of these analyses was that "medicine is practiced differently, more competently, and/or more ethically in non-sports contexts," a hypothesis that has largely been borne out by subsequent empirical analyses (Malcolm, 2017). Indicatively, a study of English professional football concluded that "many clubs fail to meet the requirements of health and safety legislation" (Murphy and Waddington, 2011, p. 239). A high incidence of injury allied to limited or substandard healthcare runs contrary to the guiding principles of safeguarding in sport.

In the last decade, rising public health concerns about brain injuries in sport—both concussion and chronic traumatic encephalopathy (CTE)—have reinvigorated this field. Specifically, as coroners decreed that the neurodegenerative illnesses of former athletes were a form "industrial disease," questions were asked about the sport's subcultural practices and a range of harm reduction measures were initiated. The previous routine dismissal of concussions as short-lived and relatively trivial events has been replaced by claims that there is now a concussion epidemic or crisis (Malcolm, 2020). Public support for sports injury safeguarding measures is perhaps stronger now than at any time in recent history.

This opinion piece explores the impact of this concussion crisis on injury prevention and safeguarding in sport. It outlines the significant changes that have been made in recent years and the problematic or potentially limiting aspects of these changes. The discussion identifies three far-reaching changes required to promote further safeguarding and de-institutionalize physical harm to sport participants.

HOW AWARENESS OF CONCUSSION HAS MADE SPORT SAFER

Concerns about brain injuries in sport stimulated political inquiries which have subsequently forced sports organizations to reconsider their duties to protect participants at all playing levels. Most notably, in a 2009 Congressional hearing the National Football League (NFL) were accused of neglect in both protecting current players from injury and managing the cases of retired players exhibiting cognitive decline. The response of the NFL was to repeatedly cast doubt and uncertainty over the reliability of scientific evidence and the causal connection between *playing* the game and player harm (Goldberg, 2013). Congress viewed the NFL as having fallen "short of community and government expectations" and failing "to regulate its sport for and in the best interests of the players and the public" (Greenhow and East, 2015, p. 75, 76). In 2015, a class action lawsuit concluded when the NFL agreed to establish a $1bn player compensation fund. These events were clearly and vividly depicted in the influential film and book *League of Denial* (Fainaru-Wada and Fainaru, 2013), and the publicity surrounding the NFL's experiences alerted sports governing bodies

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around the world to their duties of care, candor (or openness), and diligence in actively searching for relevant information about the physical harms to players (Anderson, 2016).

In response to their duty of care, governing bodies of most (if not all) contact sports have integrated specific clauses about the management of concussion into their rules and regulations. Many sports have instigated rule changes which seek to limit the extent or type of contact between players/playing equipment (McGannon et al., 2013; Cassilo and Sanderson, 2018). Sports teams are now constrained in their management of concussion through requirements to undertake sideline evaluations, restrictions on the return to play of diagnosed players, and the use of concussion spotters or non-affiliated doctors to assess head injuries. They are further enabled through adaptations to substitution regulations for players with suspected concussions. Many sports have also instigated their own concussion awareness or education programmes. Player education programmes are mandatory in youth sport across the USA following the adoption of the Lystedt Law, while similar provisions are likely to be introduced across Canada following the adoption of Rowan's Law in Ontario.

In response to their duty of diligence, governing bodies for many contact sports have funded research programmes. Studies have focused on quantifying the incidence of injury (West et al., 2020), assessing harm mitigation developments (e.g., improved helmet design, the impact of new laws and training programmes), and (occasionally) charting the longer-term neurocognitive decline of retired athletes (Hume et al., 2017; Mackay et al., 2019). Such research is inherently controversial. While failure to fund scientific research can lead to allegations of neglect (e.g., in the case of the National Hockey League), commissioning research can be interpreted as undermining the essential neutrality of scientific investigation and thus unduly influencing the evidence base. Undertaking due diligence can also evoke criticisms about governing bodies' duty of candor (Carlisle, 2018). In 2015, World Rugby clashed with their academic investigator over the interpretation of research findings (https://www.nzherald.co.nz/sport/news/article.cfm?c_id=4&objectid=11658681) and in 2017 was forced to retract some of the claims made in publicity materials about the relative safety of the sport (Piggin and Pollock, 2017).

The consequence of these combined changes is that the protection of concussed athletes is greater than at any point in history. Overall, however, the concussion crisis has meant that governing bodies have a heightened awareness of the injuries participants routinely experience, more proactively investigate health risks, and have enacted harm reduction changes.

THE LIMITS OF CHANGE

Despite these developments, three features of the concussion crisis effectively restrict the degree of protection offered by these harm mitigation policies.

First, all existing concussion protocols are premised on the assumption that injuries should be managed as discrete rather than cumulative events. Specifically, while both the immediate withdrawal of players suspected of being concussed and graduated return to play (GRTP) protocols represent important safeguarding measures, there are no regulations which govern players who experience multiple concussions. The empirical evidence is contested but, at the very least, data indicating that symptoms may become more frequent and severe, and potentially also lead to longer-term neurocognitive decline, suggest the "first do no harm" medical ethical principle is *in*consistently applied (McNamee et al., 2015).

Second, regulations consistently treat children more conservatively than adults, e.g., through longer "normal recovery" times and elongated GRTP protocols (McCrory et al., 2017). Again the empirical evidence is inconsistent and paternalistic concerns largely account for the restrictions placed on youth sport involvement. It is not clear why mandatory concussion education (e.g., under the Lystedt Law) should be implemented for children and not adults. Paternalistic protection of the child must not obscure the need to address the harms experienced by adults. A more logical response to studies which associate the development of neurocognitive conditions with exposure to sport (Mackay et al., 2019) is to restrict the maximum duration of participants' playing careers.

Third, policies have been introduced with seemingly naïve expectations of compliance. Qualitative research demonstrates the challenges healthcare professionals experience in pursuing medical best practice in sports contexts (Malcolm, 2018) and indicates that stricter regulation may be counterproductive (Malcolm, 2009). Cusimano et al. (2017) argued that concussion protocols were followed in just 37% of cases during the 2014 FIFA World Cup. Others have pointed to a lack of monitoring and effective sanction to properly enforce concussion regulations in both Australia (Partridge, 2014) and the USA (Mrazik et al., 2015).

DISCUSSION: THE FUTURE OF CONCUSSION AND SAFEGUARDING

The two sides of the concussion crisis debate remain polarized between those who insist that greater restrictions on individual liberty are justified by the need to protect participants (especially children) from harm, and those who believe the value of sports participation (especially physical and mental health benefits) outweigh the potential risks (Quarrie et al., 2017). Consequently, the regulation of concussion in sport remains a "wicked problem"; complex, difficult to define and continuously evolving (Greenhow and East, 2015). These tensions are likely to fuel continuous incremental safeguarding adaptations, but more radical reforms will require three main reconsiderations.

1. Reconfiguring the regulatory environment. The guiding ideologies of public health and sports medicine are, respectively, the prevention of harm/promotion of safety and enabling participation and performance (Safai, 2003). Consequently, these two groups view the standards of evidence and burdens of proof required for concussion-related changes from different ends of a spectrum. For as long as sport governing bodies retain their current levels of

autonomy over concussion regulation, the public health lobby will remain frustrated. However, the historic consensus that sports should operate a significant level of self-governance has been eroded in recent years, particularly in relation to financial management, doping, and child protection. This creates a precedent for further changes to athlete healthcare. Momentum may now be sufficient to initiate collaborative state-sport approaches—akin perhaps to the dual funding of the World Anti-Doping Agency—and hence bring these often opposing medical fields together in the regulation of sport.

2. Reinforcing the ethical norms of medical management. The context, clients and co-workers experienced in sport create distinct pressures on healthcare workers (Malcolm, 2017). Bucking societal trends, there is a clear case for greater medical autonomy in sport as a way of addressing the problems Walk (1997) initially identified. The use of "neutral" medical staff to aid sideline concussion assessments is a step in this direction, but these measures are limited to diagnosis rather than ongoing management and rehabilitation from injury. Securer contractual arrangements, more rigorous appointment procedures, and greater oversight from the medical profession will not only help raise the standards of healthcare for concussion, but for all types of injury in sport (Waddington et al., 2019).
3. Invoking *comprehensive* cultural change. Sustained and enduring change requires a cultural shift. All stakeholders—owners, coaches, athletes, medical staff, the media, parents, educators—have a role to play in questioning sport cultural norms around the tolerance of pain and injury (Frey, 1991; Hughes and Coakley, 1991), acceptance of harm, and celebration of risk-taking (Liston et al., 2018; Matthews, 2020). While the concussion crisis has been effective in raising social awareness of these issues, a major unintended consequence of extended regulation has been to position concussion as a unique form of injury. Consequently, this precautionary stance may be unnecessarily restricted to concussion injuries. Further safeguarding in sport requires these underlying precautionary principles to be transferable to other injury risks. Paradoxically, making concussion *un*exceptional is necessary for the relatively high injury rates to be more effectively challenged.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Using Carrots Not Sticks to Cultivate a Culture of Safeguarding in Sport

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The power-driven, win-at-all-costs milieu of many sport settings can create fertile ground for athlete victimization and abuse (Roberts et al., 2020). Victory can in fact be so sovereign that abusive coaches and staff are enabled and "even rewarded…in the name of winning" (Armour, 2020). Athlete abuse prevention therefore requires systemic cultural change (Letourneau et al., 2014; Rhind and Owusu-Sekyere, 2017). Thus far, however, enacting this idea has eluded organizations in sport (Mountjoy et al., 2016; Harris and Terry, 2019; Kerr et al., 2019; Rhind and Owusu-Sekyere, 2020) as well as in other settings (National Academies of Sciences, 2018; Fort Hood Independent Review Committee, 2020). Moreover, authority figures in sport[1] have historically hindered abuse prevention efforts. As activist reformer Brackenridge (2001) wrote, their "collective denial effectively blinded [them] to the possibilities that they might actually be harboring or facilitating sexual [and others forms of] exploitation".

This opinion piece first identifies the limitations facing current approaches to athlete abuse prevention. It then offers a novel solution: an athlete-centered safeguarding strategy based on positive reinforcement theory (Skinner, 1953). This approach, as described in Komaki and Minnich (2016), will enable sports authorities to transform the culture, the most powerful predictor of victimization and abuse (National Academies of Sciences, 2018).

THE CURRENT CULTURE OF (ELITE) SPORT FACILITATES ABUSE

Sport's cultural terrain, especially at the elite level, is challenging for athletes and sports authorities to navigate (Roberts et al., 2020). Former CEO of the U.S. Olympic and Paralympic Committee Scott Blackmun personified the predicament that places athletes in vulnerable positions. Whether wooing coaches, executives, or sponsors, Blackmun prioritized putting medals around athletes' necks over keeping them safe. "For us," Blackmun said in 2014, "it's all about medals" (Hobson, 2018). This single-minded focus on winning in many sport settings is so entrenched that abusive behaviors are perceived to have beneficial effects. This false belief and others are major organizational drivers of all forms of abuse (Fortier et al., 2020; Roberts et al., 2020). As gymnastics coach Gerrit Beltman admitted, "it was never my conscious intention to beat (athletes), to yell at them, to hurt their feelings, to belittle them, to gag them… But it did happen… I went too far because I thought it was the only way to instill a winning mentality in them" (Macur, 2020a).

Despite evidence that good interpersonal health improves athletic performance (Al-Yaaribi et al., 2018; Cascagnette et al., 2020), many sports organizations still have difficulty prioritizing safety (Grey-Thompson, 2017; Kerr and Stirling, 2019) and explicitly connecting athlete welfare to winning. Recently, however, some sports authorities have displayed welcome attitude changes. The

[1]Here, we use "authority figures in sport" or "sports authorities" to refer broadly to people in sport settings with real or perceived power over athletes including coaches, athletic directors, club or team managers, physicians, national sport governing body presidents/directors, international federation presidents/directors, International Olympic or Paralympic Committee leadership, etc.

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head of U.S.A. Gymnastics Li Li Leung, for example, contended in 2020 that well-being and victory are not mutually exclusive. "We believe that our athletes can be competitively excellent and compete at a very high level and also be happy and feel safe," she said (Macur and Allentuck, 2020).

Although figures like Leung are well-intentioned, they lack the means to ensure athlete well-being because they know only when their organization has failed: when they get a report of abuse. If their only safeguarding metric consists of fumbles and failures, they cannot measure the opposite: how well their organization is doing in making athletes feel safe.

ABUSE PREVENTION STRATEGIES THAT RELY HEAVILY ON REPORTING HAVE LIMITATIONS

Sports organizations currently depend almost exclusively on systems of disclosures and sanctions to deter abuse (Vertommen et al., 2013; Mountjoy et al., 2016; U.S. Center for SafeSport, 2021a). Only after a victim or observer takes the risk of complaining does the punishment-redress process commence. Thus, the onus for abuse prevention is often placed on the most vulnerable member of the sports system, the athlete. Alas, this over-reliance on reporting is unsubstantiated (Letourneau et al., 2014).

Reporting-initiated prevention efforts are further complicated by people's general reluctance to disclose abuse. In the case of sexual abuse, for example, only 10% of female victims ever file complaints; for male victims, only 5% (Stop Street Harassment, 2018). Even when athletes and others finally disclose harm, they often wait years, as Diana Nyad did before confiding in her best friend about her abusive high school coach (Nyad, 2017). Among the reasons so few report are: victims may be re- and further traumatized through reporting (van der Kolk, 2002; McClinton Appollis et al., 2015), and in sport, there are powerful cultural forces ("grin and bear it," "no pain no gain" attitudes) and entrenched power imbalances (Roberts et al., 2020) that discourage disclosure of harms and *actively* undermine reporting programs.

Finally, sports authorities do not always take the necessary action following abuse reports. The belief that "no news is good news" fosters an atmosphere of stuffing reports in desk drawers (Kwiatkowski et al., 2016), dismissing victims' complaints (Allentuck, 2019), or even retaliating against those who report (Denhollander, 2018). In order to maintain their reputations, for example, Pennsylvania State University's football coach Joe Paterno and other top administrators "stood-by in silence or actively concealed knowledge of abuse" (Hartill, 2013). The failure to follow through persists at the highest levels: an 18-month investigation in 2019 found that two of the top-ranking U.S. Olympic and Paralympic Committee officials, Scott Blackmun and Alan Ashley, did little to probe, report, or halt Larry Nassar, the long-standing gymnastics team doctor and now convicted sexual predator (McPhee and Dowden, 2018). Olympian Aly Raisman noted ruefully how quick officials were to "capitalize on and celebrate my success. But did they reach out when I came forward (to report abuse)? No," she said (Raisman, 2018).

CRAFTING THE CULTURE USING CARROTS NOT STICKS

Given the foregoing, simple fixes to athlete abuse prevention won't do. Nothing short of a cultural revolution is required. A safeguarding model in which teams are rewarded for cultivating a constructive culture—as judged by athletes—is an innovative approach in sport. Fostering a positive, athlete-centered culture demonstrates that sports organizations care and can also avert physical, sexual, and emotional abuse. Moreover, it empowers athletes' voices.

Undergirding this proposal is the theory of positive reinforcement (Skinner, 1953). This well-established theory focuses on the environment and provides a known driver of human motivation: favorable performance consequences. Thus, participants in sport may be *more* motivated to make meaningful behavior changes when positive consequences such as recognition and encouraging feedback (e.g., "carrots") are used rather than negative consequences such as sanctions and dismissals (e.g., "sticks").

The effectiveness of the reinforcement approach has been documented in rigorously controlled experiments outside of sport, with a success rate as high as 93% (Komaki et al., 2000). Reinforcement interventions have resulted in measurable behavioral improvements ranging from increased work productivity to better customer service in private and public sectors. The approach was used to prevent workplace accidents in a food manufacturing plant, for example (Komaki et al., 1978). In this setting, senior leaders faced similar barriers as sport administrators do: employees rarely reported injuries due to fear of retaliation, and leaders knew about employees' injuries only after serious accidents. After creating a metric for and recognition of safety performance, safety increased and accidents decreased (Komaki et al., 1978).

Using this carrots-rather-than-sticks model, the lead author (JLK) is now discussing a reinforcement-based abuse prevention plan with the U.S. Army. For this model to work, soldiers will be asked to respond to a "Trust Culture Checklist," enabling feedback and recognition of soldiers and their supervisors.

HOW REWARDING TEAMS AND ENTOURAGES FOR MAINTAINING A POSITIVE CULTURE MIGHT WORK IN SPORT

Sport administrators are invited to implement this model. For example, athletic directors could recruit school-based teams to create a positive culture using a "*Safeguarding Checklist*." Modeled after the Army's "Trust Culture Checklist," an example of a "Safeguarding Checklist" that could be used in sport is provided in **Table 1**. Athletes are asked to answer questions about the culture, which includes team camaraderie (Salas et al., 2020) and supportive leadership

TABLE 1 | Safeguarding Checklist.

Think about your team over the past week and answer the following questions (check all that apply)		
Camaraderie		
In the last week, one or more **athletes** on my team would have or did…?		
1. Call or text me, e.g., about dinner, a movie	☐ Yes	☐ No
2. Ask me how I'm doing	☐ Yes	☐ No
3. Make sure I had transportation to grocery store, team events	☐ Yes	☐ No
4. Encourage me in my training, e.g., working harder, with more rest breaks	☐ Yes	☐ No
5. Celebrate with me when/if something good happens to me	☐ Yes	☐ No
6. Make me feel comfortable talking through a personal problem	☐ Yes	☐ No
7. Notice if/when something bad happens to me	☐ Yes	☐ No
8. Backed me if/when I had challenges with my team/coach/staff	☐ Yes	☐ No
9. Looked out for potentially unsafe situations	☐ Yes	☐ No
10. Intervened if/when someone bothered/pressured me	☐ Yes	☐ No
Leadership		
In the last week, my **coach** would have or did...?		
1. Check in with me/team about triumphs/criticisms/retaliation within the team	☐ Yes	☐ No
2. Ask what he/she/they can do to help the team succeed	☐ Yes	☐ No
3. Say something when/if I do something good for the team and/or team members	☐ Yes	☐ No
4. Thank me when/if I say there's a problem/issue with the team	☐ Yes	☐ No
5. Welcome input/feedback from the team	☐ Yes	☐ No
In the last month, the **athletic director** would have or did...?		
1. Check in about our team's progress/problems	☐ Yes	☐ No
2. Follow up with the coach/staff about things going well/poorly	☐ Yes	☐ No
3. Publicly celebrate the team's accomplishments with school leadership/media/sponsors	☐ Yes	☐ No
4. Thank me/my peers when/if we brought up an issue about the coach/staff	☐ Yes	☐ No
5. Welcome input/feedback from the team about the coach/staff	☐ Yes	☐ No
Well-being		
In the last week, my **coach** would have or did...?		
1. Check in with me about how I felt I was progressing	☐ Yes	☐ No
2. Say something when/if I do something good or better during training/exercises	☐ Yes	☐ No
3. Speak to me in a tone that conveyed respect	☐ Yes	☐ No
4. Acknowledge and make necessary adjustments for pain/injuries I have/had	☐ Yes	☐ No
5. Conduct any hands-on adjustments to my form or technique in a way that is useful and appropriate	☐ Yes	☐ No
In the last week, the **team doctor** would have or did...? ☐ n/a *(did not interact)*		
1. Take the time to check in with me about how I am feeling	☐ Yes	☐ No
2. Let me know that the doctor cares about me getting better	☐ Yes	☐ No
3. Speak to me in a tone that conveyed respect	☐ Yes	☐ No
4. Conduct any examinations in a way that is useful and appropriate	☐ Yes	☐ No

(Komaki, 1998), as well as their sense of personal well-being (Quick and Tetrick, 2011). If coaches and others engage in healthy athlete-centered behaviors, while teammates watch out for one another, the culture should improve and athletes' welfare should thrive.

To assess well-being, athletes identify positive interactions, e.g., their coach speaking "in a tone that conveyed respect," and "making necessary adjustments for pain/injury." No questions directly ask about maltreatment. That said, reasonable inferences can certainly be drawn. If few to no positive interactions are indicated, athletes may be experiencing exploitation. If an abundance of positive interactions are identified, the team may be enjoying a near-absence of abuse and victimization—the ultimate goal.

To evaluate leaders' interactions, Komaki's reinforcement-based leadership model is used (Komaki, 1998). Athletes are asked whether coaches monitor ("checked in … about triumphs/criticisms/retaliation within the team") and provide them with feedback ("say something when/if I do something good for the team"). Evidence for the model was provided, among other studies, by sailboat skippers during a round-robin regatta at the U.S. Naval Academy (Komaki et al., 1989). Winning skippers went beyond giving directives; they regularly inquired about their crews/sails as they shouted out words of encouragement.

To investigate team camaraderie, athletes indicate whether team members "celebrated with me when/if something good happens to me" and "intervened if someone bothered/pressured me." As in the military, the social environment matters in sports. A close-knit culture can mitigate the often punishing conditions of training and competing. Ski powerhouse, the Norwegian men's Alpine team, exemplifies this idea: teammates share techniques, cheer for one another, work, play, and win together (Pennington,

2018; Cascagnette et al., 2020). Said Kjetil Jansrud, "if you have teammates who consistently lift you up, then … you'll work harder and stay motivated" (Pennington, 2018).

Athletes can be asked to complete the Checklist weekly on their phones (or other devices) so that input/feedback can be summarized on graphs. To ensure athletes are free of repercussion or retaliation, individual data are kept strictly confidential; only group scores are shared. No one is ever asked about wrongdoing. Instead, athletes indicate if their coach "welcomes input/feedback from the team." Teams who have been retaliated against by coaches are less likely to indicate that their coaches embrace critiques.

Feedback graphs in hand, shout-outs can be given to coaches for responsible mentorship, to teammates for building camaraderie, and to athletic directors for broadcasting team accomplishments. Participants can judge progress, discuss suggestions for the following week, and adjust accordingly. Here, struggling coaches are given an opportunity to seek out guidance, while the athletic director can acknowledge coaches with strong improvement/accomplishments. Celebrations can be held monthly with results disseminated to top team officials and sponsors.

IMPLICATIONS OF THE PROPOSED PARADIGM SHIFT

This reinforcement model requires a paradigm shift: from wrongdoing to right-doing and from punishment to reward. Rather than ferreting out "bad apples," the emphasis is on transforming the culture (Komaki and Minnich, 2016). Sports organizations of different levels could augment their current reporting/punishment process (U.S. Center for SafeSport, 2021a), as well as safety-risks-reduction programs (Kaufman et al., 2019; U.S. Center for SafeSport, 2021b) with a reinforcement initiative accentuating a positive culture. Furthermore, when hiring, coaches could be screened for evidence of supporting athlete well-being. Compensation packages could reward sports authorities for sustaining a positive culture.

Sports authorities have an opportunity here to follow the management adage "we treasure what we measure." Rather than waiting for reports of abuse, Leung, for example, could use this safeguarding metric to proactively create "a safe, positive and encouraging environment where athlete voices are heard" (Allentuck, 2019). Using Checklist data, she could recognize coaches for right-doing and even brag to Sarah Hirshland, CEO of the U.S. Olympic and Paralympic Committee, about teams' safety and social health. In turn, Hirshland could highlight national governing body presidents who are successful in keeping athletes safe—possibly rewarding them with extra resources.

For coaches, receiving confidential, collective feedback about right-doing would open up opportunities for self-correction. Trying out new ideas might improve relationships with athletes and help ward off accusations of wrongdoing, evidently a grave fear of coaches (Tam et al., 2020). Recently barred from coaching for "severe aggressive behavior" (Macur, 2020b), Maggie Haney admitted making mistakes in the way in which she treated her athletes (Macur, 2020b,c). "Maybe what used to be OK is not OK anymore," she said. Had Haney had real-time information about her athletes' responses to her coaching, she might have changed her interactions with them.

For athletes, a critical component of this paradigm shift is the empowerment—and subsequent prioritizing—of their voices. By using a safeguarding metric where athletes highlight positive behaviors (rather than being confined to reporting only negative behaviors), the power dynamic shifts. Furthermore, proactively building nurturing sports environments using positive consequences to motivate behavior would be an unorthodox but welcome change for athletes used to a "grin-and-bear-it," "suck-it-up" environment (Pinches, 2020). Elite running coach Lauren Fleshman prides herself on checking in with athletes about their energy and mood, and making adjustments accordingly (Hamilton, 2020). Marathoner Carrie Mack said of Fleshman: "We state our own needs and they're accepted and heard… That's what's radical, and empowering."

By galvanizing athletes and coaches around a positively embracing, athlete-centered culture, sports organizations can show they truly care, achieving Raisman's dream that no one would "ever ever have to say the words, 'Me too'" (Raisman, 2018).

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All authors contributed to the article and approved the submitted version.

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The New Frontier of Esports and Gaming: A Scoping Meta-Review of Health Impacts and Research Agenda

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Given the rapid evolution of the gaming industry and the rising popularity of a hyper-connected, competitive esports version of online gaming, a meta-review of the impact of online competitive gaming upon health is timely. A scoping meta-review was conducted on 10 reviews that reported on any health consequences (physical, lifestyle, cognitive, mental, or social) of esports, online competitive gaming, or video gaming participation, as a player or spectator. While past reviews have examined health effects of video gaming, few have focused upon the newly evolved gaming context, incorporating both playing and streamed viewing, recognition as a professional sport, and potential career and exponential participation. Most past reviews have focused upon physical health impacts of video gaming among adolescents and young adults, but none have examined impacts of different forms of gaming participation in the new gaming era, and their potential differential health impacts. A scoping meta-review was undertaken on the physical, social, and psychological health outcomes of competitive online gaming and associated screen use, revealing a need for further review and research into lifestyle health outcomes including diet and sedentary behavior among young esports and competitive video gaming participants.

Keywords: video gaming, eSports, health, meta-review, well-being

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INTRODUCTION

Video gaming over the past two decades has evolved into a hyper-connected, highly commercialized, competitive system of online gaming. The exponential growth and commercialization of "esports," which is an umbrella term encompassing different tournaments, competitions, events, and games, signals a mainstream, global phenomenon among millennial and Gen Z consumers. Esports is quickly becoming one of the world's largest entertainment industries, with a net worth exceeding 650 million US dollars in 2017 and estimated to increase to 1.5 billion US dollars by 2020 (Gough, 2020). The global audience for esports will reach approximately 600 million in 2023 (Tran, 2020), predominantly via platforms such as Twitch and YouTube. Esports participants (including both players and spectators) are largely young, well-educated males from high socio-economic backgrounds, making esports an attractive platform for luxury, and non-endemic sponsors (Hallmann and Giel, 2018). Sports including the NFL, NBA, Formula One, FIFA, AFL, and EPL are also diversifying into esports as a means to ensure their brands remain

relevant to future generations of consumers. Esports is now increasingly being recognized as a sport, with an International Olympic sub-committee recently approving esports as a sport for the 2022 Asian Games. However, its status is still subject to debate, with its nascent governance structures and commercially motivated core possibly outside the realm of established sports (Hallmann and Giel, 2018). Notwithstanding this debate, esports appears to embody many of the recognized attributes of sport including intense competition, significant participation and following, attraction of commercial sponsorship and prize money, and high performance training (Jenny et al., 2017).

Unlike traditional sports, the health benefits of esports are not immediately obvious (Ferguson, 2007; Boyle et al., 2011). Moreover, a growing body of research suggests that gaming may have a number of negative physical and mental health effects (Boyle et al., 2016; Taylor, 2018; Burleigh et al., 2019). "Gaming Disorder" has recently been listed as a mental disorder by the World Health Organization (World Health Organisation, 2020), whilst the American Psychiatric Association recognizes "Internet Gaming Disorder" as a potential diagnosis requiring further research (American Psychiatric Association, 2013). Given its increasing prevalence, determining the psychological and physiological effects of participation in online gaming, and how to appropriately protect against certain health risks, is paramount and has attracted the attention of policy makers, health practitioners, and the community alike.

We undertook a scoping meta-review on the physical, social, and psychological health impacts of competitive esports with the aim of identifying under-researched areas. We also sought to identify potential predictors of adverse outcomes of online gaming, particularly those associated with vulnerable populations, such as minors (Cook, 2020; Global Web Index, 2020).

Given the rapid evolution and rising popularity of esports, along with rising concerns regarding the lack of industry regulation (Griffiths and Nuyens, 2017; Funk et al., 2018), a meta-review of the health impacts of professional, competitive gaming as both a player and spectator sport is timely.

Our research, therefore, has a range of objectives:

(1) To identify the physiological health impacts of participation in esports, including those related to physical health and cognitive function.
(2) To identify the psychological health impacts of participation in esports, including mental health and social impacts.
(3) To ascertain where there are gaps in the existing research and identify future research priorities.

METHOD

We conducted a scoping meta-review of the extant empirical evidence on both the positive and negative health impacts of esports. Reviews were selected to synthesize the highest levels of evidence in the field (Aromataris et al., 2015) in order to facilitate an assessment of the quality of the evidence base and a summary and comparison of the reviews' findings (Smith et al., 2011).

The search was conducted of titles or abstracts in PubMed from 2011 for (esport* OR video game* OR video-game* OR internet game* OR online game*) and (a list of search terms covering the domains of physical health outcomes, health behaviors, mental health, psychological outcomes, cognitive outcomes, social outcomes, prosocial or antisocial behaviors, addiction, and gambling behaviors). Pubmed is a reliable and well- cited database for biomedical and clinical health-based studies and is also one of the largest and most detailed databases, with significant overlap with other health-focused databases (Ossom-Williamson and Minter, 2019). A supplementary search was conducted in Google Scholar using combinations of the following keywords: esports, esports rules, video games, gamers, professional gamers, gaming events, competitive video gaming, advertising, vloggers, forums, online communities, and virtual communities. If multiple reviews were conducted on the same health impact, the latest review with empirical data were included.

Data were collated from each selected review in relation to the definition of esports and the measured health impacts of esports. Results were synthesized narratively due to the anticipated heterogeneity of health impacts examined.

RESULTS

Study Selection

Using the PRISMA flowchart process shown in **Figure 1**, a total of 1,443 studies were identified. Title and abstract screening of those studies revealed 53 potentially eligible studies, from which 74% were excluded because the video gaming behavior studied did not include esports. Ten reviews, all of which examined a broad range of gaming behavior including esports, were included.

Study Characteristics

The characteristics and findings of each examined review are set out in **Tables 1**, **2**. Whilst a number of reviews did not focus on particular age groups, children and adolescents (e.g., age $\leq$18) were the most commonly studied group (see **Table 1**). The reviews were focused on internet gaming disorders (Mihara and Higuchi, 2017; Yao et al., 2017; González-Bueso et al., 2018; Paulus et al., 2018) or video gaming in general (Shams et al., 2015; Carson et al., 2016; Sala et al., 2018). One meta-analysis was conducted in relation to each of physiological and psychological outcomes (Gao et al., 2015), cognitive ability (Iannotti et al., 2009), and functional and structural neural alterations (Bilgrami et al., 2017). The smallest review included 24 studies (Gao et al., 2015), whilst the largest examined 252 (Paulus et al., 2018).

Physiological Health Impacts

The impact of video games on physiological health including pain, obesity, injury, and general health indicators (e.g., energy expenditure, VO2 max, metabolic equivalent, body composition, cardiovascular fitness, and sedentary lifestyles), were reviewed by five articles (Jalink et al., 2014; Gao et al., 2015; Carson et al., 2016; Bilgrami et al., 2017; Mihara and Higuchi, 2017).

A systemic review of 234 studies in relation to the health effects of sedentary behavior reported null findings for the

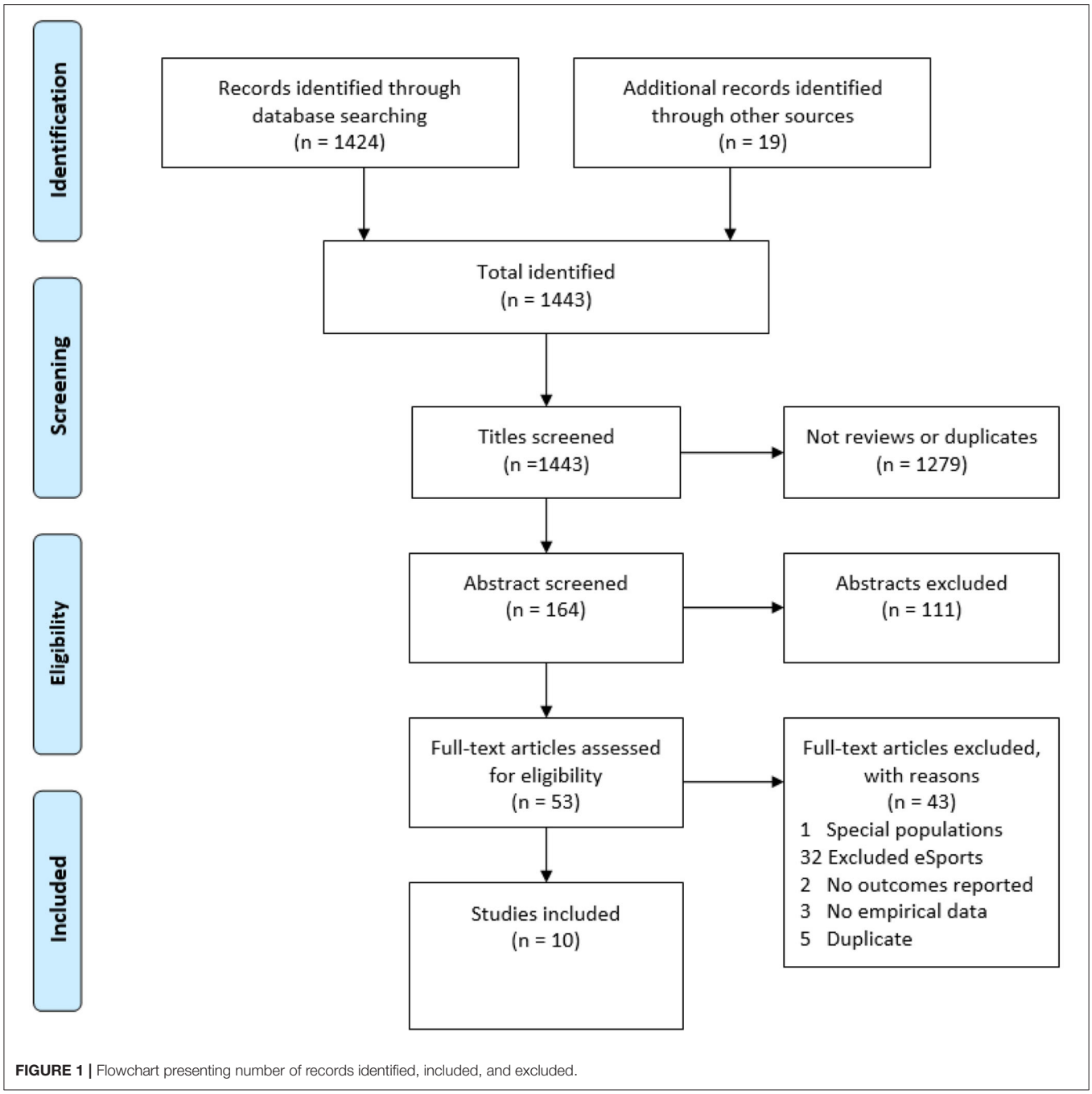

FIGURE 1 | Flowchart presenting number of records identified, included, and excluded.

association between video game use and body composition, blood pressure, cardiometabolic health, cholesterol, and muscular strength and endurance (Carson et al., 2016). The review reported some evidence of a link between increased video game use and lower levels of cardiorespiratory fitness but inconsistent findings in relation to an association between video game use and sedentary behavior in adolescents. Similarly, a different systemic review of 94 studies examining the health impacts of "new-age technologies" on adolescents reported mixed findings of a link, or lack thereof, between video game play and obesity (Bilgrami et al., 2017). A further systemic review which investigated the relationship between Nintendo video gaming systems and injuries using case studies reported that excessive gaming using traditional controllers with buttons was associated with tendinitis of the extensor of the thumb (Jalink et al., 2014). Active video games (e.g., Wii, Dance Dance Revolution) were linked to better physiological measurements when compared to sedentary

TABLE 1 | Study characteristics of review on the impact of video gaming on health.

Topic	Reference, base location	Study design and type of video game	Sample characteristics	Outcome measure assessed
Physical outcomes	Gao et al., 2015, location of studies not reported	Meta-analysis of 35 papers published 1985–2015 on active video games	Children/adolescents <=18; Study sample size > =10	Physiological outcomes: energy expenditure, heart rate, VO2 max, metabolic equivalent (MET), physical activity, rate of perceived exertion, body composition and cardiovascular fitness
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Systematic review of 37 cross-sectional and 13 longitudinal studies on Internet gaming disorder published up to 2015	National representative samples, students, and online gamer samples	Physical pain
	Carson et al., 2016, 71 different countries	Systematic review of 235 studies published 2010–2014 on sedentary behavior and health indicators	School-aged children and youth, mean age: 5–17 years	Body composition Blood pressure Cardiometabolic health Cholesterol Cardiorespiratory fitness Muscular strength/endurance
	Bilgrami et al., 2017, location of studies not reported	Systematic review of 94 articles published 2006–2017	Adolescents engaged in new-age technologies including the internet, television, cell phones, and video games	Obesity
	Jalink et al., 2014, location of studies not reported	Systematic review of 38 articles (30 case reports, 7 case series, 1 prospective study) published up to 2014 on Nintendo video gaming systems	Any age	Injuries
Cognitive outcomes	Sala et al., 2018, location of studies not reported	Meta-analysis on 98 quasi-experimental studies papers comparing video game players and nonplayers conducted up to 2016	Age not specified; type of games included action video game (shooter and racing) players and nonaction video game players, mixed, and nonplayers	Cognitive ability measures: visual attention/procession, spatial ability, cognitive control, memory, intelligence/reasoning
	Shams et al., 2015, location of studies not reported	Systematic review of 27 prospective and 9 retrospective studies published 2011–2014 on video games	Various age groups and various samples e.g., casual gaming volunteers, online gaming addicts, pro-gamers	Cognition and brain structure
	Yao et al., 2017, location of studies not reported	Meta-analysis of 27 fMRI studies and 10 VBM studies published up to 2017 on Internet gaming disorders	Mean age 14–30; internet gaming disorder samples compared to healthy controls	Functional and structural neural alterations
Mental outcomes	Gao et al., 2015, location of studies not reported	Meta-analysis of 35 papers published 1985–2015 on active video games	Children/adolescents <= 18; Study sample size > = 10	Psychological outcomes: self-efficacy (toward AVGs/PA), enjoyment/liking, attitudes, intention, situational interest and intrinsic motivation
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Systematic review of 37 cross-sectional and 13 longitudinal studies on Internet gaming disorder published up to 2015	National representative samples, students, and online gamer samples	Internet gaming disorder Personality Psychological well-being Mental disorders and sleep
	Paulus et al., 2018, Australia, Austria, China, Germany, Iran, Netherlands, Norway, Singapore, South Korea, Spain, Taiwan, UK, USA, multi countries in Europe/Internationally	Systematic review of 252 articles published 1991–2016 on internet gaming disorder	Children and adolescents	Internet gaming disorder Psychological distress and reward seeking Mental disorders Self-esteem Self-efficacy

(Continued)

TABLE 1 | Continued

Topic	Reference, base location	Study design and type of video game	Sample characteristics	Outcome measure assessed
	González-Bueso et al., 2018, Australia, Austria, France, Finland, Norway, Germany, South Korea, Singapore, Spain, Sweden, Taiwan, UK, USA	Systematic review of 24 studies (21 cross-sectional, 3 prospective) published 2010–2017 on Internet gaming disorder	Any age; samples must be assessed by standardized questionnaires or criteria; internet addiction studies that specified that the internet was used to play videogames	Depression Anxiety ADHD/hyper-activity Social phobia/social anxiety
	Bilgrami et al., 2017, location of studies not reported	Systematic review of 94 articles published 2006–2017 on new-age technologies including the internet, television, cell phones, and video games	Adolescents	Sleep and mental well-being
	Carson et al., 2016, 71 different countries	Systematic review of 235 studies published 2010–2014 on sedentary behavior and health indicators	School-aged children and youth, mean age: 5–17 years	Self-esteem
Social outcomes	Paulus et al., 2018, Australia, Austria, China, Germany, Iran, Netherlands, Norway, Singapore, South Korea, Spain, Taiwan, UK, USA, multi countries in Europe/Internationally	Systematic review of 252 articles published 1991–2016	Children and adolescents	Online social interactions Real life social interactions
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Systematic review of 37 cross-sectional and 13 longitudinal studies on Internet gaming disorder published up to 2015	National representative samples, students, and online gamer samples	Peer relationships Social network of gamers Education and career attainment Social skills Aggression
	Carson et al., 2016, 71 different countries	Systematic review of 235 studies published 2010–2014 on sedentary behavior and health indicators	School-aged children and youth, mean age: 5–17 years	Conduct/pro-social behavior Academic achievement

behavior, laboratory-based exercise, and field-based physical activity (Gao et al., 2015).

Despite the significant body of literature regarding the physiological health impacts of computer games, there is a clear lack of specific focus on the effects of the competitive gaming aspect of esports on human physiology and physical health, an area of concern which warrants further research. Future research should endeavor to rely on objective measures of physiological health impacts, including sedentary behaviors, rather than self-reported measures.

Three articles examined the effect of video games on cognitive ability, brain structure, and neural alterations, primarily using evidence from imaging studies (Shams et al., 2015; Yao et al., 2017; Sala et al., 2018). Two meta-analyses revealed that video game players outperform non-players in broad measures of cognitive ability. No link was found between video game play and intelligence or reasoning (Sala et al., 2018). However, many of the studies only investigated a single cognitive task, rather than using a model of latent cognitive constructs that considers multiple cognitive measures together. Future studies are required to examine whether effects can be generalized to other non-video game cognitive ability measures.

No study revealed significant definitive findings in relation to the effect of video games on brain structure or the neural alterations seen in individuals with gaming disorder (Shams et al., 2015). It remains unclear whether video games could be used to treat illnesses associated with reduced brain volumes and whether the same neural alterations occur in individuals with different types of gaming disorders. There is thus a clear need for further evidenced-based research regarding the effects of video game play on brain structure and the neural alterations seen in individuals with gaming disorders. As the extant research is predominately comprised of task-based fMRI and VBM studies, future research should draw on other techniques (e.g., diffusion tensor imaging, resting-state fMRI) in order to broaden the knowledge base and accuracy of research in the field.

Mental Health, Psychological, and Social Impacts

The mental health and psychological impacts of video games and internet gaming disorder, such as general measures of psychological well-being, personality, self-esteem and self-efficacy, sleep, and other specific mental disorders, were reviewed by six articles (Gao et al., 2015; Carson et al., 2016; Bilgrami et al., 2017; Mihara and Higuchi, 2017; González-Bueso et al., 2018; Paulus et al., 2018).

When compared to sedentary behavior, laboratory-based exercise, and field-based physical activities, there is some,

TABLE 2 | Summary of findings from reviews on the impact of video gaming on health.

Topic	Reference, base location	Video gaming measure	Outcome measure	Impact
Physical outcomes	Gao et al., 2015, location of studies not reported	Active video games	Physiological outcomes	+
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Internet gaming disorder	Physical pain	–
	Carson et al., 2016, 71 different countries	Video game use	Body composition	Ns
			Blood pressure	Ns
			Cardiometabolic health	Ns
			Cholesterol	Ns
			Cardiorespiratory fitness	–
			Muscular strength/endurance	Ns
	Bilgrami et al., 2017, location of studies not reported	Video game	Obesity	Mix
	Jalink et al., 2014, location of studies not reported	Excessive Nintendo gaming	Injuries	–
Lifestyle behavioral outcomes	Carson et al., 2016, 71 different countries	Video game use	Sedentary behavior	Mix
Cognitive outcomes	Sala et al., 2018, location of studies not reported	Video game players	Cognitive ability	+
	Shams et al., 2015, location of studies not reported	Video games	Some sections of brain structure	+
			Other sections of brain structure	–
	Yao et al., 2017, location of studies not reported	Internet gaming disorders	Some specific neural alterations	+
			Other specific neural alterations	–
Mental and psychological outcomes	Gao et al., 2015, location of studies not reported	Active video games	Psychological outcomes	+
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Internet gaming disorder	Types of games	–
			Personality	–
			Psychological well-being	–
			Mental disorders and sleep	–
	Paulus et al., 2018, Australia, Austria, China, Germany, Iran, Netherlands, Norway, Singapore, South Korea, Spain, Taiwan, UK, US, multiple countries in Europe/internationally	Internet gaming disorder	Psychological distress and reward seeking	–
			Mental disorders	–
			Self-esteem	+
			Self-efficacy	–

(Continued)

TABLE 2 | Continued

Topic	Reference, base location	Video gaming measure	Outcome measure	Impact
	González-Bueso et al., 2018, Australia, Austria, France, Finland, Norway, Germany, South Korea, Singapore, Spain, Sweden, Taiwan, UK, USA	Internet gaming disorder	Depression	–
			Anxiety	–
			ADHD/hyper-activity	–
			Social phobia/social anxiety	–
	Bilgrami et al., 2017, location of studies not reported	New-age technology	Sleep and mental well-being	–
	Carson et al., 2016, 71 different countries	Video game use	Self-esteem	Mix
Social outcomes	Paulus et al., 2018, Australia, Austria, China, Germany, Iran, Netherlands, Norway, Singapore, South Korea, Spain, Taiwan, UK, USA, multiple countries in Europe/internationally	Internet gaming disorder	Online social interactions	+
			Real life social interactions	–
	Mihara and Higuchi, 2017, countries across Europe, North America, and Asia	Internet gaming disorder	Peer relationships	–
			Social network of gamers	+
			Education and career attainment	–
			Social skills	–
			Aggression	–
	Carson et al., 2016, 71 different countries	Video game use	Conduct/pro-social behavior	–
			Academic achievement	Ns

+: esports have a positive impact on health.
–: esports have a negative impact on health.
mix: mixed finding, inconclusive of whether esports have a positive or negative impact on health.
ns: non-significant findings.

albeit limited, evidence that active video games have more positive psychological impacts, particularly in relation to liking and enjoyment, attitudes, intention, self-efficacy, intrinsic motivation, and situational interest (Gao et al., 2015). Studies of video games more generally have not revealed any consistent link between video games and self-esteem (Mihara and Higuchi, 2017). Online social interaction, including through video games, has been found to strengthen meaningful feelings and self-regulation through virtual rank and status, to satisfy otherwise deficient social needs, and to the development of an increased circle of friends (although often with individuals who are addicted to gaming) (Mihara and Higuchi, 2017; Paulus et al., 2018).

Internet gaming disorders have been more closely associated with massively multiplayer online role-playing games, first person shooter games, fighting games, and real time strategy games as compared to other types of games (Mihara and Higuchi, 2017). The disorder has been linked, to varying extents, with higher impulsivity and neuroticism, lower self-esteem, lower self-efficacy, lower life-satisfaction, ADHD, hyperactivity, depression, anxiety, sleeping problems, aggressive tendencies, psychological acceptance of aggression and violence, aggressive behavior, and substance abuse (Bilgrami et al., 2017; Mihara and Higuchi, 2017; González-Bueso et al., 2018; Paulus et al., 2018). Whilst escapism is hypothesized as a potential reason for the link between depression, anxiety and pathological gaming, the direction of the relationship between video games and psychological factors remains unclear (Paulus et al., 2018). On a social level, internet gaming disorders have also been linked to increased loneliness, social phobia, social anxiety, bullying, family problems, and lower levels of education and school grades. The reason for the association between problem gaming and poor family relationships is also unclear (Paulus et al., 2018). Internet gaming disorders have been

found to be more prevalent in males and younger age groups (Mihara and Higuchi, 2017; Paulus et al., 2018). There is inconsistent evidence as to whether internet gaming disorders are more common in different geographic regions (Mihara and Higuchi, 2017; Paulus et al., 2018).

Despite its increasing prevalence and the seemingly serious associated health risks, there is a paucity of research regarding internet gaming disorders in the specific context of esports. Although certain types of games have been more closely associated with internet gaming disorder than others, there is a lack of empirical evidence regarding the psychological effects of different types of video games. In light of the significant potential health risks, further research in this area is warranted.

DISCUSSION

This meta-review has identified the existing evidence regarding the physiological and psychological impacts of online gaming together with the gaps in the existing literature which warrant further research. The majority of the 10 systemic reviews analyzed considered internet gaming disorder in the context of online gaming and esports, but did not investigate in depth the health risks of more casual and intermittent gaming or the watching of esports. Most of the existing research is focused on the physical and cognitive health impacts of video game play and reveals mixed results. There is limited research considering the impacts of video game play on lifestyle factors such as diet and sedentary behavior, though those health risks have been considered in detail in broader contexts.

Our meta-review reveals that video games are likely to have a more positive effect on cognitive ability than on physiological and mental health. Longitudinal and causal studies, including tracking any associations between cognitive skills and stronger educational or employability outcomes, would be a useful research development in this area. Future studies could also examine interventions designed to promote cognitive enhancement observed, through embedded cues in gaming content and gaming structure. Studies reporting impacts of modern competitive gaming design and structure upon cognition, motivation to game, and addiction were lacking, but would be a worthwhile avenue for future research.

Evidence as to the effect of video game play on social factors is mixed, with some studies reporting a link between internet gaming disorders and poor social skills, lower education standards, behavioral problems, and social isolation, and others suggesting that online video game play positively enhances the size of friendship groups and social networks. These mixed results may be attributable to a lack of research attention directed to differentiating long-term gaming from short-term gaming, which might provide differential psychological and health impacts. For example, reviews may have conflated short- and long-term impacts on self-esteem, given that gamers may experience a short-term benefit to self-esteem, that may not persist with heavy and long-term gaming. However, this hypothesis remains to be tested. Whether the positive effect of gaming on social connectivity exists offline remains to be tested and would be a worthwhile subject of future research for the purpose of determining, among other things, whether online gaming could be harnessed to promote connectivity and social cohesion among youth in socially isolated communities.

There is little research on the impacts of gaming on healthy lifestyle behavioral factors, including sedentary behavior, diet, and effective mitigation strategies. Given that obesity and associated adverse health issues are a critical priority for health policy makers globally, and there is evidence of growing sponsorship of esports and in-game product placement by harmful product categories such as alcohol, gambling, and junk food (Kelly and Van der Leij, 2020), research considering the well-being impacts of gaming is needed. Diet and metabolic risks have risen as leading drivers of diseases (Gakidou et al., 2017), but we currently do not have data on whether these risk factors are elevated among the increasing population of competitive online gaming participants. Future research priority areas identified include how esports and competitive video gaming consumption, whether through playing or viewing, affects outcomes across the lifespan, and whether health impacts are robust cross-culturally. Research focused upon esports specifically, encompassing spectating through streaming platforms, in addition to playing, and the immersive nature of esports event attendance, in contrast to video gaming, is limited. While there are studies that have examined the effects of active video games, or exergames, on physical activity-related measures, it remains unclear whether sedentary types of video games are associated with body composition and overall levels of physical activity among players. The broader issue of increased screen engagement has previously been identified as a research priority (Iannotti et al., 2009; Lissak, 2018), highlighting the potential health effects of excessive screen engagement.

The increasing role and power of gaming influencers, some of whom stream to audiences of millions of viewers for hours at a time, warrants examination as it may be a useful vehicle for enhancing positive engagement with online gaming and mitigating adverse health impacts.

Our meta-review reveals a distinct lack of empirical research regarding both the positive and negative health effects of esports and online gaming. This gap exists not only in relation to specific health impacts, but also to more granular examination of gaming frequency, motivation, genre, content, and mode of engagement. Different segments of gamers, such as professional players, streamers, recreational players, and spectators, are likely to have different motivations and impacts from their engagement with esports and online gaming, but these differences remain largely unknown.

Limitations concerning the methodology of this scoping meta-review must be noted. As this review was established as an initial scoping review, our search was limited to a single database and supplementary Google Scholar search, including reviews only, thereby potentially limiting the amount of reviewed evidence. Accordingly, a full systematic review of the physiological and psychological health impacts of esports participation and consumption is warranted.

CONCLUSION

This scoping meta-review identified a systematic collation of published reviews concerning the physiological and mental health effects of esports and online gaming. Online gaming has traditionally been perceived as unhealthy due to its sedentary nature (Hilvoorde and Pot, 2016). However, there has been limited empirical research into more specific positive and negative physiological and mental health impacts, particularly in the context of esports. A full systematic review of the health impacts of esports and competitive online gaming, including physical and mental health and social impacts is therefore warranted and would advance the current lack of knowledge on this increasingly critical issue.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Perceived Motivational Climates and Doping Intention in Adolescent Athletes: The Mediating Role of Moral Disengagement and Sportspersonship

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Doping is an important issue in competitive sports and poses potentially irreversible consequences to athletes. Understanding the psychological process underlying antecedents and doping intention will inform policy and prevention. This study aimed to test the psychosocial mechanisms of doping in adolescent athletes using an integrated model. In this model, we examined the associations of perceived motivational climate (i.e., task-involving and ego-involving), moral variables (i.e., moral disengagement and sportspersonship), and attitudinal variables (i.e., perceived pros/cons of doping and perceived cons of not doping) with doping intention. We further investigated whether the moral variables mediated the relationship between perceived motivational climate and doping intention. A cross-sectional survey was employed in the present study. Six hundred and fifteen Chinese adolescent athletes (mean age = 15.68 ± 1.67 years) completed questionnaires measuring demographic information and the variables mentioned previously. Structural equation modeling showed that the hypothesized model had a good fit and explained 64.1% of the variance in doping intention. Task-involving motivational climate indicated both directly and indirectly negative associations with doping intention via sportspersonship. The ego-involving motivational climate was positively associated with doping intention via moral disengagement. Among perceived pros/cons of doping and perceived cons of not doping, both perceived cons of doping and cons of not doping were positively associated with doping intention with a small effect size. This study confirmed the roles of tasking- and ego-involving motivational climates, moral variables, and attitudinal variables on doping intention. These research findings may provide new insights for the future of intention-based doping prevention programmes.

Keywords: doping intention, ego-involving motivational climate, moral disengagement, sportspersonship, athlete, task-involving motivational climate

INTRODUCTION

The use of drugs to improve athletic performance has a long and varied history. Performance-enhancing substances (PESs) have become more prevalent in adolescent sports in recent years (Lazuras et al., 2017a). Previous evidence indicated that nearly half of surveyed adolescent athletes reported PESs use, including nutritional supplements and doping, to achieve a greater physique and to optimize sports performance (Backhouse et al., 2013). Compared to adult athletes, adolescent athletes may be considered particularly vulnerable to doping. The hazards of doping include damage to physical and mental health and perceptions related to the unfairness of sport.

During the past decade, a growing number of psychosocial theories have been proposed to explain doping behavior. Doping has been viewed as a goal-directed behavior and the role of doping intention has been particularly underlined in the process of doping behavior (Lazuras et al., 2010, 2015; Kavussanu et al., 2020). Previous studies indicated that doping intention accounted for more than 50% of the variance in adolescents' doping use (Zelli et al., 2010; Elbe and Barkoukis, 2017; Ntoumanis et al., 2017). Identifying the psychosocial antecedents of doping intention is important if we want to design intention-based interventions to prevent doping in adolescent athletes. Therefore, the purpose of the current study was to arrive at a better understanding of adolescent athletes' doping in terms of doping intention and its psychosocial antecedents using an integrated psychosocial model. Our model integrated critical components of achievement goal theory (AGT) (Nicholls, 1989; Ames, 1992), social cognitive theory (SCT) (Bandura, 1986), and the theory of planned behavior (TPB) (Ajzen, 1991).

Perceived Motivational Climates

Doping intention typically reflects a person's motivation and determination to engage in doping behavior within a specific social context (Ajzen, 1991; Lazuras et al., 2010; Kavussanu et al., 2020). Therefore, to better understand doping intention and behavior, consideration of motivational climates is essential. Motivational climates refer to the goals and behaviors emphasized, and the salient values, in the social environment created by significant others, such as coaches, parents, and peers (Baard et al., 2004; Ntoumanis et al., 2018). Several theories have provided a good explanation for the psychological underpinnings of motivational climates and doping behavior in sport, such as self-determination theory (SDT) (Deci, 2000) and AGT (Nicholls, 1989; Ames, 1992). Self-determination theory proposed a general motivational framework with the basic idea that individuals' two types of motivation (autonomous vs. controlled) are the results of fulfillment or thwarting of three basic psychological needs (autonomy, competence, and relatedness), where two different types of motivational contexts (autonomy-supportive vs. controlling) are seen as a fundamental environmental influence for the satisfaction of individual basic needs (Adie et al., 2012; Hodge and Gucciardi, 2015; Corrion et al., 2017). In the context of competitive sports where the competence need is particularly underlined, another theory, AGT, has provided a more explicit explanation for how individuals define competence and success (i.e., goal-orientation) and how the social contexts are shaped (i.e., motivational climates) (Nicholls, 1989; Ames, 1992; Allen et al., 2015). The AGT conceptualized two types of motivational climates, *task-involving motivational climate* and *ego-involving motivational climate*. In a task-involving motivational climate, athletes are provided with opportunities and a clear rationale for tasks, where non-controlling competence feedbacks are highlighted and athletes' feelings are acknowledged (Baard et al., 2004; Hodge and Gucciardi, 2015). As a result, athletes' competence needs may be easily met and they may consider their success and competence to be a matter of individual development and show smaller possibilities of doping (Ames, 1992; Allen et al., 2015; Hodge and Gucciardi, 2015). In contrast, in an ego-involving motivational climate, athletes are provided with controlling competence feedback and they define success as outperforming others and wining (Allen et al., 2015). As a result, athletes may be tempted to cheat (e.g., using drugs) in their quest to establish superiority over others (Allen et al., 2015; Kavussanu et al., 2020).

The associations between perceived motivational climates and doping behavior have been well-demonstrated in previous studies within a sporting context (Ntoumanis et al., 2014, 2017; Blank et al., 2016; Bae et al., 2017; Kavussanu et al., 2020). For example, a recent study investigating 1,495 adult football players (mean age 20.4 ± 4.4 years) from the UK, Denmark, and Greece, indicated a significantly positive relationship between ego-involving motivational climate and doping likelihood ($\beta = 0.11$, $p < 0.001$) (Kavussanu et al., 2020). In addition, a previous meta-analysis indicated that doping use was inversely associated with task-involving motivational climate and was positively associated with ego-involving motivational climate (Ntoumanis et al., 2014). Despite the evidence, we found that most of the studies were conducted in adult athletes rather than adolescent performers. Besides, evidence on the relationship between perceived motivational climate and doping intention is still limited, especially in China.

Moral Disengagement and Sportspersonship

Doping is considered a voluntary and unethical activity, so the role of moral variables (*moral disengagement* and *sportspersonship*) in influencing doping intention and behavior has been outlined in relevant theories and studies (Ntoumanis et al., 2014; Kavussanu et al., 2016; Corrion et al., 2017; Ring and Kavussanu, 2018). *Moral disengagement* is a central construct of SCT (Bandura, 1986). It refers to a self-serving or self-regulatory process whereby people who transgress still believe they are acting morally (Bandura et al., 2001). For instance, athletes may regard illegal drugs as "nutrition products," so that doping behavior seems acceptable (i.e., euphemistic labeling); they may distort, or minimize the consequences of drug use (i.e., distortion of consequences). As a result, individuals may absolve themselves of the responsibility by thinking that "someone else also does this" or "my coaches do not prohibit this" (i.e., diffusion and displacement of responsibility; Bandura et al., 2001; Kavussanu et al., 2020). Both cross-sectional and qualitative

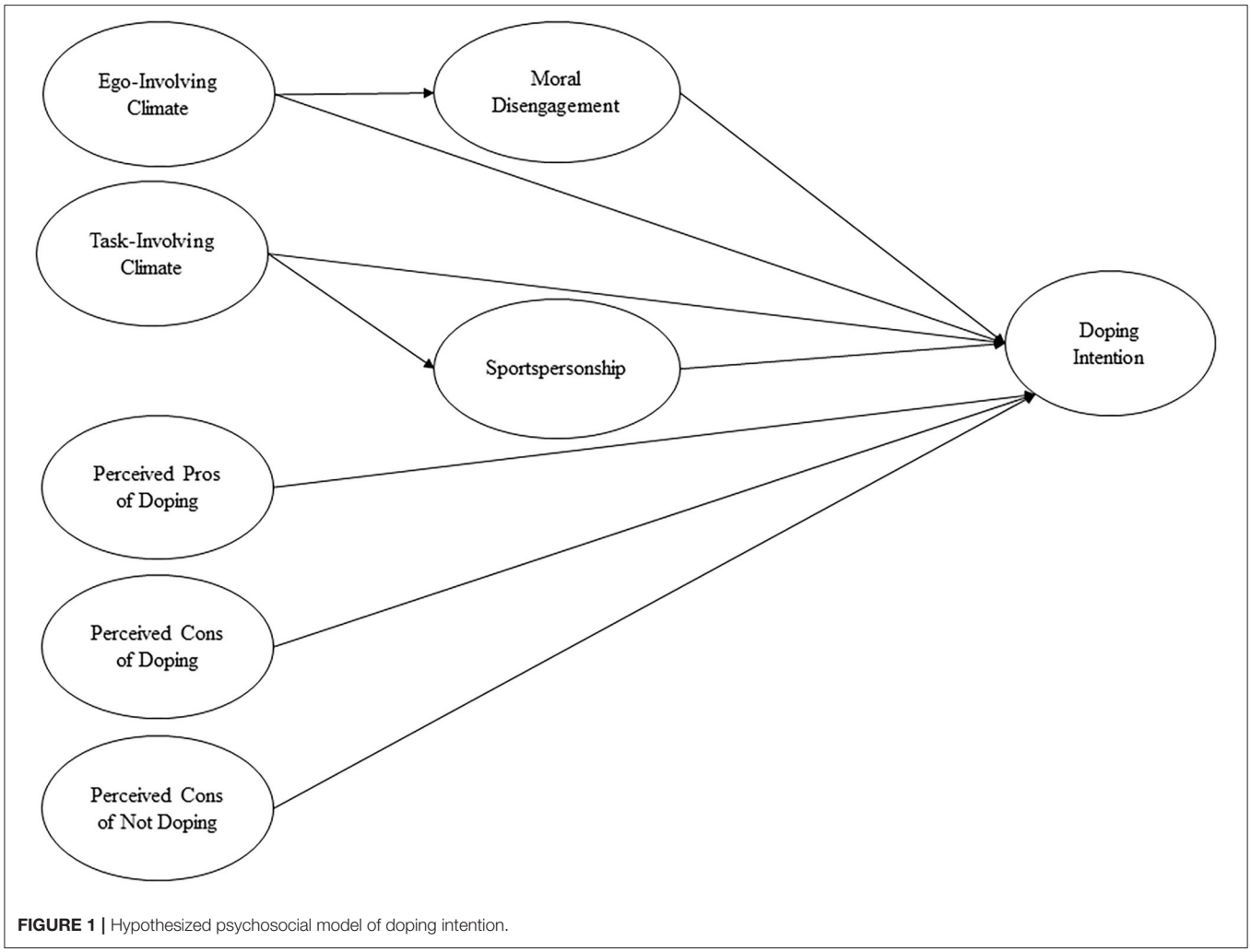

FIGURE 1 | Hypothesized psychosocial model of doping intention.

studies have consistently reported the positive associations of moral disengagement with doping intention and behavior in athletes across different ages and various competitive levels (Boardley et al., 2014, 2015; Mallia et al., 2016). For example, a strong relationship was found between moral disengagement and doping intention in 749 adolescent athletes (mean age = 16.43 ± 1.69 years) from three western countries (Italy, Greece, and Germany; $r = 0.26$–0.35, $p < 0.001$) (Mallia et al., 2016).

Within the context of sports, another important moral variable related to doping is *sportspersonship*. This moral construct broadly describes the athlete's understanding of and their respect for the rules, officials and opponents, and rituals and traditions of sports; capacity to distinguish between good and bad practices in sport; commitment to the sport; and the relative absence of a negative approach to sport participation (Siedentop et al., 2004; Lee et al., 2008). Sportspersonship is proposed to associate with a variety of prosocial and antisocial behaviors, such as cooperation and moral reasoning (Shrout et al., 2016; Perry and Clough, 2017; Barkoukis et al., 2020; Serrano-Durá et al., 2020). The inverse associations of sportspersonship with doping intention and behavior have been demonstrated in previous studies (Barkoukis et al., 2013; Blank et al., 2016). For example, a cross-sectional study with 750 adult elite-level athletes (mean age = 25 ± 5.89 years) supported the significant negative relationship between sportspersonship and doping intention ($\beta = -0.18$, $p < 0.001$) (Barkoukis et al., 2013). Another meta-analysis indicated that sportspersonship was negatively associated with doping behavior, with a significant medium effect size ($r = -0.23$; Blank et al., 2016). However, previous studies have shown inconsistent results for the relationship between sportspersonship and doping intention. For instance, Mudrak et al. (2018) found that the moral perception of "keeping winning in proportion" (i.e., a subcomponent of sportspersonship) did not significantly correlate with doping intention in adolescent athletes. The explanation for the discrepancy might be the different operating definitions and classifications of sportspersonship. Alternatively, the relationship between sportspersonship and doping could be moderated by other variables, such as age and competitive levels. Thus, in the present study, sportspersonship was estimated based on scores rather than categories. In addition, since adolescence is a time when values (e.g., sportspersonship) are still being formed, the role of sportspersonship in doping prevention and its relevant psychosocial mechanisms deserves further investigation.

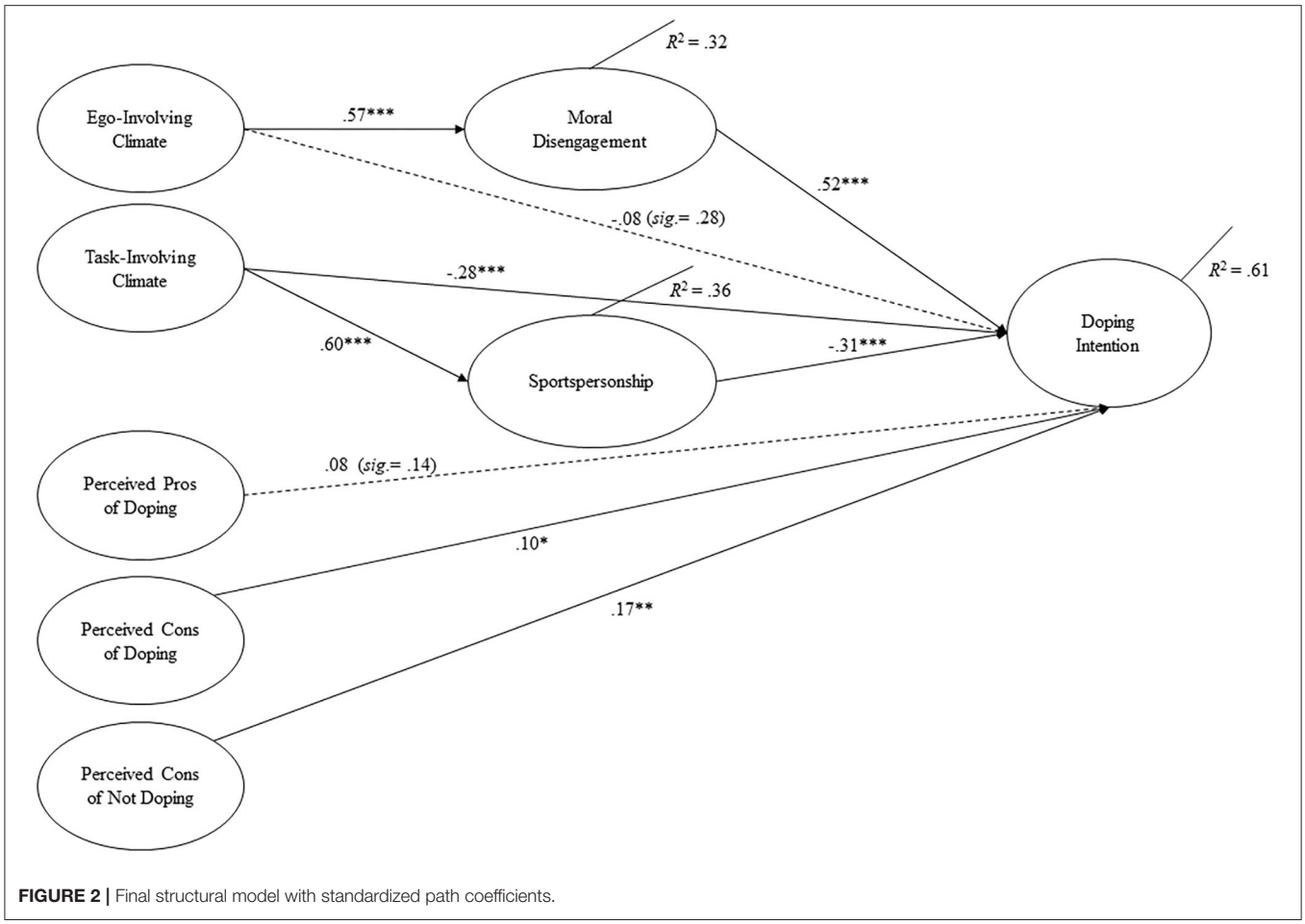

FIGURE 2 | Final structural model with standardized path coefficients.

Compared to motivational climates, moral variables have been considered more proximal antecedents toward doping intention and behavior (Corrion et al., 2017; Ntoumanis et al., 2017). Previous evidence has demonstrated that moral disengagement significantly mediated the association between ego-involving (controlling) motivational climate and antisocial variables in sport (e.g., drug-taking susceptibility, antisocial behavior, and doping intention; Hodge et al., 2013; Chan et al., 2015; Hodge and Gucciardi, 2015; Corrion et al., 2017). For sportspersonship, given its positive association with task-involving motivational climate, and its negative association with antisocial behaviors (Gano-Overway et al., 2005; Ntoumanis et al., 2014; Barkoukis et al., 2020), it is plausible that the task-involving motivational climate will be associated with doping intention and behavior via sportspersonship. Nevertheless, these relationships have yet to be examined.

Perceived Pros/Cons of Doping and Perceived Cons of Not Doping

In addition to the above, another important psychosocial antecedent of doping intention that needs consideration is doping attitude (Blank et al., 2016; Bae et al., 2017). Both intention and attitudes are the key constructs in the TPB (Ajzen, 1991; Lazuras et al., 2010, 2015). Doping attitude reflects individual positive or negative perceptions toward doping behavior, including perceived pros/cons of doping and perceived cons of not doping (Lazuras et al., 2017b). In particular, perceived pros of doping (positive attitude) refers to individual evaluation on the potential benefits of doping use (e.g., be more confident of winning), while the cons of doping (negative attitude) denote their appraisal on the threats and negative consequences of doping (e.g., the body will become deformed) (Strelan and Boeckmann, 2003; Lazuras et al., 2017b). For the cons of not doping, it reflects individual supportive attitude toward doping behavior appraising the adverse outcomes of not doping (e.g., failure or the sports competence cannot be improved; Jalleh et al., 2014). Similar constructs were included in the Sports Drug Control Model (SDCM) (Donovan et al., 2002) and Integrative Model of Doping Use (Lazuras et al., 2015), where attitudinal variables are proposed as direct antecedents toward behavioral intention. This assumption has been extensively proven in previous studies (Zelli et al., 2010; Jalleh et al., 2014; Lazuras et al., 2015; Girelli et al., 2020). Therefore, to better understand the psychosocial mechanisms of doping, the association of diverse attitudinal components (i.e., perceived pros/cons of doping, perceived cons of not doping) with doping intention need further consideration.

Study Purpose

The present study aimed to test an integrated psychosocial model of doping in adolescent athletes that included doping intention and its psychosocial antecedents discussed above (**Figure 1**). We hypothesized that:

a) Task-involving and ego-involving motivational climates would have both direct and indirect associations with doping intention (Hypothesis 1).
b) Moral disengagement would have a significantly positive association with doping intention, whereas sportspersonship would have a significantly negative association with doping intention (Hypothesis 2).
c) The association between task-involving motivational climate and doping intention would be mediated by sportspersonship, whereas the association between ego-involving motivation climate and doping intention would be mediated by moral disengagement (Hypothesis 3).
d) Perceived pros/cons of doping and perceived cons of not doping would be significantly associated with doping intention (Hypothesis 4).

MATERIALS AND METHODS

Sample

The sample size was estimated according to a rule of thumb (N: $q \geq 10$; q refers to the free parameters in model evaluation; Hoogland and Boomsma, 1998). Considering an approximate response rate of 85% (Zhang et al., 2016), 518 participants were required to ensure the robustness of model evaluation. The eligibility criteria included: (1) 12–18 years; (2) competitive adolescent athletes (i.e., best sports performance was top three in the city-level competitions or top eight in the provincial/national-level competitions); (3) systematic and regular participation in training and competition (training duration ≥1 year); (4) have no cognitive disorders; and (5) have sufficient language skills in Chinese.

We contacted 675 participants from seven youth sports training centers in different districts of Beijing city using a convenience sampling approach. Finally, 615 adolescent athletes (375 males, 238 females, 2 missing) completed the self-designed questionnaire package (91.1% response rate), ranging in age from 12 to 18 years ($Mean = 15.68 \pm 1.67$ years). Considering that doping is a universal phenomenon in different sports, we recruited participants from 12 sports teams, covering both individual and team sports (e.g., athletics, weightlifting, cycling, swimming, rugby). For the educational status, 55.1% of participants were at primary and middle schools, while the rest were at high schools or universities. For competitive level, more than 67% of participants were placed in the top eight in the provincial/national-level competitions. The average training duration for these participants was 3.67 ± 2.29 years.

Procedure

Ethical approval for this cross-sectional study was obtained from the Research Ethics Committee of Beijing Sport University. The purpose and nature of the study were explained to administers and team leaders of youth sports schools to request permission to access to the participants. All participants were invited to sign informed consent forms prior to participating in the study. The survey was conducted in each youth sports school in a classroom setting and participants completed the questionnaires voluntarily and independently. The survey lasted for about 20 min.

Measures

The demographic variables, doping intention, and its psychosocial antecedents (two types of the perceived motivational climate, perceived pros/cons of doping, perceived cons of not doping, moral disengagement, and sportspersonship), were selected from several psychosocial theories of behavior change, including SCT, SDT, and TPB. Based on previous studies (Lazuras et al., 2010; Allen et al., 2015; Chan et al., 2015; Nicholls et al., 2019), we developed the Chinese version of the scales. All scales have been verified in adolescent athletes prior to model evaluation. Details of reliabilities and validities of these scales are presented in **Table 1**.

Doping Intention

A four-item scale was used to measure adolescent athletes' doping intention, adjusted from the scales applied in previous studies (Lazuras et al., 2010; Chan et al., 2015). An example of an item used is outlined here; "*I intend to use prohibited substances to enhance my performance, if these substances are difficult to be detected.*" The response was given on a 5-point Likert scale, ranging from "1 = *strongly disagree*" to "5 = *strongly agree*." The mean value of the four items was calculated, where a higher score reflected a stronger intention to use doping substances (Cronbach's $\alpha = 0.70$).

Perceived Motivational Climates

Adjusted from the Perceived Motivational Climate in Sport Questionnaire (Walling et al., 1993), a 9-item scale was used to measure the two types of perceived motivational climate (i.e., task-involving and ego-involving motivational climates). The questions were asked with the stem "*On my team…*" followed by five items for the task-involving motivational climate (e.g., "*everyone plays an important role*"), and four items for the ego-involving motivational climate (e.g., "*the coaches give most of their attention to the 'stars'* "). Responses were recorded on a 5-point Likert scale from "1 = *strongly disagree*" to "5 = *strongly agree*." Both subscales demonstrated acceptable internal reliability with Cronbach's $\alpha = 0.68$ and Cronbach's $\alpha = 0.71$, respectively. The correlation between the two subscales was −0.30.

Moral Disengagement and Sportspersonship

The Chinese translated 6-item Moral Disengagement in Sport Scale (MDSS) (Kavussanu et al., 2016) was used to measure the moral disengagement in the current study. An example item is outlined here; "*It is okay for players to lie to officials if it helps their team.*" For another moral variable, sportspersonship, a 4-item scale was used. These items were developed based on the Multidimensional Sportspersonship Orientation Scale (MSOS) (Vallerand et al., 1997). The original MSOS consists of five dimensions: concern and respect for the opponent, rules

TABLE 1 | Fit indices of the measurement models ($N = 603$).

Models	α	χ^2	*p*	*df*	χ^2/df	CFI	IFI	TLI	RMSEA	90% CI of RMSEA	Factor loading
PD	0.813	3.22	0.20	2	1.61	0.999	0.996	0.996	0.032	[0.00,0.09]	0.60–0.86
CN	0.869	Saturated measurement model									0.75–0.90
CD	0.850	Saturated measurement model									0.75–0.88
TIC	0.678	13.60	0.01	5	2.72	0.979	0.979	0.957	0.053	[0.02,0.09]	0.44–0.67
EIC	0.706	4.54	0.00	2	2.27	0.994	0.994	0.982	0.046	[0.00,0.10]	0.53–0.73
MD	0.736	50.83	0.00	14	3.63	0.938	0.939	0.918	0.066	[0.05,0.09]	0.45–0.65
SP	0.726	2.82	0.24	2	1.41	0.998	0.998	0.994	0.026	[0.00,0.09]	0.54–0.70
DI	0.701	1.23	0.54	2	0.66	1.00	1.00	1.00	0.000	[0.00,0.07]	0.55–0.72

χ^2, chi-square; df, degrees of freedom; CFI, comparative fit index; IFI, incremental fit index; TLI, Tucker-Lewis index; RMSEA, root mean square error of approximation; PD, CN, and CD denote perceived pros of doping, cons of not doping, and cons of doping, respectively; TIC and EIC denote task-involving climate and ego-involving climate, respectively; MI and SP denote moral disengagement and sportsmanship, respectively; DI represents doping intention.

and officials, social conventions, commitment to one's sports participation, and negative orientation toward sport participation (Vallerand et al., 1997; Lazuras et al., 2015). Considering that negative orientation has indicated poor validity and reliability in previous studies with athletes (e.g., Barkoukis et al., 2013), we only included four dimensions. Finally, a four-item scale was extracted using the item-analysis approach. An example item was "*Maintaining the fairness of the game is more important than winning.*" Responses of these two scales were given on a 5-point Likert scale from "1 = *strongly disagree*" to "5 = *strongly agree.*" Both subscales demonstrated acceptable internal reliability with Cronbach's α = 0.74 and Cronbach's α = 0.73, respectively.

Perceived Pros and Cons of Doping and Perceived Cons of Not Doping

Based on the TPB (Ajzen, 1991; Armitage and Conner, 2001), we developed a 10-item scale to measure participants' attitudinal variables of doping, with four items for perceived pros of doping (PD), three items for perceived cons of doping (CD), and three items for perceived cons of not doping (CN). Example items were "*If I dope, I will be more confident of winning*" for PD, "*Imagining you were a player who was doping'…If I don't' dope, it will be difficult for me to improve in sports competence*" for CN, and "*If I dope, my face/figure will become deformed*" for CD. Responses were given on two 5-point Likert scales, one assessing the probability of the behavioral outcome (from "1 = *totally impossible*" to "5 = *totally possible*") and the other assessing subjective importance for behavioral outcome (from "1 = *totally unimportant*" to "5 = *totally important*") (Strelan and Boeckmann, 2006). The score of each item was obtained by multiplying the probability and subjective importance scores (score range was 1–25). All three scales demonstrated good reliability (Cronbach's α for PD = 0.81, Cronbach's α for CN = 0.87, Cronbach's α for CD = 0.85) and validity in adolescent athletes (see **Table 1**).

Data Analysis

Preliminary Analysis

Prior to the main analysis, we examined the data to ensure that all values were within a plausible range and to identify any pattern of missing scores. We also examined univariate skewness and kurtosis as well as Mardia's multivariate coefficients. Secondly, we tested the internal consistency of the scales and conducted confirmatory factor analysis (CFA) to examine the factorial validity of the scales. Finally, we tested the fit of the full measurement model to the data, examining the correlations between all factors estimated (Jöreskog and Sörbom, 1999).

Main Analysis

We first tested the model fit of the hypothesized integrated model, as outlined in the figure (which includes the correlations between all exogenous variables not shown in the figure). We used Cohen's (1992) guidelines to interpret the strengths of the coefficients in the model (strong = 0.50, moderate = 0.30, and weak = 0.10). Then, we conducted path analyses to identify the mediation mechanisms, where we examined the total, direct, and indirect effects using a combined effects model.

For the evaluation of model fit, several goodness-of-fit indices were used, including Chi-square (χ^2), Bollen-Stine Chi-square/deviation freedom (χ^2/df), the goodness of fit (*GFI*), comparative fit index (*CFI*), Tucker-Lewis fit index (*TLI*), incremental fit index (*IFI*), root mean square error of approximation (*RMSEA*), and standardized root mean square residual (*SRMR*). The general criteria for an acceptable model fit using these indices in <5 for χ^2/df, >0.90 *for GFI*, *CFI*, *TLI,* and *IFI*, and <0.08 for *RMSEA* and *SRMR* (Bollen and Stine, 1992; Browne and Cudeck, 1993). For parameter estimation, we used the maximum likelihood (ML) estimation coupled with a bias-corrected bootstrapped approach (2,000 replications; Preacher and Hayes, 2008). This approach involves the calculation of the parameter estimates from an empirical sampling distribution rather than the theoretical distribution of tests such as χ^2 and normality tests. This provides a more robust evaluation when the data cannot meet the assumption of multivariate normality (Mooney and Duval, 1993; Byrne, 2001; Nevitt and Hancock, 2001). The IBM SPSS Amos 25.0 was used for the data analysis.

RESULTS

Preliminary Analysis

First, we discarded 12 participants' data (2.0%) who had missing values for at least one item of the doping intention scale. After this

step, there were minimal missing data (0–1.3% for each variable). Therefore, we replaced the missing data using series means. The univariate skewness and kurtosis were minimal (skewness <2, kurtosis <7) for all indicators excluding 10 indicators. Among these 10 indicators, the skewness of seven indicators ranged from 2.07 to 2.86, the skewness of one indicator was 3.07, and the kurtosis values for two indicators were 8.15 and 8.94.

Cronbach's α coefficients of all scales ranged from 0.68 to 0.87, indicating acceptable internal consistency reliability of these scales (see **Table 1**). The fit indices from eight preliminary CFAs of the scales indicated a good fit to the data (*CFI* and *TLI* >0.95, *RMSEA* <0.08). All item-factor loadings were acceptable (>0.44). Finally, none of the inter-factor correlations encompassed unity, suggesting that the factors represented distinct constructs (see **Table 1**).

Descriptive Statistics and Correlations of the Study Variables

Overall, participants' doping intention was rather low in the present study. They had moderate perceptions of the pros and cons of doping and perceived cons of not doping. In addition, they reported high scores on sportspersonship, perception of task-involving climate, and low scores on moral disengagement and perception of ego-involving climate (see **Table 2**).

Pearson product-moment coefficients were used to assess the correlations among the main measures of this study. As shown in **Table 2**, all variables except perceived cons of doping showed significant correlations with doping intention. In particular, correlations between task-involving climate, moral disengagement, sportspersonship, and doping intention, respectively, were strong. We also found a moderate positive correlation between perceived pros of doping and perceived cons of not doping. Negative associations between perceived pros of doping and perceived cons of not doping with perceived cons of doping, respectively. A moderate negative association between moral disengagement and sportspersonship, and a moderate negative relationship between task-involving climate and ego-involving climate. Additionally, the correlation between task-involving climate and sportspersonship and the relationship between ego-involving climate and moral disengagement were significantly positive, with a large effect size. These results supported the hypothesized relationships among the variables in the present study and indicated that there was no serious multicollinearity in the hypothesized mediation model.

Main Analysis

Results showed that the integrated model had a good fit, with Bollen-Stine χ^2 ($df = 508$) = 593.50 ($p < 0.05$), $\chi^2/df = 0.86$, $GFI = 0.911$, $CFI = 0.986$, $IFI = 0.986$, $TLI = 0.985$, $RMSEA = 0.017$, $SRMR = 0.058$. The model explained 61.4% of the variance in doping intention.

As presented in **Figure 2**, for the two types of perceived motivational climates, only the task-involving motivational climate had a significantly negative direct association with doping intention (a medium effect size of $\beta = -0.28$), which partly supported Hypothesis 1. For moral variables, both moral disengagement and sportspersonship were significantly associated with doping intention, with a large ($\beta = 0.52$) and medium ($\beta = -0.31$) effect size, respectively. These results fully supported Hypothesis 2.

In terms of mediation mechanisms (Hypothesis 3), results showed that moral disengagement fully mediated the association between ego-involving climate and doping intention, while sportspersonship partially mediated the association between task-involving climate and doping intention. In particular, bootstrap-generated bias-corrected CIs revealed a significant standardized indirect effect for ego-involving climate on doping intention ($\beta = 0.41$, 95% *CI* =0.13 to 0.28, $p = 0.001$) and a non-significant direct effect of ego-involving climate on doping intention ($\beta = -0.08$, 95% $CI = -0.16$ to 0.04, $p = 0.346$). The examination of the path coefficients demonstrated that ego-involving climate was positively related to moral disengagement, which in turn was positively related to doping intention. Additionally, the bootstrap-generated bias-corrected 95% confidence intervals (*CI*s) revealed a significant standardized indirect effect for task-involving climate on doping intention (effect size =-0.10, 95% $CI = -0.25$ to -0.08, $p = 0.001$), and the direct effect of task-involving climate on doping intention was significant (effect size $= -0.28$, 95% $CI = -0.36$ to -0.11, $p = 0.002$). The indirect effect accounted for a medium portion of the total effect (40%). The examination of the path coefficients demonstrated that task-involving climate was positively related to sportspersonship, which in turn was negatively associated with doping intention. These results fully supported Hypotheses 3.

For perceived pros/cons of doping, a significant association with doping intention was only found for perceived cons of doping, with a small effect size ($\beta = 0.10$). Perceived cons of not doping showed a significantly positive correlation to doping intention, with a small to medium effect size ($\beta = 0.17$). These results partially supported Hypothesis 4.

DISCUSSION

The present study aimed to examine the psychosocial mechanisms of doping in adolescent athletes in terms of doping intention and its psychosocial antecedents. In the model, we examined the association of perceived motivational climates, moral variables, and attitude-variables with doping intention. We also examined the mediating role of moral variables in the relationship between perceived motivational climates and doping intention. Overall, the proposed model showed a good fit, and the observed relationships largely supported our hypotheses.

For Hypothesis 1, we found that moral disengagement and sportspersonship were significantly related to doping intention and explained a large portion of the variance in doping intention. Moral disengagement was positively associated with doping intention, with a large effect size. Adolescent athletes with high levels of moral disengagement had relatively stronger doping intention than those with low levels of moral disengagement. Consistent results have also been found in previous studies (e.g., elite athletes; Jalleh et al., 2014). In our study, moral disengagement represented cognitive self-defense strategies used

TABLE 2 | Inter-correlations, square roots of average variance extracted (AVE), means, and standard deviations of the study variables ($N = 603$).

	1	2	3	4	5	6	7	8	Range	*Mean ± SD*
1 PD	*0.74*[a]								1–25	9.93 ± 6.41
2 CN	0.487***	*0.83*[a]							1–25	7.66 ± 6.39
3 CD	−0.334***	−0.386***	*0.81*[a]						1–25	8.61 ± 6.87
4 TIC	−0.056	−0.008	−0.084	*0.59*[a]					1–5	4.22 ± 0.76
5 EIC	0.226***	0.212***	0.030	−0.295***	*0.62*[a]				1–5	2.68 ± 1.11
6 MD	0.382***	0.284***	−0.101	−0.135*	0.527***	*0.52*[a]			1–5	2.46 ± 0.84
7 SP	−0.089	−0.118*	−0.002	0.596***	−0.191***	−0.353***	*0.64*[a]		1–5	4.61 ± 0.68
8 DI	0.294***	0.296***	−0.002	−0.513***	0.386***	0.659***	−0.606***	*0.61*[a]	1–5	1.43 ± 0.70

PD, CN, and CD denote perceived pros of doping, cons of not doping, and cons of doping, respectively; TIC and EIC denote task-involving climate and ego-involving climate, respectively; MI and SP denote moral disengagement and sportsmanship, respectively; DI represents doping intention; SD, standard deviation.
[a]*Square root of the AVE; *p < 0.05, ***p < 0.001.*

by individuals in the face of their unethical activities. The results showed that moral disengagement as well as other moral variables focusing on doping directly correlated to the intention of doping use.

The present study found a preventive effect of sportspersonship on doping intention, but the effect was smaller than that of moral disengagement. Athletes with high sportspersonship had relatively low doping intention. This result agreed with previous research but was contrary to other studies. A possible explanation might be that sportspersonship is a comprehensive construct comprising of several sports-related aspects, including respect for a total commitment to sports, respect for the rules and referees, respect for social conventions, and respect and concern for opponents (Serrano-Durá et al., 2020). Therefore, if we only investigated one aspect of sportspersonship, we may have observed no effects.

Second, we found that task-involving motivational climate had a significant effect on doping intention. The sportspersonship partially mediated the association between task-involving motivational climate and doping intention. Ego-involving motivational climate was also found to be significantly associated with doping intention. This association was fully mediated by moral disengagement. Both hypothesis 2 and 2 were supported in the present study.

The finding that moral disengagement played a mediating role between ego-involving motivational climate and doping intention was found to be consistent with that of other studies (e.g., Kavussanu et al., 2020). In an ego-involving environment, athletes receive messages from coaches that poor performance and mistakes are bad and punishable, and that only athletes with the greatest ability can receive positive attention (e.g., from a coach), and that winning (or performing better than others) is more important than personal improvement (Seifriz et al., 1992). Therefore, athletes tend to pursue defeating others at all costs. This includes engaging in maladaptive behaviors such as aggression and doping. Thus, athletes in this environment tend to use maladaptive self-defense strategies to protect their morality and avoid self-guilt. This result has also been observed in previous studies (Waldron and Krane, 2005; Harwood et al., 2015).

Studies have found a positive relationship between an individual's task orientation and self-determination motivation, which in turn could negatively predict doping attitude, intention, and behavior (Waldron and Krane, 2005; Harwood et al., 2015). The present study agreed with these findings. We found that a task-involving climate created by coaches also contributed to the formation of appropriate professional values for young athletes. Athletes in task-involving climates show high sportspersonship and are willing to defend the fairness and justice of sports. An explanation for this might be that a task-involving climate is characterized by a focus on personal improvement and the equal distribution of coach support across athletes (Newton et al., 2000). Thus, in this environment, athletes receive positive feedback from coaches when they work hard, improve their skill, and cooperate with others.

Interestingly, we found that sportspersonship only partially mediated the association between task-involving motivational climate and doping intention. This result indicated that there might be potential alternative mechanisms working in the relationship, such as autonomous behavioral regulation or intrinsic motivation (Harwood et al., 2015). Other researchers have also reported similar results. For instance, Davies et al. (2016) found that perceived coach-, peer-, and parent-created motivational climates predicted good and poor sport behavior in youth hockey players. In addition, this finding agreed with the argument that it is necessary to identify the attitudes of significant others toward unethical behavior to discover the processes by which youth athletes make unfair decisions or behave in unethical ways (Whitehead et al., 2013).

For Hypothesis 4, unexpectedly, among three attitudinal variables, perceived pros of doping did not show a significant association with doping intention, and perceived cons of doping showed a very weak association with doping intention in the present study. These results are contrary to research suggesting that perceptions of the pros and cons of doping were important determinants or deterrents of doping behavior (e.g., Donovan et al., 2002; Strelan and Boeckmann, 2003; Lazuras et al., 2015; Blank et al., 2016). However, these findings are in agreement with previous research (e.g., Laure et al., 2004). A possible explanation might be that the items used measured knowledge about doping

rather than attitudinal components toward doping. In this case, for our participants who had good knowledge of the benefits and threats of doping, it is not surprising that the predictive effect of these three measured variables on doping intention was comparatively limited.

This result was novel as subjects showed that the perceived cons of not doping were positively related to adolescent athletes' doping intention. The results indicated that one reason athletes intend to dope might be that they are afraid of the outcomes of not doping. These outcomes include difficulty in gaining the physical fitness needed to support training and competition, a cessation of competitive competence and so on. There are at least two possible explanations for why athletes who perceived the negative outcomes of not doping to be more possible and more important than the consequences of doping. First, the perception of the cons of not doping stimulates fear of failure, which is associated with anxiety. In turn, anxiety relates to doping intention. Sattler and Wiegel (2013) also revealed that increased cognitive anxiety increased the prevalence of medication use over various time windows. In addition, fear of failure also motivates individuals to avoid failure. Previous research has found that the brain structures associated with individual differences in motivation to achieve success (MAS) and motivation to avoid failure (MAF) are distinct. Compared to that of MAF, and the generation process of MAS may be more complex and rational; thus, in the real world, MAS may be more beneficial to personal growth and guarantee the quality of task performance. However, MAF prompts irrational behavior (Ming et al., 2015).

Doping intention represents an important factor that should be targeted in doping prevention and anti-doping education, especially for adolescent athletes, because they also have opportunities to dope. The psychosocial antecedents of doping intention identified in the present study may contribute to designing more effective intention-based doping prevention programs in adolescent athletes. In addition, classical anti-doping education programmes focus more on building awareness and knowledge of PESs, reporting and testing requirements, and penalties for non-compliance (Lippi et al., 2008). Based on our findings, intention-based anti-doping programmes should also include moral variables to contribute more effectiveness, e.g., including components discussing moral decisions and sports values to assist athletes in resisting the temptation or invitations to use harmful and banned PESs. Instead of providing information on the cons of doping, other methods to improve competitive competence and facilitate positive attitudes should be included in doping education strategies. Moreover, coaches should also become a target group for anti-doping education. Strategies to create task-involving motivational climates should be included in anti-doping education programmes for coaches.

The present study revealed some interesting findings, but also has several limitations. First, because the motivational climate may vary over time (Roberts, 2012), researchers should employ longitudinal or experimental designs for future experimentation. The present study employed a cross-sectional design, which limits the ability to provide causal explanations of proposed relationships, especially in a mediation model (Liang et al., 2020). In addition, the study examined the psychosocial mechanisms of doping using relatively concise models. In addition, only a direct path of attitudinal variables and doping intention was hypothesized in the present study, whereas an indirect path and relevant mediation mechanisms were not examined. A more comprehensive examination that includes other covariates (e.g., subjective norms and past doping behavior) and confounders (e.g., demographics) and their interrelationships deserve consideration in future experimentation.

CONCLUSION

The current study is the first to present an integrated psychosocial model to identify the role of perceived motivational climates, moral variables, and attitudinal variables in the psychosocial mechanisms of doping intention in Chinese adolescent athletes. The findings showed that ego-involving motivational climate was indirectly and positively associated with doping intention via moral disengagement, while the task-involving motivational climate was directly and negatively associated with doping intention via sportspersonship. In addition, the perceived cons of doping and perceived cons of not doping were significantly associated with doping intention, with a small and positive effect size. Our study provides new insights into the psychosocial mechanisms of doping and contributes significantly to future intention-based doping prevention programs.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Kinetics Science Experiment Ethics Committee of Beijing Sport University. Written informed consent to participate in this study was provided by the participants, and where necessary, the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

LG and ZM conceived and designed the study, contributed to the study implementation and had full access to all study data and take responsibility for the integrity of the data and the accuracy of the data analysis. LG, WL, ZM, and JB contributed to the data analysis and interpretation. LG and WL drafted the manuscript. LG, WL, and JB revised and polished the manuscript. All authors contributed to the article and approved the submitted version.

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Tone From the Top: The Role of the General Counsel in the Prevention of Harassment and Abuse in International Sports

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To prevent harassment and abuse in sports, the consensus is that an essential factor is "tone from the top" of the organization. It is key as a catalyst and sustainer of change, whether in the corporate or sports world. An organization's general counsel is one of the go-to top advisors for executive leadership regarding laws and regulations. Additionally, they serve as advisors for issues in other areas, such as public policy, ethical and legal risks, and human rights. With their leadership, general counsels can play a vital role in the prevention of harassment and abuse in an organization. The guidance and leadership of the general counsel should facilitate reviewing and strengthening of the organization's policies and procedures and other strategies helping to prevent and address issues of harassment and abuse. Legal issues become more complex the more global the organization, so more complex strategies are needed to tackle these issues successfully.

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We are living in times that call for great resilience, respect for human rights, and respect for ethical values. Sports, and in particular international sports, mirror social developments in our society and help set trends. To prevent harassment and abuse, the consensus is that an essential factor is "tone from the top" of the organization. It is key as a catalyst and sustainer of change, whether in the corporate or sports world.

An organization's general counsel, chief legal officer or legal director is one of the go-to top advisors for executive leadership regarding laws and regulations. Additionally, they serve as advisors for issues in other areas, such as public policy, ethical and legal risks, and compliance. With their influence, general counsels can play a vital role in the prevention of harassment and abuse in an organization. Under their guidance and leadership, the organizations can strengthen their legal frameworks and strategies that help to prevent and address issues of harassment and abuse. Legal issues become more complex the more global the organization and more complex strategies are needed to tackle these issues successfully.

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This article represents the opinions of the authors and is inspired by the current initiatives dedicated to the prevention of harassment and abuse in sports ("PHAS") including the leadership and work[2] of the International Olympic Committee and its commitment to keep athletes safe and guard their rights. While elite athletes are at the heart and center of many safeguarding initiatives, harassment and abuse have no borders and do not occur solely in Olympic or elite sports but in sports in general[3]. The focus of this article is on the organizational side—considering the role of general counsel, or its equivalents, such as chief legal officer or legal director, as one of the key catalysts of change within an organization in preventing harassment and abuse.

In today's world, it is important for global leaders to "connect the dots." As such the authors are seeking to draw some helpful parallels between the sport and business world that can be used to tackle these issues. This article builds on corporate expertise and a presentation Andrea Carska-Sheppard gave a few years ago at the Global General Counsel Summit[4] at the Intercontinental Hotel in London and her work in this area going back to the IOC Consensus Statement. With more harassment and abuse allegations being brought to light[5] it is important that organizations handle them correctly. As sports organizations help to set trends for society, it is important to put safeguards in place to prevent future abuse from happening thus promoting good governance in sports.

ROLE OF GENERAL COUNSEL

The general counsel or chief legal officer is the most senior lawyer in the legal department of a company or other organization. The role of general counsel depends on many factors but "despite the differences in the client, the duties of a general counsel are consistent: deliver the highest possible level of legal services to the client."[6] The role is evolving and a "good general counsel needs to bring more than just good lawyering to the job: the general counsel adds value"[7] and "are increasingly being asked to play a dual role of legal advocate and corporate adviser"[8].

One of the most insightful analytical works on this subject is Ben Heineman's "*Inside Counsel Revolution*"[9] He notes that the modern general counsel is a core member of top management who influences decisions and actions, not only about legal risks, but also on public policy and geopolitics. Leadership and being principle-based are some of the main attributes of the general counsel. The role encompasses not only being the legal advisor, but serving as a statesman (or stateswoman), or diplomat, especially when operating in a global setting and crossing boundaries of different cultures and legal systems. He writes, "in brief, the wise counselor goes beyond legal doctrine to develop-and help implement-alternative solutions to problems or issues in order to advance a broader concept of what is 'right' and with respect to a specific, particular problem that arises initially as legal matter. The wise counseling is one of the creative acts of the General Counsel and insider counsel."[10]

Heineman's observations, findings, and recommendations, which redefine the traditional roles of the general counsel, are based on his experience as the General Counsel of General Electric (now Lecturer on Law at Harvard Law School), but they do not apply only to commercial businesses. He views the role of general counsel on three levels—as outstanding legal expert, wise counselor and accountable leader.[11] This goes beyond some traditional models when the general counsel limits her/his role to that of legal expert. Heineman's insightful analysis can serve as inspiration for global general counsels, legal directors, and other top legal advisors working outside of the corporate setting and provide guidance for sports, other organizations and governing bodies. The general counsel's role includes more than just advising on the law, it encompasses a variety of responsibilities and ethical obligations. The general counsel's role is anchored in legal expertise; thus, actions need to be ethical, transparent, and not wrapped in a cloth of ambiguity. In the context of investigating harassment and abuse violations, the legal counsel needs to avoid any conflicts of interest.[12] Ethical leadership plays

[2]See for example: Mountjoy, M., Brackenridge, C., Arrington, M., Blauwet, C., Carska-Sheppard, A., Fasting, K., et al. (2016). International Olympic Committee consensus statement: harassment and abuse (non-accidental violence) in sport. *Br. J. Sports Med.* 50, 1019–1029. doi: 10.1136/bjsports-2016-096121; Safeguarding Athletes From Harassment and Abuse in Sport: IOC Toolkit for IFs and NOCs. International Olympic Committee ("IOC Toolkit"). Available online at: https://www.olympic.org/athlete365/courses/safeguarding-athletes-from-harassment-and-abuse/

[3]See for example. Emily Kaplan, Daniel Carcillo leads class-action lawsuit against Canadian Hockey League for alleged physical and sexual abuse, ESPN, Jun. 18, 2020; Jessica Luther, Jon Wertheim, A New Mavericks #MeToo Accusation-and Questions About the Team's Investigation, Sports Illustrated, Jul. 29, 2020; Scott Cacciola, Mavericks and Mark Cuban Sanctioned by N.B.A. Over Handling of Sexual Harassment, NY Times, Sept. 19, 2018; Ken Belson, N.F.L. Takes Over Sexual Harassment Investigation of Washington Team, NY Times, Sept. 1, 2020; Sports Impacted by Sexual Abuse Cases, Fox Sports, Mar. 16, 2018.

[4]The Association of Corporate Counsel organized the summit to attract chief legal counsels from global organizations to discuss the hot legal, compliance, and ethical values of the day, as well as to find solutions in a globalized world. At this event, Andrea discussed the role that the leadership of organization, such as executive boards and C-suites, can play in the prevention of harassment and abuse. The experiences she shared stemmed from her work as General Counsel of the world's largest integrated corporate wellbeing company, Workplace Options, LLC ("WPO"), which operates in 200 countries and territories while serving over 100,000 organizations, including Fortune 500 companies and sports organizations, offering employee wellbeing services including clinical counseling for harassment and abuse.

[5]North, A. (2019). *Study: More People Reported Sex Crimes Around the World in the Wake of Me Too*. Vox. A study covering 24 countries "found that the rise of the Me-Too movement led to a 14% increase in the reporting of sex crimes in the 3 months after October 2017. Reporting rates dropped after that point, but still remained above their pre-2017 levels, even 15 months after the movement began to grow."

[6]Association of General Counsel, The Role of General Counsel." 2009 at 7.

[7]*Ibid at 8.*

[8]Rosen, R. E. (2002). We're all consultants now: how change in client organizational strategies influences change in the organization of corporate legal services. *Ariz. Law Rev.* 44:637.

[9]Heineman, B. W. Jr. (2014). *The Inside Counsel Revolution: Resolving the Partner-Guardian Tension, 1st Edn.* Chicago, IL: ABA Publishing; American Bar Association.

[10]*Ibid at 37.*

[11]*Ibid at 32.*

[12]Some jurisdictions require legal counsel to give an "Upjohn Warning." An Upjohn Warning is a notice that an attorney (in-house or outside counsel) provides

a major role in how an organization is run, organized, and how members of an organization are treated.

General counsels also play a significant role in setting the tone and culture of a company. While they often do not sit on the executive boards (to preserve their independence), a major obligation for general counsels, along with executives, is to set the tone of zero-tolerance when it comes to harassment and abuse.[13] While there are some universal principles on how global general counsels can handle matters related to harassment, each approach should be based on the applicable laws, while being tailored to the particular sector or industry. This also applies to international sports federations and similar organizations. The distinguishing features between corporate organizations and international sports federations will be discussed later in this article.

HARASSMENT AND ABUSE IN INTERNATIONAL SPORTS

Historically, sports organizations—whether professional sports leagues, international federations, or local recreational teams—did not have robust PHAS strategies. Incidents were handled mostly within the framework of human resources or *ad hoc* tribunals based on applicable employment law on a case-by-case basis. We often hear from the survivors of harassment and abuse that many cases never came to light and were "swept under the rug." The social scientists who pioneered researching sexual abuse in sports were often criticized. Each country was just building its own legal framework and there was no uniform approach.[14] In 2004, the first special PHAS projects started at the IOC,[15] and following the 2007 conference in Lausanne, the IOC adopted the first IOC Consensus Statement[16] and the first Sexual Harassment and Abuse educational tool.[17] Then, in 2016, the IOC adopted the Second IOC Consensus Statement[18] and put in place the "Game-Time" PHAS framework for the Rio de Janeiro Olympic Games.[19] This framework recognized that athletes of all ages have a right to engage in "safe sport".[20] "Safe Sport" is "an athletic environment that is respectful, equitable, and free from all forms of non-accidental violence to athletes".[21] Following this initiative, the IOC released the IOC Toolkit,[22] FIFA released their own toolkit for the safeguarding of minors.[23] Other organizations also began releasing their own initiatives related to PHAS,[24] including having preventive policies and procedures, appointing safeguarding officers, holding educational programmes and seminars, and working on other PHAS initiatives, strategies and prevention tools. Just recently, the IOC launched the IOC's Safeguarding Officers Sport Certificate Initiative.[25]

Although progress has been made, there is still a need for further improvement. To foster this, general counsels need to play a more active role using their voice to champion PHAS initiatives during board and executive meetings. At the Association of Corporate Counsel General Summit in London, the Prince of Wales addressed the general counsels and called for their aid to help combat climate change.[26] He squarely described the role of in-house counsel and general counsels as very influential in shaping organizational change. His strategy is premised on the realization that general counsels have influence with the boards and decision-makers. Also, that their voices matter in making the change in global initiatives when seeking to improve social policies and the well-being of humankind. This rings true especially when influencing change within their own organization and can be also applied to tackling harassment and abuse in sports.

HANDLING ALLEGED INCIDENTS

General counsels are uniquely situated to handle harassment and abuse allegations. They must be on top of the situation when incidents happen by being responsive, pro-active, and communicative with the executive team, other departments, and all stakeholders. General counsels should ensure that their organization has policies, follows due process, and there is proper case management in place, so their response is professional, well-organized, and compliant with the law. While making sure that parties to the incident are safe and the organizational measures are put in place (e.g., separating the alleged aggressor), the legal

to an employee of the company stating that the attorney represents only the company and not the employee individually. Even if the jurisdiction does not have special warnings as part of their legal system, bar organizations and licensing bodies regulate the ethical rules that bind lawyers, and lawyers should adhere to a high level of ethics.

[13]Newman, P. K. *Practical Advice for Handling Sexual Harassment Complaints in The Post–#MeTooWorld*. The Newman Law Group LLC. Available online at: https://assets.corporatecompliance.org/Portals/1/PDF/Resources/past_handouts/Regional/2018/columbus/945-1045_newman-shumate_3.pdf

[14]For example, the United States government enacted Title IX (20 U.S.C. § 1681) (1972), as part of the Education Amendments of 1972, in order to protect students from sex discrimination under any education programme or activity receiving federal funding. Though there are many critics of Title IX, this legislation looked toward the future and provided a safeguard for student athletes that some other countries did not have.

[15]*See generally Athlete 365* at https://www.olympic.org/athlete365/library/safe-sport/.

[16]Ljungqvist, A., Mountjoy, M., and Brackenridge, C. H. (2008). International olympic committee consensus statement on sexual harassment & abuse in sport. *Int. J. Sport Exerc. Psychol.* 6, 442–449.

[17]Press Release and International Olympic Committee (2007). *IOC Adopts Consensus Statement on Sexual Harassment and Abuse in Sport*. Available online at: https://www.olympic.org/news/ioc-adopts-consensus-statement-on-sexual-harassment-and-abuse-in-sport.

[18]Mountjoy, *supra*, note 2.

[19]IOC (2016). *IOC Framework for Safeguarding Athletes and Other Participants from Harassment and Abuse in Sport (Games Time Period)*. London: BMJ Publishing Group Limited.

[20]Mountjoy, *supra,* note 2.

[21]Mountjoy, *supra,* note 2.

[22]IOC Toolkit, *supra*, note 2.

[23]FIFA Guardians (2019). *Child Safeguarding Toolkit for Member Associations*. Zurich: FIFA Guardians.

[24]United Nations Human Rights Special Procedure (2019). *Playing It Safe: A Glimpse of the Report of the UN Special Rapporteur on the sale and sexual exploitation of children*. Geneva: United Nations Human Rights Special Procedure.

[25]Press Release and International Olympic Committee (2020). *IOC Initiates International Safeguarding Officer in Sport Certificate*. Available online at: https://www.olympic.org/news/ioc-initiates-international-safeguarding-officer-in-sport-certificate.

[26]Spiezio, C. (2019). *Prince Charles to General Counsel: Help Companies Combat Climate Change*. London: Law.com - Corporate Counsel.

counsel needs to be transparent with the parties. Specifically, they must make it clear that they represent the organization, and not the parties to the incident, and recommend they should get their own legal counsel.

As to practical steps, *Forbes* published a comprehensive summary of fifteen key steps for companies to follow when responding to sexual harassment and discrimination allegations.[27] *Forbes*' article notes that, while legal and policy considerations are important, effective communication is equally essential. Additionally, a team of HR, legal, and (when appropriate) communications professionals should coordinate carefully with senior management on the company's response. Further, it is important to note that allegations do not necessarily mean substantiated allegations. Confidentiality of the processes should always be assured throughout.

Along with establishing policies and communicating with senior management, general counsel should ensure the complaining party is treated with respect. Human rights and dignity must be embedded in the organizational culture and should be exemplified in how the general counsel treats the parties involved.

Timing of investigation is key to its success. General counsel should be swift to attend to an investigation, including putting protective measures in place, which may sometimes be difficult if an incident happens in different time zone. If the general counsel fails to do so, complaints that are delayed or ignored may come at high costs for the organization and show the company is inconsistent with its protection of human rights. Immediate action in the harassment and abuse investigation should also apply when deciding whether to retain outside legal counsel to handle the claims and when notifying the board of any significant allegations. The board should have the ability to provide advice on the situation, ascertain whether to report criminal offenses to the public protection agencies, and determine whether to start an independent investigation vs. an internal investigation.

The general counsel should consider different factors when determining whether to recommend an independent investigation: the people involved in the conduct and if any members of management were involved; if there were violations of criminal law (if not, then management-led investigation may be appropriate); the need for transparency and avoidance of an actual, or even perception of, conflict of interest; and the need for remediation and possibility of regulatory sanctions.

Other factors may need to be considered based on the organization. "An independent investigation is necessary where senior management … may have allegedly directed, condoned, or knew or should have known about the suspected misconduct".[28] An internal investigation, where there is an allegation of sexual harassment, may be conducted without involvement of the audit committee, provided that senior management was not involved in the suspected misconduct. If senior management was involved, it is important to take further precautions. According to an ACC study, "an internal investigation is often a hallmark of good corporate governance and corporate citizenship. It is integral to the board's discharge of its fiduciary duties".[29] Stakeholders want to know that they invest into, work for, and do business with a company that is committed to ethical and lawful business practices. Conducting independent investigations also helps to address any allegations of internal misconduct.

Regardless of whether senior management or an outside party conduct the investigation, it must be impartial and professional. Cooperation with the appropriate authorities is essential to the success of the investigation. Documents should be properly preserved, and general counsel should advise everyone in the organization to be cautious about email and other communications. It is part of the role of the general counsel to defend the organization and it is important to keep in mind that any of communication or documentation can be subject to discovery during litigation. Once a claim is made, the company must put a "legal hold" in place, making sure that any relevant documents are preserved, and not deleted or destroyed, in anticipation of potential litigation. In some jurisdictions, the failure to protect documents can be subject to the punishment by the court.

Other than working with internal stakeholders, cooperating with outside counsel, and handling the press, general counsel also has the responsibility of working closely with the insurance carriers to see whether the claim is covered by the corporation's policies. Aside from handling the complaint and investigation, each organization needs to determine the impact of the claim.[30] For example, in determining if the claim is a single event or an on-going problem, the company needs to address the impact on the culture of the company, any remedies or insurance needed, the reaction of third parties and the public, and the impact on the company's business[31]. In doing so, each organization needs to address the lessons that need to be learned from the incident and create or update its policies and preventative strategies.

In this context, it is important to note many distinguishing features of corporations and international sports federations and how this will impact the handling of the harassment and abuse allegations. Businesses typically handle harassment and abuse claims through their human resources departments (in cooperation with the legal department and others). The affected parties are often the employees of corporation but could be also other parties, such as subcontractors, providers, or other third parties. Thus, careful and fact specific analysis must be conducted, based on the laws of the particular jurisdiction,

[27] Hermle, L. (2017). *15 Key Steps for Companies Responding to Sexual Harassment or Discrimination Allegations*. Forbes. The list of steps include: (1) Lawyer Up; (2) Notify the board of directors promptly of significant allegations; (3) Treat the complaining party with respect; (4) Promptly and thoroughly investigate the complaint; (5) Take appropriate action during and after investigation; (6) If the company doesn't have a well-drafted anti-harassment and anti-discrimination policy, adopt one; (7) Cooperate with government agencies; (8) Consider whether the complaint can be resolved through arbitration; (9) Don't retaliate; (10) Be careful with texts and email; (11) Preserve Documents; (12) Make Claim to your Insurance broker; (13) Develop a Media Strategy; (14) Assess the Impact; (15) If you settle, include these provisions in a settlement agreement.

[28] Hicks, K. L., Bondi, B. J., Wheatley, M. D. (2016). *When Should the General Counsel Recommend That the Board Conduct an Independent Investigation?* Washington, DC: ACC Docket.

[29] *Id.*

[30] Hermle, *supra*, note 27.

[31] *Id.*

in order to determine the responsibilities and liabilities of the affected parties.

The sports world also addresses harassment and abuse based on applicable laws, policies, and procedures but the governance structure of international sports federations is very specific. Unlike the corporate world—being made up of deliberative bodies, based on the will of members operating through independent ethics commissions, and disciplinary tribunals that are subject to arbitration.[32] The international sports federations have their specific set of stakeholders, which include athletes, coaches, federation officials, athletes' support personnel, sponsors, agents, and fans. The effective policies and procedures need to factor all of these and other nuances and general counsel must play leadership role in moving a safeguarding agenda forward through different levels of review. The mechanism and process of safeguarding needs to be sport specific and/or tailored for a particular organization. While there are many differences between sports and business organizations, there are principles and strategies that can resonate universally.

SOME PREVENTIVE STRATEGIES

As it was noted in the IOC Consensus Statement, there are several forms of harassment and many people who can be the target of harassment.[33] International sports federations and other international sports organizations are typically based in one country, while the athletes and entourage regularly travel and participate in competitions around the world. The legal strategies to combat harassment and abuse in sport need to be anchored within the local legal systems, while also having a global strategy and vision in place. This local to global approach means that the general counsel should be prepared to tackle these issues on both levels while the organizations need to implement the preventive structures that are universal—addressing harassment in the competitive context and in local jurisdictions.

There is no "one size fits all" and sports organizations need to reflect their particular needs in order to best structure their preventive strategies and there are many pieces which are part of the preventive structures. One of the key tools for prevention are an organization's policies and procedures.

These policies and procedures should be used as primary tools and should include a zero-tolerance policy of harassment and abuse, definitions and examples of harassment and abuse, employees' rights to complain and protections when they do, prohibitions on retaliation, information on how to file a complaint, an investigation policy, a confidentiality policy, and a disciplinary policy.[34] In the sports context, a helpful starting point to further develop these policies, is the IOC Toolkit, which provides a policy manual that aids sports organizations in setting up their preventive structures and is a step by step guide how to safeguard athletes and their rights. When cultivating these policies and procedures, the drafters need to make sure the policies are "living documents" that are implemented and imbedded into the organizational structure and regularly updated. Additionally, the general counsel should periodically evaluate whether the organization is following the standards set forth in the policies and assure due process and case management.[35] The organizations can adopt one universal policy or have specific sets—for competitions and minors.[36]

The PHAS policies and procedures need to be legally accurate, user friendly and continuously updated, incorporating the role of the Safeguarding Officer in the core of the strategies. As the safety and well-being of athletes is of utmost importance to the IOC and the Olympic Movement, the recent work in this area cannot emphasize more the important role of the Safeguarding Officer. It was for first time at the Rio de Janeiro Olympic Games when the Safeguarding Officer was present at the Olympic Games in order to keep athletes safe and guard their rights. There are also new educational programmes fully dedicated to PHAS, such as the IOC's Safeguarding Officers Sport Certificate initiative.[37] The general counsel should have knowledge of these initiatives and incorporate the role of the Safeguarding Officer into the preventive framework.

One of the key tools for prevention any general counsel should encourage is education and training for the prevention of harassment, as well as other types of trainings that raise sensitivity about these issues, such as bystander training.[38] Education and training were among one of the main recommendations to prevent sexual harassment in sports in Europe[39] and some jurisdictions have implemented mandatory training in this area. All sports organizations ought to take this issue seriously. The education and training must be smart, interactive, and relevant to the particular continent and culture, otherwise it may become counterproductive.[40] In sports, there are numerous organizations now offering webinars and training. In order for the preventive strategies to succeed, it must involve the entire organization, including its leadership.

[32] The discussion on the harassment and abuse and dispute resolution mechanisms were discussed for example at Yale Law School co-organized a virtual roundtable on this topic. *See #MeTooSport in the Larry Nassar Era: Legal Frameworks for Preventing Intentional Violence in Sport Roundtable*, Dec. 2, 2020.

[33] See Mountjoy, *supra*, note 2. The "IOC Consensus Statement" outlined various forms of abuse and harassment in sports, showing strong evidence of a correlation between sexual, physical, and psychological abuse. It analyzed various mechanisms for Harassment and Abuse and was one of the first to recognize that the risks to young athletes are unique to sport and dealt with the issue of consent with minors.

[34] Hermle, *supra*, note 27; Newman, *supra*, note 13.

[35] Brown, K., and Ellis, J. (2019). *5 Strategies for In-house Counsel to Enhance Their Organization's Workplace Culture in the Era of #MeToo*. Philadelphia, PA: Duane Morris.

[36] There is significant focus these days on the policies and procedure but drafting of these is complex and is beyond the scope of this article.

[37] Press Release, *supra,* note 25.

[38] Smith, B. L. (2018). *What It Really Takes to Stop Sexual Harassment.* Washington, DC: American Psychological Association.

[39] Chroni, S., Fasting, K., Hartill, M., Knorre, N., Martin, M., Papaefstathiou, M., et al. (2012). *Prevention of Sexual and Gender Harassment and Abuse in SPORTS INITIATIVES in Europe and Beyond, Prevention of Sexualised Violence in Sports*. Frankfurt: Deutsche Sportjugend im Deutschen Olympischen Sportbund e.V.

[40] Dobbin, F., and Kalev, A. (2020). *Why Sexual Harassment Programs Backfire*. Brighton, MA: Harvard Business Review.

To manage reputational damage, there needs to be a plan in place for effectively handling public relations. Developing a media strategy in advance is necessary and this should be prepared long before the incident occurs as part of the organizational prevention strategy. It includes having ready an experienced spokesperson, which prevents others from speaking prematurely (any substantive comments should wait until the investigation is concluded). When executing this strategy, the general counsel should work with the communication and other teams. The same applies to insurance policies and strategies—the general counsel should make sure the organization has adequate insurance coverage and those policies cover not only home jurisdictions but provide coverage for countries to which members of the organization and their entourage travel for trainings, sports competitions, and other events.

While the governance structures of companies are based on the direct accountability of different levels of employees and managers, the governance structures of international sports federations are not as rigid and personal accountability for non-compliance should be better structured and defined.[41] General counsel and legal directors can also play pivotal roles in this regard.

DEMONSTRATED COMMITMENT FROM THE TOP

General counsels have a role in turning the CEO's or top directors' attention to prevention resources and strategies. "The cornerstone of a successful harassment prevention strategy is the consistent and demonstrated commitment of senior leaders to create and maintain a culture in which harassment is not tolerated".[42] When harassment claims are not handled properly, the organization can face the burden of costly damage awards, litigation costs, and adverse impacts from the harassment on employees' physical and mental health. This may further result in "absenteeism and higher medical costs," reduction in productivity of all impacted parties, reputational harm, shareholder derivative suits, among other impacts.[43]

After Larry Nassar's crimes came to light, the sports world received a loud message on the importance of engaged and pro-active safeguarding of athletes and sports. Multi-million-dollar awards to the survivors of horrific abuses speak loud and clear about the need for zero-tolerance policies.[44] Employers around the world can be legally responsible for sexual harassment against their employees and be liable to them for damages.[45] In the United States, "the employer will be liable for harassment by non-supervisory employees or non-employees over whom it has control (e.g., independent contractors or customers on the premises), if it knew, or should have known about the harassment and failed to take prompt and appropriate corrective action"[46] Liability and lawsuits are just one of the adverse impacts.

According to the recent survey of chief legal officers and general counsels, one of the risks "which keeps them up at night is reputational damage to the organization".[47] This heralds a significant shift in recent years when the issue of reputational purity is as important as other compliance issues for the organization, such as protection of data privacy, confidentiality, and others.

The harassment and abuse will tarnish the reputation of the organization losing the confidence of its users, such as athletes (including elite athletes who are the highest risk category when it comes to the harassment and abuse[48]), their parents or guardians, and fans. When the general counsel demonstrates that harassment claims, the prevention of harassment, and the setting of a tone of zero-tolerance are taken seriously, CEOs and HR departments will be able to avoid several, if not all, of these issues.[49] The same applies in sports setting. The tone and demonstrated commitment of the leadership matters. The compliance with human rights and ethical standards should be an integral part of the culture of any organization.

In sports, we aim toward ideals, but we put in measures to assure and to protect "clean athletes" and "clean sports" from drug doping. Similarly, and very importantly we need to safeguard "clean athletes" and "clean sports" when it comes to harassment and abuse. The purpose of the general counsel interacting daily with chief decision makers and with the board and leadership of an organization is to create a culture of respect and inclusivity where anyone subject to harassment and abuse feels safe in reporting it.[50]

Harassment and abuse know no borders. Thus, international organizations need to tackle these issues in a culturally sensitive manner, not only in their own jurisdictions, but across the globe. In that sense, strategical general counsels need to foresee and project strategies and procedures that can be implemented beyond their home country. These strategies are needed to protect the human rights of athletes, participants, their

[41] Pielke, R. Jr. (2016). *Obstacles to Accountability in International Sports Governance*. Transparency International. Available online at: https://www.transparency.org/files/content/feature/1.4_ObstaclesToAccountability_Pielke_GCRSport.pdf.

[42] U.S. Equal Employment Opportunity Commission (2017). *Promising Practices for Preventing Harassment*. Washington, DC: U.S. Equal Employment Opportunity Commission.

[43] Feldblum, C. R., and Masling, S. P. (2018). *Convincing CEOs to Make Harassment Prevention a Priority*. Brighton, MA: Harvard Business Review.

[44] See generally Phillips, F. (2020). *Sexual Harassment Payouts Hit All-Time High in 2019*. Fisher Phillips. "Employers paid out a record $68.2 million to those alleging sexual harassment violations through the EEOC in 2019, shattering the all-time record by over $10 million and reminding us all that the #MeToo movement continues to be a major influence on workplaces across the country."

[45] "Employer Liability for Harassment," U.S. Equal Employment Commission; See also Gregory, H. J. (2018). *Board Oversight of Sexual Harassment Risk in the Workplace*. New York, NY: The Governance Counselor.

[46] "Harassment," U.S. Equal Employment Commission.

[47] Association of Corporate Counsel (2019). *2019 ACC Chief Legal Officers Survey*. Washington, DC: Association of Corporate Counsel.

[48] Mountjoy, *supra,* note 2. "This consensus statement extends the 2007 IOC Consensus Statement on Sexual Harassment and Abuse in Sport, presenting additional evidence of several other types of harassment and abuse-psychological, physical and neglect. All ages and types of athletes are susceptible to these problems, but science confirms that elite, disabled, child and lesbian/gay/bisexual/trans-sexual, LGBT athletes are at highest risk, that psychological abuse is at the core of all other forms and that athletes can also be perpetrators."

[49] See Feldblum, *supra,* note 43.

[50] See Smith, supra, note 38.

organization, and all stakeholders. To accomplish this, leaders must send the message of a demonstrated commitment to others within the organization, as if they are part of an orchestra, that will be tuned to the same purpose, with the general counsel influential in setting the tone.

"Let us have but one end in view: the welfare of humanity." John Amos Comenius (1592 −1670)

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

AC-S leads the project and wrote the article. SA conducted all the background research and edited article and prepared footnotes.

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REVIEW
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Sexual Violence and the Coach–Athlete Relationship—a Scoping Review From Sport Sociological and Sport Psychological Perspectives

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Sexual violence against athletes in elite and leisure sport has become of growing interest in recent years. In line with social media initiatives such as #SportToo and #CoachDontTouchMe and a rise in general media coverage, research in this field indicates an urgent need for action. These recent developments occasionally have led to no-touch policies, which may result in moral panic, uncertainty, and fear of unjustified suspicion among coaches. However, the role of closeness and distance in the development of sexual violence within the coach–athlete relationship has not yet been researched systematically. In this scoping review, the authors focus on the coach–athlete relationship, particularly its predispositions to sexual violence and how to prevent abusive relationships. Some characteristics typical of elite sport may predispose coaches to commit abuse, such as gender and power relations, the need for physical touch, hierarchical structures in sport, and trust and closeness between coaches and athletes. This scoping review follows an interdisciplinary approach combining sociological and psychological perspectives. It comprises 25 publications in English and German published from 2000 to 2019. The literature review highlights that closeness, power, blurred boundaries, and ambiguous roles are areas that seem to be crucial to the analysis of the coach–athlete relationship from both sociological and psychological perspectives.

Keywords: sexual violence, sport, coach-athlete relationship, closeness, power, boundaries, grooming, abuse

INTRODUCTION

Intense relationships between coaches and athletes seem to be a prerequisite for promoting young athletes' success in sport. At the same time, such close relationships carry risks for negative dependencies, misuse of trust, and commission of abuse. The focus of this article lies in the tension between the necessity to keep a distance to prevent (sexual) abuse in sport, on the one hand, and the need for supportive, close, trust-based relationships between coaches and athletes, on the other hand. This scoping review is aimed at synthesizing the state of research on the coach–athlete

relationship and sexual violence from psychological and sociological perspectives, identifying major themes and gaps in the literature, and accordingly suggesting directions for further research, practice, and policies.

The term "sexual violence" is usually used as an umbrella term that includes a continuum of different behaviors, ranging from sexual harassment without body contact, to transgressive behaviors, to sexual violence with body contact. The common characteristics of these different forms are that the behaviors are based on sexuality and the abuse of power and have intimidating or even traumatizing effects on victims (Brackenridge, 2001; Ohlert et al., 2018). Sexual violence in sport may occur to children or adults; yet in the case of child sexual abuse the unequal power relation between perpetrator and victim becomes even more relevant. Thus, the World Health Organization (1999) stresses in its definition of child sexual abuse that involving children in sexual activities is associated with the fact that children do not fully comprehend and are unable to give informed consent to these activities and that adults are in a position of responsibility, power and trust. This also occurs for coaches working with children and youth because they take a position of power and responsibility for young athletes in sport.

Definitions working with the term "sexual violence" mainly focus on the sociological concept of power-execution through the means of sexuality rather than on the psychological concept of sexually aggressive behaviors and the notion that sexually abusive perpetrators might follow pathological sexual needs. Thus, the term "sexual violence" is a broader term and also includes the social structures and power-imbalances that might foster sexually abusive behaviors in certain social fields as for example the field of sport (Fasting and Brackenridge, 2009).

Furthermore, the term "sexual violence" in comparison to "sexual relationship" relates to those sexual activities that are based on unequal status, are not wanted or are performed in social constellations where the person affected might not be able to comprehend the situation or to consent to it. Even when those sexual activities might be interpreted as pleasurable at that time, it might turn out later that the affected person (e.g., as an adult with the capacity to fully comprehend what has happened) interprets those sexual activities as abusive and violent. In contrast, love relationships including sexual activities are based on equal status and mutual agreement and thus are not violent in nature (Johansson and Larsson, 2016; Johansson, 2018).

Research on the prevalence and nature of sexual violence in elite and recreational sport has increased remarkably since the beginning of the twenty-first century. Celia Brackenridge's pioneering contributions in the mid-1990s (e.g., Brackenridge, 1994, 1997; Brackenridge and Kirby, 1997) called for researchers around the globe to investigate this topic, with the aim to quantify the prevalence of interpersonal violence in sport, identify risk factors for its emergence, and develop and evaluate guidelines for improved safeguarding of athletes (e.g., Lang and Hartill, 2015; Rulofs, 2015; Vertommen et al., 2016; Hartill, 2017; Bjørnseth and Szabo, 2018; Ohlert et al., 2018; Rulofs et al., 2019b). Studies investigating the causes of the emergence of sexual violence have pointed out specific conditions in the field of sport, such as unequal gender relations and the social structures of competitive sport. In particular, studies have highlighted the overarching orientation toward performance and success, existence of hierarchical structures, need for physical touch, and intense relationships between coaches and athletes, which are reinforced by the large amount of time spent in training and competition (Brackenridge, 1997, 2001; Burke, 2001; Krapf, 2015; Rulofs, 2016; Hartill, 2017). Whereas, studies on the constellations of interpersonal violence in sport have come to the conclusion that offenders of all forms of violence in sport are predominantly male peer athletes (Vertommen et al., 2016), research has emphasized that the coach–athlete relationship carries a specific risk for sexual violence. In a survey in the Netherlands and Belgium, Vertommen et al. (2016) revealed that acts of sexual violence committed by coaches are significantly more severe in comparison to acts committed by peer athletes and other perpetrators in sport. In a survey on competitive athletes in Germany, Allroggen et al. (2016) showed that in the majority (63%) of cases of sexual violence with body contact, coaches and supervising staff members were responsible, whereas acts of sexual harassment without body contact were most often committed by other athletes. In a United Kingdom survey, Alexander et al. (2011) found that coaches' role as perpetrators of sexual violence tend to increase with the level of competition: whereas teammates and peer athletes are most often mentioned as perpetrators of sexual harassment in all levels of competition, the level of teammates as perpetrators decreases, and coaches become more prevalent as perpetrators with increasing levels of competition (Alexander et al., 2011). The coach–athlete relationship at the elite level of sport thus needs specific consideration when investigating the causes and conditions of perpetration and prevention of sexual violence in sport. The specific conditions of coach-athlete relationship at the elite level were also stressed in a large-scale qualitative research project with survivors of sexual violence in sport in seven European countries (Rulofs et al., 2019a). In the research project VOICE, 72 interviewees reported their experiences of being subjected to sexual violence in sport. The majority of the participants experienced severe forms of sexual abuse as children and adolescents in organized sport, and in the majority of cases (78%), a coach was reported as the perpetrator (Rulofs et al., 2019a).

The need to investigate the relevance of the coach–athlete relationship to sexual violence becomes even more urgent when considering the continuous rise of allegations against coaches reported by the media (BBC, 2018; Chen, 2019; Brennan, 2020) and campaigns such as #SportToo and #CoachDontTouchMe. The rising public attention to sexual violence in sport and the media portrayals of coaches as perpetrators have occasionally led to unreflected demands for no-touch policies, which might provoke moral panic, uncertainty, and fear of unjustified suspicion among coaches (Piper, 2015; Vertommen et al., 2016; Gleaves and Lang, 2017). The authors' own experience confirms that some coaches resign from their position when it comes to the topic of sexual violence and prefer to no longer have contact with young athletes so that they cannot be falsely suspected.

Coaches undoubtedly perform a key function in the training, promotion, and safeguarding of athletes, especially in competitive sport for children and youth. Research on the interactions between coaches and (youth) athletes has shown that a performance-enhancing, motivating climate is based on mutual commitment, trust, sympathy, and participatory decision-making (Jowett, 2007; Borggrefe and Cachay, 2013; Duda and Appleton, 2016). Relationships between coaches and young athletes thus are often characterized by strong emotional binding and social closeness.

For these reasons, this scoping review synthesizes the state of research on the coach–athlete relationship and sexual violence to identify major themes and gaps in the literature and to suggest directions for further research. Sport psychology and sport sociology are the disciplines relevant to the topic of the coach–athlete relationship and sexual violence, so this review is based on collaboration by researchers from both disciplines.

METHODOLOGY

The authors conducted a scoping review on the body of research on the coach–athlete relationship and sexual violence. The scoping review methodology was chosen because this type of review is especially useful for covering complex topics that have not been reviewed in much detail (Arksey and O'Malley, 2005). The authors followed the five stages of the methodological framework suggested by Arksey and O'Malley (2005): (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) collecting, summarizing, and reporting the results.

Identifying the Research Question and Defining the Key Concepts

The general research question identified for this scoping review was: What do we know about the psychological factors and sociological structures in relationships between coaches and youth athletes and their link to the emergence and prevention of sexual violence?

As mentioned above, the term "sexual violence" was used as an overarching term that includes inappropriate, harassing, degrading, and violent behavior based on sexuality and gender hierarchies including various behaviors from verbal sexual harassment without body contact and overly transgressive behavior (e.g., inappropriate massages in sport) to sexual violence with body contact (Brackenridge, 2001; Vertommen et al., 2016). The abuse of power in positions of trusts and responsibility, such as those held by coaches in youth sport—is a common characteristic of sexual violence.

Regarding the term "coach–athlete relationship," the authors used it as a general description of all forms of interactions, communications, and relatedness between coaches and (young) athletes. This review specifically focused on sociological and psychological studies analyzing the coach–athlete relationship as a facilitator or a barrier to incidents of sexual violence.

Identifying Relevant Studies

This step consisted of two main actions: identifying relevant databases and identifying keywords. The authors included general databases (PubMed, Medline, and the Web of Science) and databases commonly used in the fields of sport psychology (PsychArticles, Psyndex, and Psychinfo) and sport sociology (Sportdiscus, SURF, and WISO). Both English and German keywords were developed to identify relevant studies in the databases (see **Table 1**). The search focused on titles and abstracts in the databases. As a starting point, it was decided to include unspecified forms of violence (abus*/harass*/violence) as search terms rather than limit the search to articles mentioning the terms "sexual abus*/harass*/violence." This approach avoided overlooking articles that matched the inclusion criteria but did not mention the term "sexual" in their title or abstract. Subsequently, two authors screened the results from the databases for eligibility and added to the selected studies sources that contained at least one keyword from each of the three columns in **Table 1**. Additional screening (along with the mandatory combination of search terms) was required because several articles mentioned keywords from each of the three columns in the study description but did not combine them to an extent to make the articles relevant to the topic[1].

The search was restricted to articles published after 2,000 to focus the analysis on current knowledge in the field of the coach–athlete relationship. Additionally, articles had to be published in a peer-reviewed journal, to be empirical research, and to be written in either German or English due to the authors' language abilities. Unfortunately, in the database search, the restriction to sources with a combination of the keywords (**Table 1**) in either their title or abstract was not available in WISO and SURF, so in these two databases, the search also included the keywords in the full text.

In line with previous research (e.g., Tricco et al., 2016), a two-level selection process was applied. At the first level, two researchers searched the databases and journals using all the mentioned selection and restriction criteria. After this initial search, a total of 4,434 records was identified, including 3,353 in the field of sociology and 1,081 in the field of psychology.

After removal of duplicates, 3,661 sources remained and were screened by their title and abstract. All the studies that did not meet the requirements of the review process were removed. Through this procedure, the number of studies was reduced to 104, which were then assessed for eligibility.

The second level consisted of an independent reading of the full text of each article by two authors, respectively. In this stage, 88 studies were removed because they had an exclusive focus on the coach–athlete relationship without reference to sexual violence or abuse. The reference lists of the remaining original studies ($n = 12$)[2] were searched for further relevant articles that were not identified in the database search but met all inclusion

[1]For example, several articles dealt with abuse in institutional settings, and sport clubs were listed as one of many potential contexts as well as churches, schools, and boarding schools.

[2]While the PRISMA Flow Chart could lead to the suggestion of 16 original studies (12 + 4), four studies were read by both sociologists and psychologists, so the number of original studies was 12 (see paragraph General Description of Screened Studies for further explanation).

TABLE 1 | Keywords in english.

Sport AND	Coach-athlete relationship AND	Sexual violence
Athlete OR	Attachment OR Authority OR	abus* OR
Coach OR	Boundaries OR	exploit* OR
Sport OR	Coach-athlete relationship OR	grooming OR
Trainer	Closeness OR	harass* OR
	Dependency OR	prevention OR
	Distance OR	Survivor OR
	Empowerment OR	violence OR
	Motivational climate OR	touch OR
	Role diffusion OR	Physical contact OR
	Trust OR	Vulnerability
	Interaction	

criteria for this review. Through this procedure, 11 additional original studies were identified and included in the analysis[3].

Throughout this screening process, all the researchers met regularly to ensure uniformity in the procedure. During these meetings, systematic criteria were developed to classify articles in disciplinary areas (sport psychology and sport sociology) independent of the database in which they appeared. Articles referring to a psychological theory or focusing on individual and emotional aspects of the coach–athlete relationship were categorized as psychological. Studies referring to sociological theories and focusing on social structures and cultures framing or activated by the coach–athlete relationship (e.g., sport-related values and norms, gender hierarchies, and accepted coaching philosophies as examples of social structures, cultures, and theoretical approaches) were categorized as sociological. Consequently, a few articles that combined both psychological and sociological disciplinary perspectives (e.g., Johansson and Lundqvist, 2017) were forwarded to all authors of this scoping review. Due to this format of double reading, a total of 25 original studies was identified through the search strategy, from which 23 were allocated to the field of sociology and 9 to the field of psychology (see **Figure 1**).

Charting and Analyzing the Data

An overview of the selected articles is presented in **Tables 2**, **3**. The full text of all the selected articles was read. In line with previous scoping reviews (e.g., Lines et al., 2018; Kavoura and Kokkonen, 2020), thematic categories were developed, to answer the research question of this review. In this process, the authors followed an inductive and deductive approach of categorizing, inspired by Qualitative Content Analysis (Mayring, 2014). In a first step, recurring topics were compiled and clustered independently by two researchers. In a second step, suitable terms for each topic were discussed among the authors. This whole process was carried out separately by the sociologists as well as by the psychologists in the team to identify differences and similarities between psychological and sociological research on the topic under consideration. After the categories were identified, refined and named from the perspective of both disciplines, the psychological as well as the sociological categories were compared to see if similar topics were extracted from the articles. Accordingly, the results section of this scoping review contains two parts, while both perspectives are aligned and compared in the subsequent discussion.

[3]Three studies were read by two authors in each discipline.

RESULTS

The results are presented in two sections. First is offered a general description of the screened articles, including summarized information on the methodological approaches, samples, types of sport studied, and countries where the studies were conducted. In the second section, the thematic results from the psychological and sociological perspectives are presented.

General Description of Screened Studies

With regard to the time of publication, there is a stable trend of an almost equal distribution of publications over the study period (2000–2020[4]). The research sites are mostly all European (n = 18) and North American countries ($n = 2$). Only one study was conducted in Asia (South Korea; Park et al., 2012)[5], and almost all the locations can be considered to be western industrialized countries. Concerning the type of sport examined (based on the researchers' choice or the study participants' activity there), most studies do not refer to any specific kind of sport but instead focus on a wide range of sport or do not state in what sport the participants competed. Of the remaining studies, five deal with team sport, while seven draw on a sample with athletes from individual sport (most prominently swimming; $n = 4$)[6]. Most studies ($n = 20$) follow a qualitative research paradigm, with interviews the preferred research method. The samples most often include current and former athletes, while five studies analyze interviews with coaches, and two draw on media or text analysis. Park et al. (2012) also conducted interviews with experts in the field (e.g., former national sport officials, former high school coach, sport academics, and sport journalists).

Thematic Results

The authors identified three categories from a psychological perspective and six categories from a sociological perspective. The three categories from a psychological perspective include power, closeness, and blurred boundaries/ambiguous roles. The six categories from a sociological standpoint are closeness and trust, the grooming process, roles and ambiguous boundaries, consent in coach-athlete sexual/love relationships, heteronormative constructs of sexual violence, and interpersonal and organizational power. Those categories will

[4]In the review process, articles until 2020 were screened but the ones published in 2020 did not fit the selection criteria. Accordingly, only articles published until 2019 were considered although studies from 2020 were included in the review process.

[5]The remaining studies do not mention the country or region where they were conducted or consider multiple locations according to the research design of a systematic literature review (Bjørnseth and Szabo, 2018).

[6]A few studies refer to both individual and team sports. These studies are included in the sample (n) of both categories (individual and team sports).

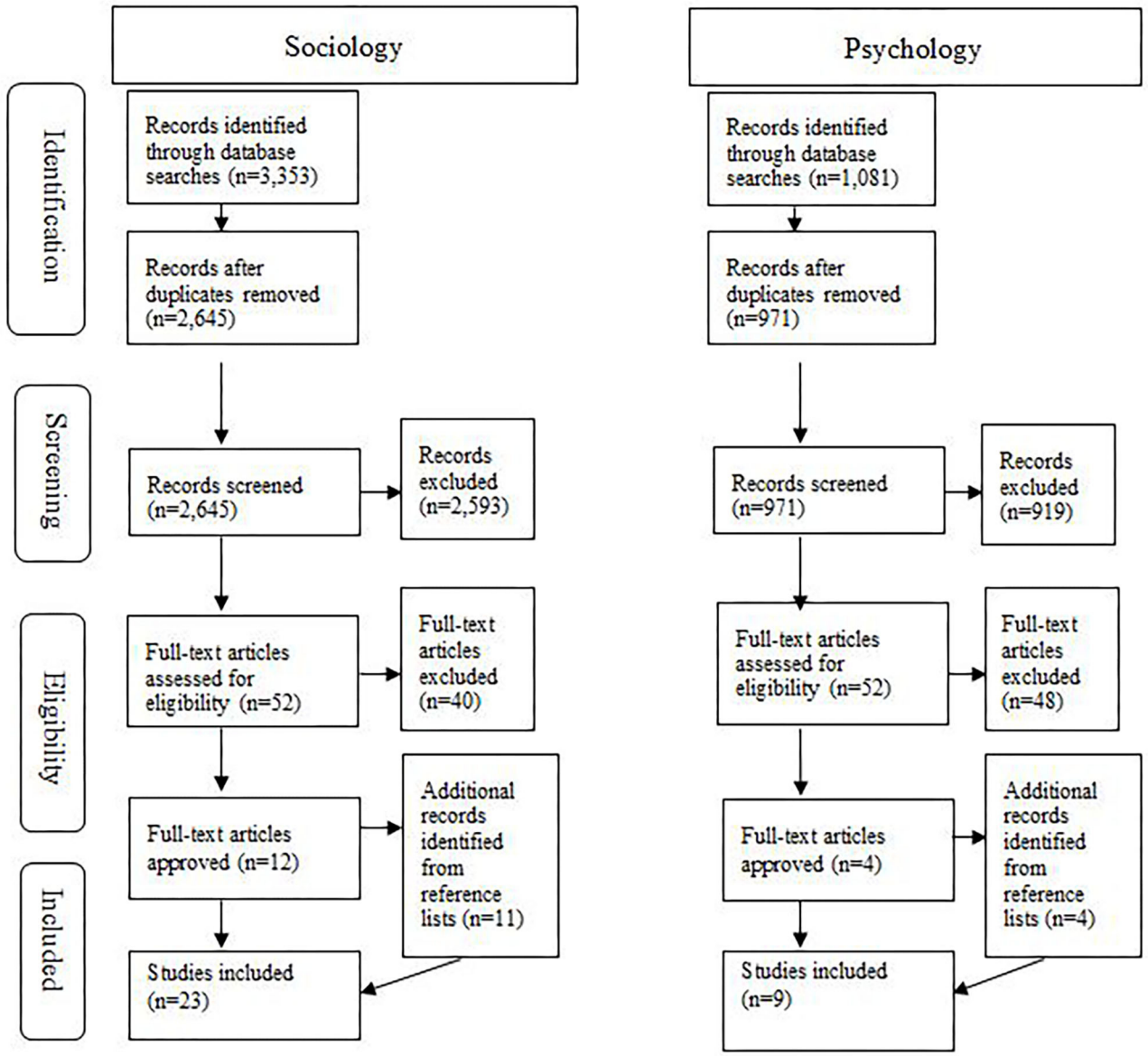

FIGURE 1 | PRISMA flow chart.

be explained in the following paragraphs Sport Psychological Perspective and Sport Sociological Perspective, starting with the psychological perspective.

Sport Psychological Perspective

Within the sport psychological perspective—which generally deals with the behavior and experiences of persons in the context of sport activities (Kontos and Feltz, 2008)—the social psychological focus is especially relevant to the current study investigating the experiences and behavior of coaches and athletes within their social interactions and in regard to the emergence of sexual violence (Jowett, 2017; Schüler et al., 2020). From a sport psychological perspective, the coach–athlete relationship is understood as a social situation defined by the interpersonal thoughts, feelings, and behaviors of coaches and athletes (Jowett, 2017). With this understanding and the research question in mind, the sport psychological perspective should shed light on the thoughts, feelings, and behaviors in the coach–athlete relationship that might facilitate the emergence of sexual violence. In comparison to the sociological perspective, the focus of psychology lies on individuals and their perceptions, even though the theories and constructs of the sub-discipline of social psychology (which applies when looking at social interactions) might show overlaps with the micro level of the sociological

TABLE 2 | Articles with relevance to the sociological perspective.

Number	References	Geographical location	Type of sport	Methodology	Sample	Category
1	Bisgaard and Toftegaard Støckel (2019)	Denmark	Vaulting & not mentioned	Qualitative, narrative Interviews	Two female athletes	Closeness, grooming, roles power
2	Brackenridge and Fasting (2005)	Norway and England	Not mentioned	Qualitative, narrative analysis	Two female athletes	Closeness, grooming, roles, power
3	Brackenridge et al. (2008)	Not mentioned	Not mentioned	Quantitative, multidimensional scaling	159 cases of cases of criminally defined sexual abuse	Grooming
4	Bringer et al. (2002)	UK and Ireland	Swimming	Qualitative, focus groups	19 male coaches	Roles
5	Bringer et al. (2006)	Not mentioned	Swimming	Qualitative, in-depth Interviews	Three coaches	Closeness, roles
6	Cense and Brackenridge (2001)	Sweden	Not mentioned	Qualitative, semi-structured interviews	14 athletes who survived sexual abuse	Grooming, roles, power
7	Fasting and Brackenridge (2009)	Norway	Wide range of sports	Qualitative, semi-structured interviews	19 female elite athletes	closeness, power
8	Fasting and Sand (2015)	Czech Republic, Greece, and Norway	Handball & volleyball	Qualitative, narrative analysis	Two female athletes	Closeness, grooming, roles, consent, power
9	Fasting et al. (2018)	Norway	Wide range of sports	Qualitative, in-depth interviews	24 female and 12 male elite-level coaches	Roles
10	Fasting et al. (2007)	Norway	15 different sports	Qualitative, semi-structured interviews	25 female elite athletes	Closeness, roles
11	Fasting et al. (2002)	Norway	Wide range of sports	Qualitative, semi-structured interviews	25 female athletes	Power
12	Hartill (2014)	UK	Rugby & figure skating	Qualitative, narrative interviews	2 male former athletes	Closeness, roles, consent, heteronormativity, power
13	Johansson (2018)	Sweden (interviewee from other country)	Team sport	Qualitative, narrative single-case study	One female elite athlete	Grooming, roles, consent, heteronormativity
14	Johansson and Larsson (2016)	Sweden	Wide range of sports	Qualitative, semi-structured interviews	Four female elite athletes	Consent, heteronormativity
15	Johansson and Lundqvist (2017)	Sweden	Wide range of sports	Quantitative, mutlivariable statistics	477 current and former club sport athletes	Closeness, grooming, consent, heteronormativity
16	Owton and Sparkes (2015)	Not mentioned	Not mentioned	Qualitative, autoethnopraphy	One female athlete	Closeness, grooming, roles, power
17	Park et al. (2012)	South Korea	Wide range of sports	Qualitative, content analysis, semistructured interviews	Media sources (newspaper, videos) and 7 sport experts	Power
18	Prewitt-White (2019)	USA	Basketball	Qualitative, Autoethnopraphy	One former female elite athlete	Grooming
19	Rulofs (2016)	Germany	Not mentioned	Qualitative, case study/(partly narrative) interview	One female athlete	Closeness, grooming, consent, heteronormativity
20	Sand et al. (2011)	Czech Republic, Greece, and Norway	Not mentioned	Quantitative, survey (pearson's chi-square test)	399 female sport and PE students	Roles, power
21	Stirling and Kerr (2009)	Canada	Swimming & gymnastics	Qualitative, semi-structured interviews	Nine previously abused athletes	Closeness, roles, consent, power
22	Taylor et al. (2016)	UK	Mainly football, swimming, & paddle-sport	Qualitative, observations, interviews and analysis of policy documents	50 coaches, 10 PE teachers and other sport stakeholders	Roles
23	Toftegaard Nielsen (2001)	Denmark	Not mentioned	Quantitative, questionnaire	253 athletes and 275 coaches (recreational to elite level)	Closeness, grooming, roles, consent, power

TABLE 3 | Articles with relevance to the psychological perspective.

Number	References	Geographical location	Type of sport	Paradigm	Sample	Category
1	Bisgaard and Toftegaard Støckel (2019)	Denmark	Vaulting & not mentioned	Qualitative, narrative interviews	Two female athletes	Power, closeness, boundaries
2	Bjørnseth and Szabo (2018)	Multiple	Wide range of sports	Systematic literature review	Adults, adolescents, and children	Power, boundaries
3	Brackenridge and Fasting (2005)	Norway and England	Not mentioned	Qualitative, narrative analysis	Two elite female athletes	Power, closeness, boundaries
4	Cense and Brackenridge (2001)	Sweden	Not mentioned	Qualitative, semi-structured interviews	14 athletes who survived sexual abuse	Power, closeness, boundaries
5	Johansson and Lundqvist (2017)	Sweden	Wide range of sports	Quantitative, mutlivariable statistics	Current and former club sport athletes ($n = 477$)	Power, closeness
6	Prewitt-White (2019)	USA	Basketball	Qualitative, autoethnopraphy	One former female athlete who made experiences of grooming by her coach	Boundaries
7	Sand et al. (2011)	Czech Republic, Greece, and Norway	Wide range of sports	Quantitative, survey (pearson's chi-square test)	399 female sport and physical education students	Power
8	Stirling and Kerr (2009)	Canada	Gymnastics & swimming	Qualitative, semi-structured interviews	Nine retired female athletes; three of them experienced physical abuse, two sexual abuse, all of them experienced emotional abuse	Power, closeness, Boundaries
9	Tjønndal (2019)	Norway	Boxing	Qualitative, interviews	Seven female boxers and three female boxing coaches	Power

perspective (see also section Sport Sociological Perspective for further explanations).

Power

Within the field of social and sport psychology, power in the coach–athlete relationship can be understood as a relationship of dominance and submissiveness between the coach and the athlete (Davis and Jowett, 2014). Six of the nine included articles stress the power relations in the coach–athlete relationship. In a systematic literature review on sexual violence against children in sport and exercise (Bjørnseth and Szabo, 2018), the authors find that a typical characteristic of perpetrators is that they have power and influence over their victims. Three articles highlight that the coach–athlete relationship is characterized by an imbalance of power favoring the coach (Cense and Brackenridge, 2001; Sand et al., 2011). In a central finding of Stirling and Kerr (2009, p. 231), the coach's position of power is derived from the "closeness of the relationship, the legitimate authority of the coach, the coach's expertise and previous successes, and the coach's ability to control access to the athletes." The coach's position of power might have behavioral consequences for athletes and other coaches. Regarding the behavioral consequences for athletes, they might not scrutinize the coach's behavior or recognize feelings of discomfort within the coach–athlete relationship because the coach makes use of his power in small steps (Bisgaard and Toftegaard Støckel, 2019). Further, athletes do not dare to change to a different sport club due to fear of negative consequences because of the coaches' power (Brackenridge and Fasting, 2005).

Regarding the behavioral consequences for coaches, the power imbalance in the coach–athlete relationship offers grounds for authoritarian leadership (Tjønndal, 2019). The relationship between authoritarian leadership or, rather, authoritarian coaching behavior, and sexual harassment in sport is the subject of a quantitative study (Sand et al., 2011). The results indicate that athletes who have coaches with authoritarian coaching behavior have a higher prevalence of sexual harassment independent of the coach's gender (Sand et al., 2011). Sand et al. (2011) conclude that authoritarian coaching behavior and an unbalanced power distribution do not necessarily lead to experiences of sexual harassment, but they create a higher risk for the emergence of (sexual) abuse. In addition, Sand et al. (2011) argue that authoritarian coaching behavior involves risk for ignoring athletes' needs and will. However, another study on the relationship of various factors in the coach–athlete relationship and the prevalence of sexual harassment and abuse shows that the factors of athletes' dependence on the coach and the coach's influence over their sport performance and personal life are not significantly related to sexual harassment/abuse (Johansson and Lundqvist, 2017).

In addition to these negative aspects of power in the coach–athlete relationship, two studies emphasize that power in the coach–athlete relationship can also have positive aspects (Stirling and Kerr, 2009; Sand et al., 2011). For example, Sand et al. (2011, p. 238) find that coaches can use their power to contribute to "solv[ing] common challenges such as the achievement of mutual goals." Stirling and Kerr (2009) conclude that power, understood as shared power arrangements, can be used positively (e.g., to enhance athletes' well-being and performance) in the coach–athlete relationship.

Closeness

From a psychological point of view, closeness is defined as the affective quality in the coach–athlete relationship and comprises their mutual respect, trust, appreciation, and liking for another (Jowett, 2017). Five of the included studies emphasize closeness as a relevant psychological factor in the emergence of sexual violence. In four of these studies, female athletes sexually abused by their coaches compare the coach–athlete relationship to a parent–child relationship or a friendship (Cense and Brackenridge, 2001; Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Bisgaard and Toftegaard Støckel, 2019). Moreover, the coach is seen as an older brother by athletes (Bisgaard and Toftegaard Støckel, 2019). Athletes report spending more time and sharing more personal information with their coaches than with their parents (Stirling and Kerr, 2009). Some describe their coach–athlete relationship as "too close" (Stirling and Kerr, 2009, p. 232), indicating the problematic issue of finding the balance between distance and closeness in the coach–athlete relationship.

In sum, in qualitative studies, closeness is seen as a factor that might facilitate the emergence of sexual violence. However, this cannot be confirmed in quantitative studies analyzing the correlations of closeness and sexual violence. More precisely, feelings of closeness to a coach are found to be a relationship factor negatively related to the prevalence of sexual harassment and abuse (Johansson and Lundqvist, 2017). However, the factor of trust is not significantly related to sexual harassment or abuse.

Blurred Boundaries and Ambiguous Roles

Within the context of counseling in the sport psychology field, interpersonal boundaries define the roles of the persons in a relationship (e.g., between coaches and athletes; Moles et al., 2016). In more detail, interpersonal boundaries determine appropriate and inappropriate behaviors or activities for certain roles in this relationship (Little and Harwood, 2010). This determination of interpersonal boundaries prevents role ambiguity (e.g., crossing role-specific boundaries) and thus boundary violations (e.g., sexual boundary violations, such as kissing, sexual touching, and dating; see Moles et al., 2016).

In six studies, a central result is that athletes sexually abused by their coaches report blurred boundaries within the coach–athlete relationship (Cense and Brackenridge, 2001; Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Bjørnseth and Szabo, 2018; Bisgaard and Toftegaard Støckel, 2019; Prewitt-White, 2019). Athletes share that their coaches have deep insights into their lives (e.g., having personal information about school and friends) and are present in contexts other than sport (e.g., helping with homework; Stirling and Kerr, 2009). Moreover, athletes highlight that their coaches slowly cross boundaries (Cense and Brackenridge, 2001). Slowly crossing boundaries and allowing role ambiguity are crucial aspects of the grooming process (Cense and Brackenridge, 2001). They are characterized by behaviors such as sharing leisure time activities (e.g., movies, barbecues, driving lessons, and restaurant dining; Stirling and Kerr, 2009; Bjørnseth and Szabo, 2018; Bisgaard and Toftegaard Støckel,

2019), having physical contact (e.g., hugs and kisses; Stirling and Kerr, 2009), holding highly personal conversations (Brackenridge and Fasting, 2005; Stirling and Kerr, 2009), and expressing feelings of affection (Prewitt-White, 2019).

Sport Sociological Perspective

Sociological analysis of sexual violence between coaches and athletes is crucial because—in Brackenridge and Rhind's (2014, p. 333) phrasing—"no instance of abuse can be divorced from its socio-cultural context." While psychology focuses on individual thoughts and behaviors as explanations for sexual violence, the sociological perspective sheds light on the social structures that frame the interactions between coaches and athletes, as well as the organizational factors that might enable abusive behavior. From a sociological standpoint, a phenomenon can be examined at the micro, meso, and macro levels. The distinctions between these levels of analysis and the accompanying structure–agency debate form fundamental theoretical perspectives within the vast field of sociology (O'Donnell, 2010). Concerning the research question of this scoping review, it is evident that analysis of the social (inter)actions between individuals (the micro level of the coach–athlete relationship) and analysis of the structures within sport organizations (meso level) are important for researchers to understand the complexity of sexual violence within the coach–athlete relationship. The findings of the reviewed articles support the notion that analyzing the intersection between structure and agency might be fruitful for research focused on sexual violence in sport (Johansson and Larsson, 2016).

Closeness and Trust

Closeness is an important characteristic of the coach–athlete relationship, evident in, for example, the necessity for close cooperation in planning training and competition and the large amount of time coaches and athletes spend together. The included research literature refers to three different types of closeness: physical closeness (e.g., non-sport- and sport-related touch), emotional closeness (e.g., father–daughter and mother–daughter relationships), and social closeness (e.g., attending social events together; Stirling and Kerr, 2009; Owton and Sparkes, 2015). Connected with closeness is another fundamental aspect of the relationship between athletes and coaches: trust. Athletes (should) have confidence in coaches' integrity and trust coaches' competence to develop their performance and career. From organizational studies, we know that members of sport clubs have high in-group trust, and volunteers such as coaches are more likely to be regarded as acquaintances than neutral members (Burrmann et al., 2018). Trust and closeness seem to be closely linked, and while important for a functioning coach–athlete relationship, both can also be sources of exploitation (Brackenridge and Fasting, 2005; Rulofs, 2016).

Twelve of the 23 articles identified from a sociological perspective discuss the topics of closeness and trust as important characteristics of the coach–athlete relationship in the context of sexual violence. Examples of emotional closeness include flirting and description of the coach–athlete relationship as similar to father–daughter and mother–daughter relationships (Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Owton and Sparkes, 2015; Johansson and Lundqvist, 2017; Bisgaard and Toftegaard Støckel, 2019). In this context, Stirling and Kerr (2009) point out that what is described as too close is very subjective, which can make it difficult for coaches to find the appropriate balance between closeness and distance in their relationships with athletes.

One form of physical closeness related to sexual harassment and abuse refers to non-sport-related physical touch, such as strokes on the bottom, back, and breasts and coaches' requests for massages from athletes (Brackenridge and Fasting, 2005; Fasting et al., 2007; Fasting and Brackenridge, 2009; Stirling and Kerr, 2009; Fasting and Sand, 2015; Owton and Sparkes, 2015). This kind of physical touch is often performed in situations such as sleepovers in the coach's house or when the chosen athlete is allowed in the coach's room (Toftegaard Nielsen, 2001; Hartill, 2014; Owton and Sparkes, 2015). Apparently, the field of sport, which is essentially connected with physical contact and closeness, offers a number of other opportunities in which physical closeness is possible and may be exploited for abuse. A quantitative study by Johansson and Lundqvist (2017, p. 129) shows a statistically significant, positive relationship between the variable of "non-instructional physical contact" and sexual harassment and abuse. Additionally, female athletes experience significantly more physical contact from coaches than male athletes, indicating that physical touch contains a gender dimension (Johansson and Lundqvist, 2017).

Five articles describe situations of social closeness such as coaches attending parties and watching movies with their athletes, regularly communicating through phone calls and social media, and having very personal conversations (Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Owton and Sparkes, 2015; Bisgaard and Toftegaard Støckel, 2019). The combination of alcohol consumption and going out at night with coaches, in particular, can be a risk for sexual violence for athletes (Toftegaard Nielsen, 2001). Although social closeness between coaches and athletes is an important factor in their relationship, it can also foster situations that might be unsafe for them. For example, situations in which coaches and athletes are alone together or their perceptions are altered by alcohol consumption might create opportunities for sexual violence.

The reviewed articles show that the interconnectedness of closeness and trust becomes visible in different ways (Johansson and Lundqvist, 2017). Some coaches stress the importance of developing a trustworthy relationship with athletes, which can be developed by being close to them (Bringer et al., 2006). Athletes sometimes describe coaches as father figures and family members (Brackenridge and Fasting, 2005; Stirling and Kerr, 2009). These ascribed roles include several dimensions of closeness and trust in another's integrity (Brackenridge and Fasting, 2005). Trust is also important and developed when coach and athletes work together as a team to foster athletes' career. The negative aspect of trust is that coaches can abuse it (Brackenridge and Fasting, 2005; Rulofs, 2016). The research indicates that athletes sometimes do not object to inappropriate physical closeness from their coaches because of trust in them

(Fasting and Sand, 2015; Owton and Sparkes, 2015). At the same time, situations of sexual violence are downplayed by coaches who assure athletes that they can be trusted (Brackenridge and Fasting, 2005).

The Grooming Process

The term "grooming" describes strategies consciously used by abusers to persuade children to engage in sexual activities (Finkelhor, 1984). In the context of sport, the building of athletes' trust in their coach is an essential part of the grooming process (Brackenridge and Fasting, 2005). Referring to Brackenridge's model of the grooming process (Brackenridge, 2001; Cense and Brackenridge, 2001), 10 studies reviewed for this article illustrate and investigate the different stages, characteristics, and purposes of the grooming process between coaches and athletes.

One recurring characteristic of the grooming process is coaches' development and building of friendships with their victims, which impede athletes' recognition of coaches overstepping boundaries. These efforts include compliments and presents from coaches, phone calls, invitations to coaches' homes, isolation of athletes, and having secrets with coaches (Cense and Brackenridge, 2001; Fasting and Sand, 2015; Owton and Sparkes, 2015; Bisgaard and Toftegaard Støckel, 2019; Prewitt-White, 2019).

Another prominent characteristic of the grooming processes is the normalization of sexual harassment and abuse as coaches gradually cross personal boundaries in their relationships with victims (e.g., Johansson, 2018; Bisgaard and Toftegaard Støckel, 2019; Prewitt-White, 2019). This process of normalization is argued to be an explanatory factor for the negative correlation of sexual harassment and abuse with athletes' attraction and closeness to coaches (Johansson and Lundqvist, 2017). The screened articles show that grooming can conceal sexual violence. Through grooming, sexual activities might be perceived as wanted but are later redefined as sexual violence (Cense and Brackenridge, 2001; Toftegaard Nielsen, 2001; Johansson and Lundqvist, 2017).

Some research finds that coaches expand the process of gaining trust and improving reputation to other actors in the sport context, including athletes' parents, other coaches, and team members (Rulofs, 2016; Johansson, 2018; Bisgaard and Toftegaard Støckel, 2019). Referring to Bourdieu's (1977) framework of social stratification, Bisgaard and Toftegaard Støckel (2019) explain this strategy of perpetrators as an expansion and deepening of their social capital. Coaches develop social capital to increase their status within the community and build a shield of immunity against accusations (Bisgaard and Toftegaard Støckel, 2019). Consequently, it becomes difficult for athletes to report abusive coaches without endangering their own trustworthiness and sporting career.

With regard to gender, the findings indicate that the grooming strategies used by coaches differ depending on the sex of their victims. Coaches use more intimate grooming strategies such as kissing and declarations of love with female athletes, while male athletes experience more aggressive grooming behaviors such as being shown pornographic footage (Brackenridge et al., 2008).

Roles and Ambiguous Boundaries

This category summarizes all the results from the studies that deal with the roles of coaches and athletes and their relevance to perpetration of sexual violence. From a sociological perspective, social roles are a set of expectations, rights, duties, and behaviors that a person in a specific social position has to face and fulfill. While role theory has many theoretical strands (e.g., Herbert Mead, Talcott Parsons, and Georg Simmel), the general idea is that people enact various social positions (e.g., athlete, coach, brother, and sister) that are connected to (informal or formal) expectations held by various stakeholders. The concept of role ambiguity describes a challenging situation that emerges when different stakeholders (athlete, parents, and club) have vague or even contrasting expectations for a specific social position (coach). Ambiguous role expectations may lead to unclear boundaries between coaches and athletes because their roles sometimes lack clear definitions. The findings concerning gray areas and ambiguous boundaries are also taken into account in this category because unclear boundaries and gray areas are closely linked to role expectations, role conflicts, and the occurrence of sexual violence (Hindin, 2007).

Eight studies report that athletes ascribe many different roles to their coaches, including instructor, coach, father figure, protector, friend, and partner. Obviously, the roles ascribed to coaches and the associated expectations go far beyond the purely sporting spectrum of action (Cense and Brackenridge, 2001; Bringer et al., 2002; Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Hartill, 2014; Fasting and Sand, 2015; Owton and Sparkes, 2015; Johansson, 2018). These different roles ascribed to coaches can make it difficult for coaches and athletes to identify when close is too close. Sexual violence may not be identified early enough due to a high level of trust, which is linked to the variety of roles coaches can inhabit, such as father and mother figures and friends (Owton and Sparkes, 2015). In coaches' opinion, the professional coaching role demands that they keep a certain distance from athletes and avoid close personal relationships with athletes (Fasting et al., 2018).

In addition to these heterogenous roles, male coaches face the expectation to act in accordance with male gender stereotypes that incorporate characteristics of authoritarian coaching behaviors (Sand et al., 2011). The findings of Sand et al. (2011) suggest that coaches' authoritarian behavior is more related to athletes' experience of sexual harassment than coaches' gender. Athletes who experience authoritarian coaching behavior show a higher prevalence of sexual harassment experiences (Sand et al., 2011).

The different roles and expectations coaches are confronted with can lead to role ambiguities. On one hand, coaches want to mentor and motivate, but on the other hand, they also want to keep a professional distance. Consequently, some coaches follow guidelines to avoid false accusations (Bringer et al., 2002). However, there is much discussion on the function and effectiveness of child protection guidelines because although some coaches know about these guidelines, their behavior does not match them (Bringer et al., 2006). Moreover, the findings show that coaches even ridicule the behavior prescribed by child protection guidelines (Bringer et al., 2006; Taylor et al., 2016).

In public discourse, sexual violence is commonly understood as unwanted physical contact and penetration. This rather narrow concept of sexual violence can lead to difficulties identifying forms of sexual violence that do not include these features, such as sexually suggestive jokes and harassing text messages and gestures. Even sexual violence with physical contact can be difficult to recognize by athletes. This holds true for cases in which no physical violence is used during the sexual encounter, and the sexual contact feels pleasurable (Hartill, 2014; Fasting and Sand, 2015). Pleasurable experiences go against the dominant discourse of sexual violence, making it difficult for athletes to understand that sexual violence can also look like this. While one study shows that coaches and athletes can differentiate appropriate from non-appropriate behavior to some degree (Toftegaard Nielsen, 2001), the latter forms, in particular, can lead athletes to doubt whether such behavior constitutes abuse (Johansson, 2018; Bisgaard and Toftegaard Støckel, 2019). In this regard, some athletes explain that clear ethical boundaries would be helpful for them to detect if a coach goes too far (Brackenridge and Fasting, 2005). The importance of drawing clear boundaries in relationships with athletes is also mentioned by coaches (Fasting et al., 2018), who often experience issues and uncertainties around gray areas, particularly regarding physical touch (Bringer et al., 2002). Concerning this role conflict between (physical and emotional) closeness and distance, some coaches actively follow club guidelines to avoid false allegations (Bringer et al., 2002). However, it is also noted that what behaviors are seen as overstepping boundaries is subjective (Fasting et al., 2007; Stirling and Kerr, 2009; Hartill, 2014; Fasting and Sand, 2015; Johansson, 2018; Bisgaard and Toftegaard Støckel, 2019).

Consent in Coach–Athlete Sexual/Love Relationships

This category summarizes the results concerning presumed love relationships between coaches and athletes, which might include sexual acts. Mutual love and sexual relationships can develop between coaches and athletes, and they do not equal sexual violence (Johansson, 2018). Obviously, mutual consent to have sex plays a crucial role in love relationships, and if there is no consent, sexual acts can come close to sexual violence. This category thus also includes the findings on how athletes and coaches construct consent, which has to be understood as a social construct and a result of a complex social interaction (Johansson, 2018). Although this category primarily focusses on social interactions between individuals on a micro level, consent, and love/sexual relationships are socially constructed and influenced by broader structural concepts. From a sociological perspective, analysis of the cultural context in which consent is (not) given is crucial. Consent, as well as love/sexual relationships, may be influenced by power structures that are inherent in all relationships and can be based on differences in knowledge, age, gender, and social status, for example.

Six articles discuss the construction of consent in coach–athlete sexual/love relationships. One important aspect concerning consent is the legal age of consent, which differs from country to country and indicates the social construction of consent. The coach–athlete relationship is characterized by dependencies (Stirling and Kerr, 2009; Rulofs, 2016; Johansson, 2018), which makes sexual activities illegal even if the age of consent is reached. One study stresses the importance of understanding consent as a contextual, multi-layered, complex process (Johansson, 2018). The process of consent can be even more complicated in relationships atypical to the heteronormative order, such as same-sex relationships (Johansson, 2018). In two studies, female athletes report feelings of attraction toward their (male) coaches, as well as excitement and passion for a (figurative) forbidden sexual liaison. These feelings of closeness and attraction, of falling in love with a person "unreachable" (Johansson and Larsson, 2016, p. 831), superior, and atypical as a boyfriend, are amplified by coaches' power and professional status (Johansson and Larsson, 2016; Johansson and Lundqvist, 2017). Some athletes retrospectively define the sexual contact with their coaches as sexual violence although they were in love with their coaches at the time the sexual violence took place (Fasting and Sand, 2015).

Some athletes also describe falling in love with an older man (their coach) as embarrassing. This embarrassment at loving an older man (which does not seem socially acceptable) holds the athletes back from speaking out about their abusive relationship (Fasting and Sand, 2015). Being in love with a coach and having sexual experiences that feel good for athletes still do not equal consent (Hartill, 2014; Fasting and Sand, 2015). To the contrary, these factors make it difficult for athletes to identify, speak about, and report sexual violence. Another aspect concerning consent is brought up by Toftegaard Nielsen (2001): 40% of coaches report experiencing sexually provocative behavior from their athletes and behaviors they could interpret as consent, which can make it difficult for coaches to distinguish between consent and simply provocative behavior.

Heteronormative Constructs of Sexual Violence

The discourse on sexual violence in sport often follows heteronormative constructs and builds a dualism of male perpetrator–female victim/survivor (Hartill, 2014, 2017; Johansson and Larsson, 2016). Furthermore, women's agency and sexual desires are often not taken into account in research on the coach–athlete sexual relationship (Johansson and Larsson, 2016). Same-sex relationships are often rendered invisible due to heteronormative perspectives that construct heterosexuality as a norm in society in general and the culture of sport (Hartill, 2014, 2017). The construct of heterosexuality as norm might result in problems identifying sexual violence by athletes who experience same-sex coach–athlete sexual relationships (Johansson, 2018).

Same-sex relationships and sexual violence are discussed in four articles. These qualitative studies reveal that against heteronormative constructs, same-sex sexual abuse is perceived by victims and bystanders as an untellable story threatening the logic of the field structured by a heteronormative gender order (Hartill, 2014; Rulofs, 2016). Several scholars add the concern that same-sex sexual harassment and abuse are under-researched, very likely because same-sex sexual violence is even more taboo than sexual violence that fits heteronormative notions of sexual relationships (Hartill, 2014; Rulofs, 2016; Johansson and Lundqvist, 2017).

Interpersonal and Organizational Power

From a sociological perspective, power refers to the capacity of an individual or a social system to enforce their interests even against the wishes of others. The concept of authority complements the notion of power because it often describes power that individuals or a social system perceive as legitimate and functional. Although most of the reviewed articles refer to power within the coach–athlete relationship, this term is not explicitly defined throughout the studies. Yet a distinction between (inter)personal power and structural/organizational power can be extracted from the articles. Interpersonal power relationships between coaches and athletes are a phenomenon described in depth throughout the academic discourse concerning sexual violence in sport (Brackenridge, 1997, 2001). Analysis of the organizational power dimension can help understand what kinds of behavior are constructed as normal in sport. Furthermore, different forms of coaches' power such as legitimate and expert power are discussed in some articles (Fasting and Sand, 2015). In addition, the crucial distinction between "power to" and "power over" is highlighted in some of the reviewed studies, and the narrow perception of power as a negative concept that does not allow for individual agency is criticized by some researchers (Fasting and Brackenridge, 2009; Sand et al., 2011; Hartill, 2014).

Nineteen articles refer to power relations regarding the coach–athlete relationship and sexual violence. Sport organizations are dominated by men in leadership positions, which indicates a gender power difference in sport organizations (Fasting and Sand, 2015). The gender dimension is discussed in depth by Park et al. (2012) with regard to the sport culture in South Korea. Conservative, authoritarian, male-dominated values that may seem more tolerant of sexual and physical violence and hierarchical power relationships fueled by traditional or religious beliefs (e.g., Confucianism in the South Korean context) are factors that can contribute to sexual violence in (South Korean) sport (Park et al., 2012).

On an interpersonal level, the findings suggest that sexual violence is motivated by power rather than sexuality (Fasting and Brackenridge, 2009), which contradicts the notion that perpetrators are following pathological sexual urges. Other studies show that a correlation exists between athletes' experience of authoritarian coaching behaviors and athletes' experience of sexual violence (Sand et al., 2011). According to Fasting et al. (2002), it seems to be more dangerous to be harassed by a person in a position of legitimate power than by another athlete due to the structural power the former may have over athletes. Sand et al. (2011) describe four main types of power influenced by hegemonic masculinity and often present in the coach–athlete relationship: positional power, expert power, physical power, and gender power. These kinds of power are influenced by social constructions of masculinity. This may lead to an imbalance in power between the sexes and risk for the abuse of power, which can result in sexual violence (Sand et al., 2011). It is important to note that within gendered power structures, women are constructed as passive victims unable to resist or challenge the power exercised against them. This concept of power has been criticized for its failure to address female agency (Fasting and Brackenridge, 2009). Highlighting women's agency in this context challenges the passive female victim discourse and might help empower female athletes to speak out and set boundaries against perpetrators.

Some researchers point to the distinction between "power to" and "power over" as an important aspect of the coach–athlete relationship. Coaches' authoritarian behaviors can be seen as an indicator of power over athletes and are reflected in coaches' controlling their athletes' lives (Cense and Brackenridge, 2001; Sand et al., 2011). Against this background, athletes describe themselves as fearful and scared of their coaches (Owton and Sparkes, 2015). Some studies point out that the power of coaches can be seen in a positive way—as a power to promote and protect and thus empower athletes (Stirling and Kerr, 2009; Sand et al., 2011). Hartill (2014) shows that coaches have the ability to give individual athletes power (e.g., by giving them preferred treatment in front of their teammates or assigning them the role of team captain) and that athletes can draw power from their relationship to an abusive coach by attaining their goal of elite performance through it. Hartill (2014) points out that this form of empowerment through an abusive relationship seems only possible because athletes describe the relationship not as violent but as protective and secure and the sexual activities as pleasurable although predatory.

Other studies mention that athletes are unable to end relationships with their coaches because of the (inherent) power that coaches have over them due to their high social capital within the club, including functional roles within the sport organization (e.g., board member). This kind of social capital, complemented by coaches' authority based on their expert role, makes it even more difficult for athletes to oppose coaches' (transgressive) behavior (Brackenridge and Fasting, 2005; Bisgaard and Toftegaard Støckel, 2019). In contrast, some athletes stress that coaches need to be superior to athletes to enhance athletes' performance, which implies that an imbalance in power is expected and accepted by athletes. In addition, Stirling and Kerr (2009) find that coaches' success helps increase their power and authority in different ways: athletes ascribe their own success to coaches, athletes do not question the methods of successful coaches, and coaches' problematic behavior is justified by their success and reputation. Some authors propose an athlete-centered model in which coaches' power is shared among athletes, parents, and coaches and consequently is used in a positive way (Cense and Brackenridge, 2001; Stirling and Kerr, 2009). The idea behind this model is that the coach–athlete relationship can function more like a partnership in which everyone involved has responsibilities in decision-making, planning and evaluation processes (Stirling and Kerr, 2009).

SUMMARY AND DISCUSSION

This scoping review included 25 peer-reviewed, empirical-based articles on the coach–athlete relationship and sexual violence in sport published from 2000 to 2019 in journals from the fields of sociology and psychology. The volume of research published on the topic over 2010–2019 increased by 50%

compared to 2000–2009. As far as the development of the respective thematic categories is concerned, it shows that the topic of heteronormative constructs of sexual violence receives an increasing attention in the time-period from 2014 to 2018 whereas no further remarkable dynamics could be identified for the other thematic categories during the investigated time-span. Regarding the quantity of articles, the screening process of the databases revealed that the topic of sexual violence between coaches and athletes is more often examined from the perspective of sociology ($n = 23$) than psychology ($n = 9$).

Concerning the thematic analysis of the articles, this scoping review resulted in more thematic categories in studies in the field of sociology ($n = 6$) than the field of psychology ($n = 3$), which can be seen as a direct consequence of the larger body of research in sport sociology. The comprehensive analysis of the main topics showed that the bodies of psychological and sociological research on the topic refer to adjacent concepts that, when viewed from their particular disciplines, have genuine psychological or sociological components and that, when viewed as a whole, provide helpful approaches to explain sexual violence in the coach–athlete relationship. In the following, we summarize the central thematic findings and discuss the implications for research and prevention.

Power

To understand the emergence of sexual violence in the coach–athlete relationship, power seems to be a crucial concept from both the psychological and the sociological perspective. These perspectives reveal that the imbalance of power favoring coaches enables them to abuse athletes without athletes or bystanders being able to recognize or address the problem. Several articles from a sociological perspective emphasize the relevance of unequal gender relations, which are analyzed as gendered power relations within the realm of sport (Sand et al., 2011). Coaching positions are often occupied by men, while female coaches are underrepresented, and this unequal gender distribution in coaching positions might be seen as a general risk for sexual violence, allowing male coaches to misuse their positions. The gendered social structure of sport organizations and the legitimate authority of coaches give them a position of power that is often unquestioned and uncontrolled—as long as coaches manage to secure success in sport (Stirling and Kerr, 2009). If coaches then develop an authoritarian coaching style (which can also be seen as a product of gender stereotypes within the traditional masculine culture of sport), social structures and individual coaches' behavior may merge in a way that increases the risk of transgressive behavior and sexual violence. Several screened studies reveal that an authoritarian coaching style seems to be relevant to the prevalence of sexual violence against athletes (Cense and Brackenridge, 2001; Sand et al., 2011; Tjønndal, 2019). Sport organizations' and parents' unquestioned belief in coaches' expert status, their status as individual promoters and mentors of athletes' careers, and the resulting power concentration in coaching positions often lead to situations in which coaches act within a dark box, without any insights from their environment or transparency toward external supervisors. Similar to boarding schools and families, elite sport is sometimes characterized as a closed social system with power concentrated in adult leaders (Bette and Schimank, 2000). All these institutions carry a structural risk for abusive constellations that is relevant not only to sexual violence but also to emotional and physical violence (Andresen and Heitmeyer, 2012; Spröber et al., 2014).

Most of the screened articles stress the powerful position of coaches as a risk factor for the emergence of violence because power over athletes has the consequence of disempowering athletes. A few studies also point to the fact that coaches' power can also promote, protect, and empower athletes and, therefore, can be seen in a positive way (Stirling and Kerr, 2009; Sand et al., 2011). These findings should be transferred to prevention and taken into account in the qualifications of coaches to carefully sensitize them to their powerful position and prepare them to use their power as a protective force in athletes' interests.

Closeness

Studies from the field of sociology as well as psychology reveal that closeness between coaches and athletes is seen as a positive factor in the coach–athlete relationship and an important aspect of sporting success (Jowett, 2007; Stirling and Kerr, 2009). At the same time, this closeness needs to be considered to be a specific risk factor for the emergence of sexual violence. Studies based on qualitative interviews with survivors of sexual abuse in sport reveal that the quality and quantity of closeness in the coach–athlete relationship is a crucial factor in the development of transgressive behavior and sexual abuse. The closeness in the coach–athlete relationship is expressed in different facets. It may be social closeness (when coaches are close friends with athletes and do activities outside sport), emotional closeness (when coaches and athletes deeply like each other, and coaches might even take on the role of father or mother), and physical closeness (when physical closeness beyond sport-related touches arises, such as hugging, driving together in a car, massaging each other, and spending the night together in one room). Closeness and physical contact between coaches and athletes are not gender-neutral characteristics in sport. Instead, they reflect the generalized gender hierarchy in society and the cultural master narrative of male dominance in sport (Hartmann-Tews, 2021).

None of these forms of closeness are necessarily facilitators of the emergence of sexual violence. To the contrary, they can also be seen as indicative of deep relationships of trust that can positively foster athletes' well-being. However, such close relationships carry a specific risk for the abuse of trust and thus need to be carefully considered in regard to child protection (Andresen and Heitmeyer, 2012; Spröber et al., 2014; Timmerman and Schreuder, 2014). At this time, there is no evidence on what kind and amount of closeness is necessary and helpful for a positive coach–athlete relationship and is supportive of success in sport. Further research is needed to this regard.

The body of research furthermore reveals that closeness in the coach–athlete relationship is strongly interconnected with trust. However, trust within the coach–athlete relationship and trust on an organizational level need to be distinguished. To trust coaches in sport (and thus legitimize their closeness to athletes)

seems to be a general social structure in sport organizations (Rulofs, 2016). Sport clubs and federations belong to those types of organizations that—based on their social networks and traditions—easily develop deep and strong ties to persons who perform organizational tasks (e.g., coaches), although in principle they are only weakly connected with the organization (Granovetter, 1973). There is some empirical evidence in sport sociology that members of sport clubs are distinct from non-members and have significantly higher in-group trust (Burrmann et al., 2018). This high level of generalized trust, in turn, is a barrier to recognizing intrusive behavior and speaking up in cases of misconduct (Hartmann-Tews, 2021). Such trust based on conviviality and volunteering needs to be critically reflected on in relation to abuse prevention. In accordance with the need to control coaches' position of power, it seems to be a necessary step to challenge the structurally imposed trust in coaches and to implement measures to ensure that trust is not automatically given in sport organizations but is achieved in a long-term process and may be questioned. Such a reflective, careful way of dealing with trust protects not only athletes but also coaches.

Roles and Boundaries

The review shows that another relevant topic for understanding sexual violence in the coach–athlete relationship is the role concept or, more specifically, role ambiguity. The importance of roles in the coach–athlete relationship is stressed by articles from both disciplines (sociology and psychology). The screened studies reveal that athletes ascribe many different roles to their coaches. Whereas, the role of a mentor and expert in training and sport seems to be fairly clear cut, research shows that further roles not naturally linked to the field of sport training are also relevant to coaches and especially to the emergence of sexual violence (Cense and Brackenridge, 2001; Bringer et al., 2002; Brackenridge and Fasting, 2005; Stirling and Kerr, 2009; Hartill, 2014; Fasting and Sand, 2015; Owton and Sparkes, 2015; Johansson, 2018). When coaches take on roles as best friends, brothers, sisters, and parents, it becomes difficult for athletes to identify the boundaries where the relationship turns abusive. In addition to the development and use of guidelines, transparent communication and open negotiation between coaches and athletes about their roles, mutual expectations, and boundaries might help protect their well-being and prevent abuse. To enable successful, transparent communication—in other words, to achieve mutual understanding of an issue with communication partners—Borggrefe and Cachay (2013, 2015) advise coaches to consider the different ways in which athletes might frame and understand the meaning of messages and to frame messages in a way that they are likely to be understood correctly as anticipated. Borggrefe and Cachay (2013) also encourage coaches to continuously reflect on their own ways of understanding and behaving in interpersonal communication. In particular, for the current topic under consideration, coaches should question if their way of behaving and communicating might be appropriate for themselves but unpleasant or harassing in athletes' understanding[7]. A combination of considerate communication and self-reflection thus can be thought of as one potential means of dealing with role ambiguity in the coach–athlete relationship.

Love Relationships and Consent

Several articles from the field of sport sociology deal with love relationships between coaches and athletes and the relevance of such love relationships to sexual violence (Johansson and Larsson, 2016; Johansson and Lundqvist, 2017). While love can be considered to be a natural, basic human need and can arise whenever people interact with each other, love relationships including sexual acts between coaches and athletes can cause problems. These problems especially arise when the age difference between coaches and athletes is illegal, and the relationship is characterized by unequal power and dependencies, as is the case with coaches and athletes. Qualitative reconstructions of reports from survivors of sexual violence in sport reveal that the presumed feeling of love makes it difficult for athletes to identify an abusive relationship. In many cases, the victims of sexual violence are criticized for having consented to a love liaison including sexual acts at the time. In spite of feelings of love, athletes sometimes retrospectively realize that the relationship between them and their coach was abusive (Fasting and Sand, 2015). The research included in this scoping review sheds strong light on the construction of consent, which needs to be seen as a complex, non-dualistic process that might overwhelm the capabilities of a young athlete in a dependent position.

Clear guidelines on how to deal with love relationships between coaches and athletes could help sport organizations protect their athletes as well as coaches. Such guidelines should include clear regulations on separating the love relationship and the coach–athlete relationship by not allowing them to be done at the same time.

Heteronormativity

The general heteronormative, dualistic notion of sexual violence as a constellation of male perpetrator and female victim might contribute to a socialization of male coaches that normalizes transgressive behaviors as typical and commonplace in the male coach-female athlete relationship. At the same time, this heteronormative notion might contribute to a normalization of sexual violence perpetrated by men which makes it difficult for female athletes to gather the confidence to report sexual violence. Furthermore, the heteronormative discourse blurs perceptions of same-sex constellations of sexual violence between coaches and athletes. The dominant heteronormative construct makes it difficult for athletes to identify sexual violence from a coach of the same sex. Same-sex sexual violence threatens the heteronormative logic of the field of sport and becomes and untellable story. Unwanted sexual encounters are even more taboo when they are enacted between people of the same

[7] One may think of a touch on the back or a hug after a successful play as common examples of behavior that can be either pleasurable or unpleasant depending on the persons involved.

sex which might explain why this topic is under researched. Taking into account unequal gender relations in sport and the heteronormative notion of sexual violence, it becomes obvious that research and prevention concerning sexual violence in sport need to take a reflective, well-balanced approach. They must be aware of the relevance of hierarchical and unequal gender relations to the emergence of sexual violence and, at the same time, attentive to supposedly untypical gender constellations (Hartill, 2014, 2017; Johansson and Larsson, 2016; Rulofs, 2016; Johansson, 2018).

Grooming

Several articles in this scoping review describe grooming as a systematic, manipulative process of sexual violence that enables coaches to get close to athletes and finally abuse them. The process of grooming, with its characteristics of building friendship and trust with athletes and bystanders and gradual shifting of boundaries, can be seen as a procedure primarily supported by the aforementioned sociological and psychological factors that structure the coach–athlete relationship (Cense and Brackenridge, 2001; Brackenridge and Fasting, 2005; Owton and Sparkes, 2015). Grooming behavior is often extended to the social environment of a victim. A perpetrator establishes a trustworthy relationship with the victims' family and friends and develops social capital in this way. Through this process, the perpetrator gets immune against accusations because most people trust him or her. Grooming can also contribute to the normalization of sexual violence due to the progressive moving of boundaries. As a result, sexual activities might initially be perceived as wanted but can later be realized as abusive (Cense and Brackenridge, 2001; Toftegaard Nielsen, 2001; Johansson and Lundqvist, 2017). Coaches' social, emotional, and physical closeness to athletes creates trust and provides coaches with numerous opportunities for grooming. Grooming thus can be regarded as an integral element of sexual violence (Brackenridge and Fasting, 2005), which can especially unfold in the field of sport due to the existing social structures of power, closeness, and role ambiguity inherent in the coach–athlete relationship. A consequence of this is that more detailed research is needed on how these social structures of sport enable the grooming process and what changes are needed in the social structures to remove the conducive conditions for grooming strategies.

RESEARCH GAPS AND SUGGESTIONS FOR FUTURE STUDIES

Several observations concerning research about the coach–athlete relationship and the occurrence of sexual violence can be drawn from the findings of this scoping review. With regard to the methodology of the included articles, only four of the 25 articles are based on quantitative research (Toftegaard Nielsen, 2001; Brackenridge et al., 2008; Sand et al., 2011; Johansson and Lundqvist, 2017). The majority of the studies use qualitative methods. This qualitative focus of the research can be seen as a logical consequence of this still relatively young research topic and marks a necessary step to generate initial insights into the problem. Future research based on large-scale quantitative samples would help expand knowledge in this field and enrich it on a broader scale. It would probably also help generate results specific to different types of sport (e.g., individual and team sport) and levels of competition (e.g., leisure, competitive, and elite sport) and to get a clearer picture of the relevance of different factors in the coach–athlete relationship and sexual violence. Furthermore, theoretical models on the connection between different aspects of coach–athlete relationships and sexual violence should be developed from the results of the qualitative studies and tested in quantitative studies.

The relatively low number of articles on sexual violence and the coach–athlete relationship with a sport psychological background reveals a significant research gap in the field of sport psychology. This can be partly explained by the difficult nature of explaining the coach–athlete relationship from a sport psychological perspective in general with only a little research available in this field. However, this research gap also shows the general tendency to overlook sport psychological aspects in the field of sexual violence. Given that sport psychologists are key figures in the consulting practice of coaches and athletes (especially in the field of elite sport), it can be concluded that research from the psychological perspective is strongly needed to increase scientific knowledge of the problem of sexual violence in general and particularly within the coach–athlete relationship (Fasting, 2016). Furthermore, knowledge about sexual violence needs to be included in the education of sport psychologists. Through their counseling work in the field, a better understanding of sexual violence would help safeguard coaches and athletes in their settings.

In addition, more research is needed on the relevance of closeness in the coach–athlete relationship to success in sport and especially possible risks for abuse. What kind or level of closeness can be seen as a positive factor in the coach–athlete relationship, and when is closeness a risk factor? In general, further constructs that can influence closeness or trust in a coach-athlete relationship (e.g., psychological contracts, Barnhill and Turner, 2013) should be examined. Furthermore, a sociological concept of closeness is necessary to explain this fundamental element of the coach–athlete relationship and its entanglement in the cultural and structural dimensions.

From a sport psychological view, there is a lack of intervention studies investigating what factors in the coach–athlete relationship (e.g., coaching style) might contribute to the prevention of sexual violence in sport. For instance, it is of interest whether coaches induce an empowerment climate in sport groups (Duda and Appleton, 2016) that might counterbalance their powerful position and thus decrease the risk for abuse. Furthermore, more research on the correlation of coaching styles and perpetration of violence against athletes is needed in both disciplines.

Interestingly, the role of contracts between coaches and athletes was not addressed in the screened publications, although contracts may play a significant role for the configuration of coach-athlete-relationships. Contracts in the sense of employment-contracts between coaches and athletes might foster a strong dependency which might hinder the revelation

of abuse and violence. Yet, contracts in a psychological or pedagogical sense (especially when they also include the parent's perspective in youth sport) might help to clarify roles and mutual expectations and thus, help to address unwanted behavior and prevent abuse. Systematic analysis on the possible effects of different forms of contracts on the coach-athlete relationship is still missing especially with regard to the topic of abuse and violence.

Furthermore, some of the screened studies suggest that the application of a code of conduct could prevent sexual abuse in coach-athlete relationships. Such a policy seems to offer a simple solution for role ambiguity and unclear boundaries when it focuses on coaches' actions related to their primary responsibility of sport training. A code also helps both coaches and athletes to determine the boundaries and appropriateness of behaviors. However, some studies reveal that coaches' acceptance of such guidelines needs to be questioned, and the effectiveness of guidelines is not yet scientifically proven (Cense and Brackenridge, 2001; Bringer et al., 2006). Besides, a scientific analysis on how those codes of conduct need to be implemented into the field of sport, e.g. which measures and strategies are needed to foster acceptance and compliance to the code of conduct, is still missing. Future research needs to show how to structure guidelines on roles and boundaries and how to implement them in clubs so that coaches and athletes accept them, and they achieve the desired success at safeguarding both athletes and coaches.

In addition to the urgent need for more empirical studies, it becomes evident that this research field lacks a theory explaining how different factors within the coach–athlete relationship can promote or prevent sexual violence. The concept of grooming (Brackenridge, 2001) can give some initial ideas, but due to its different aims, it falls short when focusing specifically on the coach–athlete relationship. Consequently, sport psychologists need to contribute more to this field of research, building on existing theories on the coach–athlete relationship (e.g., 3+1 C, Jowett, 2007; empowering climate, Duda and Appleton, 2016). Research from a sport sociological perspective needs to combine research on the coach–athlete relationship and sexual violence with theories on power because the concept of power plays such a crucial role in the occurrence of sexual violence in the coach–athlete relationship.

Furthermore, the majority of the reviewed articles focus on athletes' perspective. More studies centered on coaches' experiences are required, and there is a need for studies that include the perspectives of athletes and coaches. Given that most studies so far use only qualitative or quantitative methods, a mixed methods design could be helpful to understand the topic more thoroughly.

LIMITATIONS

The review has several limitations. First, it is limited to peer-reviewed articles and articles published from 2000 to 2019. Other publications such as handbooks and articles published earlier 2000 are not considered. The review focuses only on empirical studies, so the discussion does not include concepts that have not been comprehensively tested in empirical research or simply cannot be tested (e.g., protective measures). The topic of our review is a relatively young field of research, which could lead to neglect of important constructs in the coach–athlete relationship. Furthermore, the use of English and German keywords in the scoping review limits it to articles written in English and German. Research from other countries not published internationally is not included.

The high number of additional studies not identified in the database search might be explained by the custom to write relatively short abstracts that do not contain a combination of keywords from all three columns applied to our study (see **Table 1**). Besides, medical databases are not included in the review, although the topic of interpersonal violence is also researched by scientists in psychiatry and behavioral medicine.

Despite these limitations, it can be stated that this scoping review is the first article to look at the coach–athlete relationship and its connection to sexual violence from a meta perspective. Furthermore, our interdisciplinary research perspective gives even broader insights into the field and thus helps identify important research needs.

CONCLUSION

In sum, the scoping approach is a useful method to receive answers to the question on the state of knowledge about the psychological factors and sociological structures in relationships between coaches and youth athletes and their link to the emergence and prevention of sexual violence. Up to date, not many studies were conducted using the scoping method in this field, although this approach is helpful to create an overview concerning research that has been carried out over a larger period of time. Fortunately, this now applies to the long-tabooed topic of sexual violence in sport. Our interdisciplinary approach of combining the sociological and psychological perspective seems to be unique regarding the question discussed here and helps to figure out which main topics are central for each discipline and to define the respective gaps.

All in all, the review of the literature highlights that closeness, power, blurred boundaries, and ambiguous roles are thematic areas that seem crucial to the analysis of the coach–athlete relationship from both sociological and psychological perspectives. Therefore, this article wants to highlight the importance of those themes for the analysis and configuration of coach-athlete relationships with regard to the emergence and prevention of sexual violence. Our analysis suggests that grooming processes, which are to be seen as an integral element of sexual violence, can specifically unfold in the field of sport on the basis of the existing configurations of power, closeness, and role ambiguity that seem to be inherent in the coach–athlete relationship. To prevent the opportunities of grooming, transparent communication about how the roles, closeness and power relations between coaches and athletes

are designed and where the boundaries are set should be a key factor.

Other important results of this article are the thematic categories of heteronormativity and consent and the role they play in the emergence of sexual violence between coaches and athletes. Those categories shine a light on under researched topics like sexual violence in same-sex relationships because they are even more taboo than sexual misconduct in heterosexual relationships between coaches and athletes. Furthermore, the construct of consent is a topic which needs to be discussed more strongly in discourses concerning sexual violence in general as well as in sport. Consent is more complex than the dominant discourse about a yes or no to sex makes it seem. In this scoping review, the construct of consent was identified as an important topic from a sociological perspective but it might be a rewarding topic for psychological research as well because it is strongly entangled with interpersonal interactions. Finally, it should be noted that the construct of consent in sexual acts with minors and in relationships of dependency is a fundamentally questionable one and that a reflective form of communication as well as guidelines in form of codes of conduct may support coaches, athletes as well as their entourage to receive the necessary orientation.

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Lifetime Prevalence of Verbal, Physical, and Sexual Abuses in Young Elite Athletics Athletes

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To examine prevalence of verbal, physical, and sexual abuses in young elite athletes, a cross sectional questionnaire-based survey was conducted during the World Athletics under 20 World Championships. This questionnaire aimed at distinguishing between abuses perpetrated in the context of Athletics from those which were unrelated to Athletics. Four hundred and eighty athletes (52.3%, male) from North America, South America, Europe, Africa, Asia, and Oceania took part in the electronic anonymous survey. Outside Athletics setting, no gender difference was found for the prevalence of verbal, physical, and sexual abuses. However, 45 males (18% of the male population) and 34 females (15% of the female population) athletes reported sexual abuse. Asian athletes reported a slightly higher rate of sexual abuse; three quarters of them being non-touching abuses. Inside Athletics setting, no gender difference was found for the prevalence of verbal, physical, and non-touching sexual abuses. However, 58 males (23%) and 47 females (21%) reported verbal abuses. Thirty-one males (12%) and 20 females (9%) reported physical abuses, whereas 30 males (12%) and 17 females (7%) reported sexual abuses. Physical abuses were slightly more frequent in Asia and in Africa and less frequent in South America. Sexual abuses inside Athletics also differed over regions, and were unexpectedly twice more frequent than expected in Asia and slightly less frequent than expected in Europe. Friends and partners were identified as the more frequent (>50%) abusers outside or inside the Athletics settings, whereas outside Athletics and inside Athletics, coaches were identified as sexual abuse perpetrators in 8 and 25% of cases, respectively. The prevalence of verbal, physical, or sexual abuses is high but consistent with what has been reported in United Kingdom, Norway, Canada, and Sweden at national level in recreational or elite athletes. Sexual abuse, including touching or penetrative abuses, occurred significantly more often in male athletes when compared to female athletes. This finding invites healthcare and social workers, and policymakers to also consider the risk of sexual abuse of young male athletes in Athletics. These results also call for longitudinal studies on young elite athletes.

Keywords: abuse, elite, harassment, junior, track and field

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INTRODUCTION

Tremendous global work of preventing interpersonal violence has been achieved, but the phenomenon still exists in many sectors around the world (Burrows et al., 2018). Unfortunately, sport is not an exception, and by its global nature including both athletes from both developed and developing countries, and athletes with different socio-cultural background, gender, and age there are many forms of interpersonal violence, such as physical, verbal, and sexual abuse that the athletes could be exposed to. Moreover, athletes are often in a dependent position to for example coaches and stakeholders, which may increase the risk of being exposed to interpersonal violence. Indeed, abuses often have their starting point in a specific socio-cultural context which favors discrimination based on power differentials (Simpson et al., 2015). These power differentials are rooted in areas as diverse as sex and sexual orientation, race and ethnicity, age and disability, athletics abilities and longevity, or socio-economic status (Mountjoy et al., 2016).

Despite some recent progress in understanding the magnitude of the problem of violence against athletes in sport and the advocacy by researchers to carry out studies related to this topic, Parent and Fortier (2017) stated that this area remains under-studied within sport. When considering the amount of prevalence data available on violence in other contexts, such as child maltreatment, and school violence, there are very few studies within the sports context and especially among young elite athletes. Although a consensus statement (Mountjoy et al., 2016), or more mechanistic studies (Sundgot-Borgen et al., 2003; Timpka et al., 2014, 2019, 2020) have been published, one should acknowledge that data collection on abuses in sports are often limited to surveys performed on athletes from a single country, with a majority of studies coming from developed countries (Fasting et al., 2004; Chroni and Fasting, 2009; Alexander et al., 2011; Timpka et al., 2019). Data on elite sports is even less frequent and available.

As elite sports are organized and regulated at the international level, it is important to better describe and understand the type and magnitude of abuses on athletes from different geographical areas of the world. This is of utmost importance to help international sports governing bodies to design the most appropriate preventive and repressive actions to be implemented as an efficient athlete safeguarding policy.

There is a need for studies on abuse in elite sports including samples that are representative with regards of gender, age, and global region (Parent and Fortier, 2017) and address less studied forms of violence. Although sexual harassment and abuses in sport have been increasingly reported by athletes and media during the last years, it is important to also study the prevalence in sport of other forms of abuse such as verbal violence, which may be trivialized (Hagiwara et al., 2019; Yabe et al., 2019) or physical violence that could be perceived by the athlete as a necessary part of the training programme or the coach-athlete relationship. When studying prevalence of abuses in adolescents or young adults, the lifetime aspect is rather easy to address and is important. Indeed, the young age facilitates the recall of a possible relatively recent episodes of abuse, and their associated details and consequences. Quantitative aspects of the data collected allow the comparison between prevalence of abuses perpetrated in everyday life and abuses perpetrated in a specific sport setting, whereas the more qualitative aspects of the data can guide the authorities and policymakers on how efficiently tackling abuses in the sports settings. The specific objectives of this study were to investigate the lifetime prevalence and type of abuse experiences in a global population of adolescent elite athletics athletes, the distribution of abuse experiences by gender, global geographical region, and the environment of abuse (related or unrelated to Athletics) as well as the nature of perpetrators. We were particularly interested to know if abuse were more frequently reported:

- in some geographical area of the world,
- in female than in male elite athletes,
- in the Athletics setting when compared to everyday life,
- as being perpetrated by a coach.

MATERIALS AND METHODS

This study used a cross-sectional design. Data on verbal, physical, and sexual abuse were collected from volunteering elite athletes competing at the International Association of Athletics Federations (now World Athletics) under 20 World Championships organized in Tampere (Finland). Ethical approval was obtained from the Research Ethics Board in Linköping, Sweden (Dnr. 2018/222-31). Informed consent was obtained from all study participants or their legal representative if they were below 18 years of age. The participant could at any time drop out from the study without giving any cause. The study followed the STROBE guidelines for epidemiological research and the World Medical Association's Helsinki Principles involving research of human subjects.

Subjects and Data Collection

The primary study population consisted of athletes who qualified and participated in the under 20 Athletics World Championships. Considering the sensitive topic of the survey, all IAAF member federations were informed of the overall objectives of the questionnaire 1 month before the Championships and asked to forward the information to their participating team 1 week before the beginning of the Championships. Upon arrival at the championships, all registered athletes received an invitation to visit the Health & Science (H&S) stands that were in the warm-up areas and team tents area. At the H&S stands, athletes had their personal accreditation badges scanned to verify their identity to ensure that they had not been scanned previously. Upon meeting these requirements, they received an invitation pamphlet with the study details and website link. They also received a once-valid unique pin-code that allowed them access to the survey page. Before starting the questionnaire, athletes were advised to be alone in a comfortable place, possibly in private so that they were not disturbed. The H&S stands were always staffed by a doctor and physiotherapist of each gender with experience of conducting studies among adolescent athletes, and support were given to athletes that needed.

Questionnaire and Definitions

In the introduction of the questionnaire, some definitions were given to the participants. Abuse implied that a person's rights are violated by another. Physical abuse was defined as "deliberately hurting a person causing injuries such as bruises, broken bones, burns, or cuts" (Jernbro and Janson, 2018). Sexual abuse was defined as "any sexual interaction with person(s) of any age that is perpetrated against the victim's will, without consent or in an aggressive, exploitative, manipulative, or threatening manner."

A web questionnaire was developed by researchers with experience in sports medicine, social medicine, and psychiatry who were all experienced in designing and running questionnaires in sports and social medicine. The questionnaire was then translated in the following languages: English, French, Spanish, Portuguese, Japanese, Chinese, Arabic, and Amharic. The questionnaire data were stored live in a secured cloud platform (Briteback®, Norrkoping, Sweden). The questionnaire first asked for demographics (age, sex, geographical area of origin) and Athletics background (age when started Athletics, type of Athletics event, training volume).

Second, lifetime verbal, physical, and sexual abuses within or outside Athletics settings were asked for (see full questionnaire in eight languages in the **Supplementary Material**). The questionnaire asked whether it had happened that an adult had done any of the following to the athlete: "(a) Pushed, shoved or shook you up, (b) Thrown something at you, (c) Hurt you with her/his hands, (d) Kicked, bit or hit you with her/his fists, (e) Hurt you with a weapon, (f) Burned or scalded you, (g) Tried to smother you (took stranglehold), and (h) Physically attacked you otherwise." Precisely, the variable used to collect data on sexual abuse was derived from the statement and questions originally developed by Mossige (2001) and used in earlier Swedish studies (Timpka et al., 2019): "Sometimes people are persuaded, pressed, or forced to do sexual activities they cannot protect themselves from. The following questions are about such situations. Have you been exposed to any of the following against your will?" (it is possible to choose several alternatives): (a) "Somebody exposed himself or herself indecently toward you, (b) Somebody has pawed (touched your body in an indecent way) you, (c) You masturbated somebody else, (d) You have had sexual intercourse, (e) You have had oral sex, and (f) You have had anal sex." To assess verbal abuse, the questionnaire asked whether it happened that someone had done any of the following to the athlete: "(a) Insulted you, (b) Threatened to hit you, (c) Isolated you from friends."

Before implementing the questionnaire, several pilot tests within the research group were conducted, using either the English or French versions of the questionnaire. These pilot tests confirmed that young adults understood the purpose of the study as well as the questions and items contained in the questionnaire. A similar version of this questionnaire had already been validated and used in a previous study on a similar target population (Timpka et al., 2014, 2019).

Data Analysis

To examine patterns of drop-outs non-participation per sex and per geographical area were first analyzed using chi-squared tests. The data on lifetime verbal, physical, and sexual abuse were categorized by gender, setting where the abuse was perpetrated and geographical area (North America, South America, Europe, Africa, Asia, Oceania). Athletics events were recoded into jumps, throws, sprints, combined events, middle- and long-distance running, and race walking. We thereafter performed descriptive statistics on demographics, verbal, physical, and sexual abuses. Prevalence is calculated and expressed as absolute number of observations, percentage, and 95% confidence interval (see **Supplementary Materials**). Differences between frequencies are tested with a χ^2-test, association between variables is tested with the Cramér's V-test, and effect size are considered as small, medium, and large for V-value above 0.1, 0.3, and 0.5, respectively. Statistical analysis was conducted in R (R Core Team, 2020).

RESULTS

Following an internal check for validity and completeness, a total of 480 individual questionnaires were used to perform the statistical analysis. With 1,322 athletes taking part in the Championships this represents a response rate of 36.3%. There were no differences in gender-proportion between eligible and participating athletes [$\chi^2(1, n = 1{,}322) = 0.05$, Cramér's V = 0.006]. The proportion of athletes participating in the study varied from one geographical area to another [$\chi^2(5, n = 1{,}322) = 35.32$, Cramer's V = 0.16], showing higher than expected participation in South American and Asian athletes and lower participation in their North American peers (**Table 1**). Distribution of study participants' age and their age when started Athletics is shown in **Table 2**. There was no observable age difference in the age subgroups (below 18 years old; 18–20 years old) between male and female athletes who took part to the study [$\chi^2(1, n = 456) = 2.93$, Cramér's V = 0.08]. Sprinters and middle- and long-distance runners together represented more than 60% of the studied population (**Table 3**). Female athletes below and above 19 years old trained 14.6 h (standard deviation: 5.6 h) and 15.4 h (6.5 h) per week, respectively. Male athletes below and above 19 years old trained 14.3 h (6.1 h) and 15.8 h (6.2 h) per week, respectively.

Absolute numbers and proportions of lifetime verbal, physical, and sexual abuses reported inside an outside the Athletics setting are presented in **Table 4**.

Abuses Perpetrated Outside the Athletics Setting

There was no difference between genders for verbal, physical, and sexual abuses [$\chi^2(1, n = 480) = 0.533$, Cramér's V = 0.03]; [$\chi^2(1, n = 480) = 0.337$, Cramér's V = 0.03]; [$\chi^2(1, n = 480) = 0.827$, Cramér's V = 0.04]; respectively. There was no difference between geographical areas for verbal and physical abuses outside Athletics. There were, however, small differences in experience of sexual abuse outside Athletics over the regions [$\chi^2(5, n = 480) = 14.00$, Cramer's V = 0.17] and sexual abuse was more frequently reported from Asian athletes. A closer look at characteristics of these sexual abuses reported by young Asian athletes showed

TABLE 1 | Proportion of athletes participating to the study, displayed by sex, and geographical area.

	Athletes participating to the survey/Athletes accredited to the World Championships and %													
	North America		South America		Europe		Africa		Asia		Oceania		Total	
Male	35/128	27.3%	16/27	59.3%	126/308	40.9%	28/99	28.3%	36/101	35.6%	10/35	28.6%	251	36.0%
Female	35/131	26.7%	28/36	**77.8%**	104/310	33.5%	9/38	23.7%	44/73	**60.3%**	9/36	25.0%	229	36.7%
Total	70/259	27.0%	44/63	**69.8%**	230/618	37.2%	37/137	27.0%	80/174	**46.0%**	19/71	26.8%	480	36.3%

Bold *values indicates unexpectedly high participation proportions and* underlined *values indicates unexpectedly low participation proportions.*

TABLE 2 | Participants' age and athletics history by gender and geographical area.

	North America			South America			Europe			Africa			Asia			Oceania			World		
	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All
Age																					
<19 years	21	18	39	22	9	31	69	76	145	7	15	22	24	18	42	6	7	13	149	143	292
	64%	55%	59%	81%	64%	76%	68%	64%	66%	88%	56%	63%	56%	53%	55%	86%	70%	76%	68%	60%	64%
19–20 years	12	15	27	5	5	10	32	43	75	1	12	13	19	16	35	1	2	4	70	94	164
	36%	45%	41%	19%	36%	24%	32%	36%	34%	12%	44%	37%	44%	47%	45%	14%	30%	24%	32%	40%	36%
Age when starting athletics																					
<8 years	10	9	19	2	5	7	28	39	67	3	5	8	8	4	12	1	2	3	52	64	116
	29%	26%	27%	7%	31%	16%	27%	31%	29%	33%	19%	22%	18%	11%	15%	11%	20%	16%	23%	26%	24%
8–12 years	11	12	23	12	4	16	40	34	74	3	6	9	24	11	35	7	3	10	97	70	167
	31%	34%	33%	43%	25%	36%	38%	27%	32%	33%	22%	25%	55%	31%	44%	78%	30%	53%	42%	28%	35%
>12 years	14	14	28	14	7	21	36	53	89	3	16	19	12	20	32	1	5	6	80	115	195
	40%	40%	40%	50%	44%	48%	35%	42%	39%	33%	59%	53%	27%	57%	41%	11%	50%	32%	35%	46%	41%

Results are presented as absolute numbers and percentage of total per gender and geographical area. M, Male; F, Female.

that at least three quarters of them were non-touching sexual abuses such as sexual poses or exposing of genitals (**Table 5**). Mean age for first incident of verbal, physical, or sexual abuses outside Athletics are presented in **Table 6**. Among the recorded sexual abuses perpetrated outside the Athletics setting female athletes reported 15 cases of touching sexual abuses. According to our questionnaire, touching sexual abuses means the perpetrator touched the genitals or tried to undress, forced for perpetrator's masturbation, vaginal intercourse, oral sex, or anal sex. Male athletes reported 24 cases of touching sexual abuses unrelated to the sport of Athletics. Type of sexual abuse perpetrated outside Athletics displayed by global geographical area are presented in **Supplementary Material** (Table 9). More than half of sexual abuses involved friends and partners (see **Table 7**).

Abuses Perpetrated Inside the Athletics Setting

There was no difference between genders for verbal, physical, and sexual abuses [$\chi^2(1, n = 480) = 0.468$, Cramér's V = 0.03]; [$\chi^2(1, n = 480) = 1.65$, Cramér's V = 0.06]; [$\chi^2(1, n = 480) = 2.78$, Cramér's V = 0.08]; respectively. There was no difference between geographical areas for verbal abuses inside Athletics [$\chi^2(5, n = 480) = 9.80$, Cramér's V = 0.14]. Physical abuses in the Athletics setting differed over the regions (Cramer's V = 0.22), and were twice more frequent than expected in Asia and Africa and less frequent than expected in South America. Sexual abuses inside Athletics also differed over regions, [$\chi^2(5, n = 480) = 16.00$, Cramer's V = 0.18] and were twice more frequent than expected in Asia and slightly less frequent than expected in Europe. Mean age for first incident of verbal, physical, or sexual abuses inside Athletics are presented in **Table 6**. Touching sexual abuses in an athletics setting was more reported by male (17 observations) than female (6 observations) athletes [$\chi^2(1, n = 480) = 4.526$, Cramér's V = 0.10; **Table 8**]. Type of sexual abuse perpetrated inside Athletics displayed by global geographical area are presented in **Supplementary Material** (Table 10). Friends and athletics coaches together represented two-thirds of the perpetrators of sexual abuses (**Table 7**).

DISCUSSION

The specific objectives of this study were to investigate the lifetime prevalence and type of abuse experiences in a global population of adolescent elite athletics athletes, the distribution of abuse experiences by gender, global geographical region, and the environment of abuse (related or unrelated to Athletics) as well as the nature of perpetrators.

Prevalence in Different Geographical Areas

To the best of our knowledge, this study is the first to report lifetime prevalence of abuse experiences in a global population of adolescent and young elite athletes. World Athletics, with its 214

TABLE 3 | Distribution of athletes by geographical area, gender, and event/discipline.

	North America			South America			Europe			Africa			Asia			Oceania			World		
	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All	F	M	All
Jumps	4	2	6	3	6	9	16	18	34	0	1	1	7	7	14	0	0	0	30	34	64
	11%	6%	9%	11%	38%	20%	15%	14%	15%	0%	4%	3%	16%	19%	18%	0%	0%	0%	13%	14%	13%
Throws	3	6	9	5	0	5	26	19	45	2	1	3	5	2	7	2	1	3	43	29	72
	9%	17%	13%	18%	0%	11%	25%	15%	20%	22%	4%	8%	11%	6%	9%	22%	10%	16%	19%	12%	15%
Sprints	11	11	22	11	6	17	29	59	88	4	16	20	14	16	30	3	2	5	72	110	182
	31%	31%	31%	39%	38%	39%	28%	47%	38%	44%	57%	54%	32%	44%	38%	33%	20%	26%	31%	44%	38%
MLD running	12	10	22	1	3	4	22	24	46	3	10	13	15	7	22	3	5	8	56	59	115
	34%	29%	31%	4%	19%	9%	21%	19%	20%	33%	36%	35%	34%	19%	28%	33%	50%	42%	24%	24%	24%
Combined events	4	0	4	0	0	0	8	2	10	0	0	0	1	0	1	0	2	2	13	4	17
	11%	0%	6%	0%	0%	0%	8%	2%	4%	0%	0%	0%	2%	0%	1%	0%	20%	11%	6%	2%	4%
Race walk	1	6	7	8	1	9	3	4	7	0	0	0	2	4	6	1	0	1	15	15	30
	3%	17%	10%	29%	6%	20%	3%	3%	3%	0%	0%	0%	5%	11%	8%	11%	0%	5%	7%	6%	6%
Total	35	35	70	28	16	44	104	126	230	9	28	37	44	36	80	9	10	19	229	251	480
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Results are presented as absolute numbers and percentage of total per gender and geographical area. M, Male; F, Female; MLD, middle- and long-distance running.

TABLE 4 | Number and proportions of lifetime verbal, physical, and sexual abuses (inside an outside the Athletics setting) victims in the study population displayed by gender and geographical area ($n = 480$).

	North America		South America		Europe		Africa		Asia		Oceania		Total	
OUTSIDE ATHLETICS														
Male														
Verbal abuses	7	20%	4	25%	35	28%	8	29%	16	44%	1	10%	71	28%
Physical abuses	2	6%	3	19%	20	16%	5	18%	10	28%	1	10%	41	16%
Sexual abuses	2	6%	5	31%	21	17%	6	21%	11	31%	0	0%	45	18%
Female														
Verbal abuses	13	37%	4	14%	27	26%	4	44%	9	20%	1	11%	58	25%
Physical abuses	7	20%	1	4%	20	19%	3	33%	10	23%	1	11%	42	18%
Sexual abuses	4	11%	0	0%	15	14%	2	22%	12	27%	1	11%	34	15%
INSIDE ATHLETICS														
Male														
Verbal abuses	4	11%	3	19%	29	23%	8	29%	14	39%	0	0%	58	23%
Physical abuses	2	6%	0	0%	14	11%	5	8%	10	28%	0	0%	31	12%
Sexual abuses	1	3%	3	19%	14	11%	4	14%	8	22%	0	0%	30	12%
Female														
Verbal abuses	12	34%	3	11%	18	17%	4	44%	9	20%	1	11%	47	21%
Physical abuses	4	11%	0	0%	6	6%	3	33%	7	16%	0	0%	20	9%
Sexual abuses	5	14%	0	0%	2	2%	1	11%	8	18%	1	11%	17	7%

Results are expressed as absolute and relative values. Relative values are calculated as percentages of the total number of subjects per gender and geographical area.

member federations, represents a global sport where occurrence, perception, and report of abuses may vary because of different, cultural, religious, and economical backgrounds. Therefore, knowledge of these variations is of the essence when prevention programs are prepared. The high prevalence of sexual abuse perpetrated inside and outside the Athletic setting, in Asia, is an unexpected finding. In our study, the Asian geographical area consistently demonstrated the highest reported rates of verbal and physical abuses. Such findings are likely to be attributed to strong differences between Asian and Western countries in child rearing. Indeed, and as noted by Wu (1981), the most "*abusive*" Asian parent is one who does not properly discipline his or her child, and consequently, "*drowns the child with love*." As a result, Asian parents, because of a collectivist, rather than an individualist value orientation, teach their children to view their role within the family and society in terms of relationships and obligations. Meston et al. (1999), investigating self-report of abuse among undergraduate students of different backgrounds,

TABLE 5 | Lifetime sexual abuse experiences outside Athletics displayed by global geographical region.

	North America	South America	Europe	Africa	Asia	Oceania	Total
Females							
No-touching sexual abuse	2 (6%)	0 (0%)	7 (7%)	1 (11%)	10 (23%)	1 (11%)	21 (9%)
Touching sexual abuse	2 (6%)	0 (0%)	9 (9%)	1 (11%)	3 (7%)	0 (0%)	15 (7%)
Any sexual abuse	4 (11%)	0 (0%)	15 (14%)	2 (22%)	12 (27%)	1 (11%)	34 (15%)
n (%)	35 (100%)	28 (100%)	104 (100%)	9 (100%)	44 (100%)	9 (100%)	229 (100%)
Males							
No-touching sexual abuse	0 (0%)	2 (12%)	12 (10%)	4 (14%)	8 (22%)	0 (0%)	26 (10%)
Touching sexual abuse	2 (6%)	4 (25%)	12 (10%)	3 (11%)	3 (8%)	0 (0%)	24 (10%)
Any sexual abuse	2 (6%)	5 (31%)	21 (17%)	6 (21%)	11 (31%)	0 (0%)	45 (18%)
n (%)	35 (100%)	16 (100%)	126 (100%)	28 (100%)	36 (100%)	10 (100%)	251 (100%)
All							
No-touching sexual abuse	2 (3%)	2 (5%)	19 (8%)	5 (14%)	18 (22%)	1 (5%)	47 (10%)
Touching sexual abuse	4 (6%)	4 (9%)	21 (9%)	4 (11%)	6 (8%)	0 (0%)	39 (8%)
Any sexual abuse	6 (9%)	5 (11%)	36 (16%)	8 (22%)	23 (29%)	1 (5%)	79 (16%)
n (%)	70 (100%)	44 (100%)	230 (100%)	37 (100%)	80 (100%)	19 (100%)	480 (100%)

TABLE 6 | Mean age for first incident of verbal, physical, or sexual abuses outside and inside the Athletics setting.

	Outside Athletics (year)	Inside Athletics (year)
Verbal and/or physical abuse	13.6 (12.5–14.7) $n = 45$	14.7 (13.2–16.2) $n = 27$
Sexual abuse	14.4 (11.4–17.3) $n = 11$	15.7 (12.9–18.5) $n = 3$
Verbal and/or physical abuse	13.4 (12.1–14.6) $n = 35$	15.4 (14.5–16.3) $n = 25$
Sexual abuse	14.9 (12.8–17) $n = 16$	13.6 (10.1–17.1) $n = 7$

Results are expressed as mean (95% confidence interval).

TABLE 7 | Type and distribution of first abuse perpetrators outside and inside the Athletics setting.

Perpetrators	Outside Athletics ($n = 35$) (%)	Inside Athletics ($n = 12$) (%)
Parent	3	0
Sibling	3	0
Relative	3	8
Friend	29	42
Partner	29	8
Athlete	8	8
Trainer or Coach	8	25
Manager	0	0
Teacher	3	0
Unknown	14	9

When mentioned outside the Athletics setting, athlete, trainer, or coach are considered as perpetrators unrelated to Athletics.

have also shown that in addition to reporting a higher incidence of physical and emotional abuse, Asians were more likely than their non-Asian counterparts to perceive themselves as having been physically and emotionally abused. Our actual data confirm these findings, emphasizing on the importance of cultural and educational contexts when designing and running studies on abuse involving different ethnical groups.

Prevalence of Verbal and Physical Abuses

Verbal abuse is often trivialized in many societies, especially in younger population. Adolescents and young adults who communicate a lot through social media, increase their risks of mood and anxiety disorders through cyberbullying; a modern form of verbal abuse (O'Reilly et al., 2018). It is also considered by some as a minor form of abuse and therefore, poorly reported by the victims and likely underestimated in official reports. Among our young elite athletes, this type of abuse is frequent and reported by 27 and 22% of them in non-athletics and athletics settings, respectively. As this kind of abuse may occur more frequently than physical and sexual abuses, its negative consequence on health and motivation for sport (Yabe et al., 2019) should not be underestimated.

Eleven percent of our young elite athlete population reported physical abuse occurring in connection with Athletics. This is lower than the 14.9% reported in junior Swedish athletes (Timpka et al., 2019), and the 24% in United Kingdom sports teenagers (Alexander et al., 2011). Like these authors we observed a slightly higher rate of physical abuse in males (12%) in comparison to females (9%). Outside the Athletics setting, 17.5% of our elite population reported physical abuse. Although the observed prevalence of verbal and physical abuses in connection with athletics are lower than in everyday life, it is worrying that competitive sport does not really protect against this type of abuse.

Prevalence of Sexual Abuse and Description of the Perpetrators

In comparison, one out of six and one out of ten young elite athletes experienced sexual abuse unrelated and related to Athletics, respectively. These numbers are high but consistent

TABLE 8 | Lifetime sexual abuse experiences inside Athletics displayed by global geographical region.

Sexual abuse	North America	South America	Europe	Africa	Asia	Oceania	Total
Females							
No-touching sexual abuse	2 (6%)	0 (0%)	1 (1%)	1 (11%)	8 (18%)	0 (0%)	12 (5%)
Touching sexual abuse	4 (11%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	1 (11%)	6 (3%)
Any sexual abuse	5 (14%)	0 (0%)	2 (2%)	1 (11%)	8 (18%)	1 (11%)	17 (7%)
n (%)	35 (100%)	28 (100%)	104 (100%)	9 (100%)	44 (100%)	9 (100%)	229 (100%)
Males							
No-touching sexual abuse	1 (3%)	2 (12%)	4 (3%)	2 (7%)	5 (14%)	0 (0%)	14 (6%)
Touching sexual abuse	0 (0%)	2 (12%)	10 (8%)	2 (7%)	3 (8%)	0 (0%)	17 (7%)
Any sexual abuse	1 (3%)	3 (19%)	14 (11%)	4 (14%)	8 (22%)	0 (0%)	30 (12%)
n (%)	35 (100%)	16 (100%)	126 (100%)	28 (100%)	36 (100%)	10 (100%)	251 (100%)
All							
No-touching sexual abuse	3 (4%)	2 (5%)	5 (2%)	3 (8%)	13 (16%)	0 (0%)	26 (5%)
Touching sexual abuse	4 (6%)	2 (5%)	11 (5%)	2 (5%)	3 (4%)	1 (5%)	23 (5%)
Any sexual abuse	6 (9%)	3 (7%)	16 (7%)	5 (14%)	16 (20%)	1 (5%)	47 (10%)
n (%)	70 (100%)	44 (100%)	230 (100%)	37 (100%)	80 (100%)	19 (100%)	480 (100%)

with some other reports. Parent et al. (2016) found a 10.2% rate of lifetime sport-related sexual abuse among 14–17-year-old adolescent from the province of Quebec. Using a screening questionnaire of 2,118 Australian athletes, Leahy (2001) found that 12% of the female athletes reported experiencing sexual abuse within the sport environment at some time in their lives. For female and male athletes, the mean age for the first incident of sexual abuse associated with Athletics was 13.2 and 15.7 years, respectively. Epidemiological data on age of victims when experienced their first sexual abuse does not exist at international sport level. However, the mean age we report here for female athletes is quite young and show that some young female athletes have been abused for the first time only a couple of years after attending regular participation in athletics.

In our study, the higher prevalence of sexual abuses in male athletes compared to female athletes is an unexpected result. This phenomenon exists inside and outside the Athletics setting and is noteworthy in four different geographical areas. A more detailed analysis also revealed that touching sexual abuses were more frequent in males than in females, both in absolute and relative numbers. This represented 35% of all sexual abuses in women and 57% in men. Moreover approximately 34% of sexual abuses experienced by male athletes are penetrative abuses, whereas this proportion varies from 10% (outside Athletics) to 14% (inside Athletics) in female athletes. Although previous research positioned females as the most frequent victims of sexual abuse, our predominantly male count of victims of sexual abuse is not entirely new. Indeed, Alexander et al. (2011), studying a large cohort of children and teenagers participating in organized sports in the United Kingdom, reported sexual harm in 5% of male and 2% of female population. Our results confirm that sexual abuse in young male athlete is important and probably underestimated (Hartill, 2009; Parent and Bannon, 2012). Further research and surveys are needed to better characterize the sexual abuses against boys and understand if this finding is specific to this age group, and the sport context.

In our study, a group consisting of friends, athletes, and partners represented 58% of the perpetrators of abuse in athletics whereas coaches and trainers represented 25%. Our description is consistent with what has been reported in the few similar studies. Indeed, Alexander et al. (2011) found that teammates and peers were responsible for 70% of sexual harassment and 80% of sexual harm in organized sports, whereas coaches were involved in 15 and 11%, respectively. This is confirmed by Vertommen et al. (2016) who retrospectively studied 1,785 adults with interpersonal violence in sport before the age of 18 and showed that peers are the perpetrators in 45% of cases of sexual violence. This data confirms that, contrary to common belief, athletics coaches, and trainers are not the main perpetrators of sexual abuses in young elite Athletic athletes. However, one should note a coach career lasts several decades during which successive generations of athletes can be abused by a single person (Toftegaard Nielsen, 2001). Moreover, Vertommen et al. (2016) revealed from a survey conducted in Belgium and the Netherland that acts of sexual violence committed by coaches are significantly more severe in comparison to acts committed by peer athletes and other perpetrators. Our study identified friends as the abusers in 42% of sexual abuses occurring in connection with Athletics. As alternative answers to this question such as partner or athletes were less chosen, this suggests that individuals who were not involved in any aspects of Athletics were likely perpetrators of sexual abuse around athletics training facilities and stadium.

Study Strengths and Limitations

The elite and the international nature of the sample studied is unique, but one should remain cautious not to extrapolate this study findings and conclusions to sub-elite, recreational, or older athletes. Background variables such as well-being scores (Topp et al., 2015), injury (sports- and non-sports-related) rate during the previous 12 months, information on how victims felt and coped following experiences of abuse have been collected (see full questionnaire in English and French in the

Supplementary Material), and used to perform within-person and multivariate analyses whose results will be presented in another manuscript. Our questionnaire poorly addressed some forms of abuse such as neglect which is a psychological abuse with potential physical consequences (Mountjoy et al., 2016). Because of the very diverse geographical origin, and access to internet and social media in our studied population, we had decided not to develop the cyber-bullying aspect of our questionnaire. However, we recommend that his form of verbal abuse which prevalence is increasing with the development of social media (O'Reilly et al., 2018), is included in future studies on abuse in sports. From a study survey standpoint, we have noted, while analyzing the results, that the first part of the survey (dealing with verbal and physical abuse) asks about victimization from an adult perpetrator whereas the second part (dealing with sexual abuse) asks about any kind of perpetrators. This could have caused an information bias with some respondents misinterpreting both parts of the questionnaire as pertaining to adult perpetrators only. The English version of the questionnaire contains an ambiguous translation regarding masturbation as a sexual abuse (questions 20 and 23). After checking the other translations, we confirm that it was the perpetrator's genitals that were involved (see **Supplementary Materials**). Our study design did not allow to measure the recurrence of sexual abuse in the athletics setting with times, and the contribution of coaches to this misconduct.

CONCLUSIONS

In our studied population of young elite Athletics athlete, prevalence of verbal, physical, or sexual abuse is high but globally consistent with what has been reported in elite athletes in countries like Australia, Canada, or Sweden. Higher rates of abuses are found in some geographical areas, compared to others, but it is important to first define the nature of the abuse accurately, and then to contextualize the results with (i) the respective cultural backgrounds, (ii) the very specific nature of the Athletics population we have studied, before drawing any definitive conclusions. These geographical trends should be confirmed or refuted by further studies involving international elite athletes. Lifetime experiences of verbal and physical abuse among young elite athletes inside or outside the Athletics must not be neglected as they are disturbingly prevalent and confirm that the competitive Athletics setting is not a place immune to all forms of abuse. Prevalence of verbal and physical abuses inside and outside the Athletics setting are similar between young male and female elite athletes. However, as already reported by other authors, touching sexual abuse occurs more often in male athletes when compared to female athletes. This difference persists when the more severe forms of penetrative sexual abuses are considered. The mechanisms underlying these sexual abuses, their possible recurrence, and their consequences for mental health and injury rates and severity need to be further investigated through multivariate analysis and longitudinal studies. Moreover, the methods used in this study should be replicated at the club level to measure prevalence of verbal, physical, and sexual abuses in Athletics at sub-elite and recreational levels. The results obtained from existing and future studies will improve our understanding of the mechanisms and consequences of abuses and help healthcare and social workers, policymakers to design and implement repressive actions as well as primary and secondary prevention campaigns against verbal, physical, and sexual abuses.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Research Ethics Board in Linköping, Sweden (Dnr. 2018/222-31). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fspor.2021.657624/full#supplementary-material

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ORIGINAL RESEARCH
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Sport Administrators' Perspectives on Advancing Safe Sport

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Numerous international high-profile cases of athlete abuses have led to efforts to advance what has been termed "Safe Sport." Sport and coaching organisations are urgently designing and implementing policies, procedures and programmes to advance a culture of safe sport. However, we posit that these endeavours are occurring without a conceptual framework about what constitutes safe sport or how to achieve it. Without a consistent conceptual framework for safe sport, prevention and intervention initiatives may not be fully realised. As such, the purpose of the study was to explore sport administrators' perspectives of how to advance safe sport. Given the leadership positions sport administrators hold, understanding their perspectives may be helpful in informing a framework to guide the development and implementation of safe sport strategies. Using a constructivist grounded theory approach, semi-structured interviews were conducted with 13 sport administrators from different sport and coaching organisations to elicit views on how best to advance safe sport. The findings indicated that a multi-faceted approach embracing multiple advancement strategies was reportedly essential for progressing safe sport. Specifically, the sport administrators recommended that sport organisations establish a universal framework of safe sport, design and implement education, implement and enforce policies, establish independent monitoring and complaint mechanisms and conduct research to ensure that advancement strategies are current and applicable. The participants suggested that these advancement strategies are necessary to evolve sport from a culture that embraces hegemonic masculine narratives, interpersonal violence and controlling coach–athlete relationships, to a culture of sport that extends the safe sport focus beyond the prevention of harm to the promotion of positive values and human rights. The findings were interpreted through a safeguarding lens to propose a framework for achieving safeguarding sport, defined by the prevention of harm and the promotion of positive values in sport.

Keywords: safe sport, safeguarding sport, sport administrators, education, policy, research, monitoring, complaint mechanisms

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INTRODUCTION

International high-profile cases of athlete abuses have led to efforts to advance what has been termed "Safe Sport." A substantial number of abuse scandals revealed internationally in sport, including, the Nassar case in the U.S. and the Barry Bennell case in the U.K., to name a few, have pressured sport leaders to develop and enforce safeguards (Nite and Nauright, 2020). As such, national and international sport and coaching organisations have developed initiatives, such as

educational programmes and policies to advance a culture of safe sport—one free from abuse and harassment. For example, Safe Sport International (2019), an international collaborative agency committed to the global eradication of all types of abuse, harassment and violence committed against athletes of any age, provides current research, consulting services, and educational webinars to enhance safeguarding measures amongst sport stakeholders and organisations. The Coaching Association of Canada (2020), a national coaching body offering educational training and resources to support coach development in Canada, offers a variety of training programmes and safety-based policies focused on ethics, concussion awareness and maltreatment. Several other organisations exist, including the U.S. Center for SafeSport (2020), the Child Protection in Sport Unit in the United Kingdom (2020), Play by the Rules (2020) in Australia, and The International Olympic Committee (2020), all of which implement their own approaches in attempts to advance safe sport. These organisations vary in their roles and responsibilities with respect to safe sport, from providing information and serving as an advocacy body only (e.g., Play by the Rules) to addressing complaints of sexual abuse (e.g., U.S. SafeSport).

Despite the increased attention on safe sport initiatives in numerous countries around the world, the advancement of safe sport has been challenging. First, there is an absence of a generally accepted definition of safe sport or of a framework for understanding and advancing safe sport. For example, International Olympic Committee (2017) toolkit defined safe sport as safeguarding from harassment and abuse, Safe Sport International (2019) refers to protecting the welfare, safety and rights of all athletes and the U.S. Center for SafeSport (2020) refers to building a sport community where participants can work and learn together free of emotional, physical, and sexual abuse and misconduct. Canada's Sport for Life defines safe sport as the provision of a "training and competitive environment for athletes, coaches, officials, and volunteers that is free of abuse, harassment, and discrimination… Additionally, safety includes the physical aspect of the equipment and training practices" (Higgs et al., 2019, p. 11). These descriptions of safe sport highlight the variations in populations of interest–from athletes to all sport participants–and in focus—from protection from harm to protection of rights.

Without a consistent framework for safe sport, it follows that policies, programmes and practises to advance safe sport will also vary. Kerr and Kerr (2020) offered a critique of the interventions that have been implemented internationally to address safe sport and protect athletes from harm. As athlete maltreatment is a systemic issue requiring safeguarding interventions that extend from the individual to the organisational and societal levels (Kerr et al., 2019), Bronfenbrenner's (1979) Bioecological Systems Theory was used to address safeguarding strategies at each level of the theory. At the individual level, athletes' knowledge and awareness of safe sport-related topics are encouraged through the delivery of educational programmes. At the microsystem level, codes of conduct and educational programmes for stakeholders, such as coaches and parents, have been developed to enhance the interpersonal relationships between athletes and other stakeholders and to improve the conditions of the environment. The mesosystem, which focuses on the roles of organisations and institutions in positively influencing the conduct of sport stakeholders, has been addressed through the implementation of harassment and protection policies that preserve the physical and psychological welfares of athletes. At the exosystem level, emphasis is placed on the development of organisations responsible for and committed to advancing safe sport, such as U.S. Safe Sport. Finally, the macrosystem level, which considers the national, international and local policies, laws, regulations and sociocultural beliefs that are established to globally achieve safe sport, has been pursued through advocacy efforts, such as the International Olympic Committee's Consensus Statement on Abuse and Harassment (Mountjoy et al., 2016) and the accompanying toolkit (International Olympic Committee, 2017). The authors also highlighted the current weaknesses of the sport system with respect to its (in)ability to advance safe sport strategies at all levels of the model, including, for example, a lack of conceptual clarity including inconsistent definitions and descriptions of unsafe behaviour, educational programmes for athletes that are perceived as victim-blaming, policies that focus primarily on sexual abuse and neglect more commonly experienced forms of maltreatment, educational programmes that are not empirically or theoretically driven, ineffective monitoring and evaluation of programmes and difficulty disseminating programmes and information to a community of volunteers. The authors proposed that the "autonomous, self-regulating nature" of sport explains why sport is lagging in the area of child protection compared to other child-populated domains and why athletes remain silent about their harmful experiences (Kerr and Kerr, 2020, p. 98).

Several recommendations have been suggested to advance safe sport. For instance, Noble and Vermillion (2014) proposed to prevent maltreatment in youth sport programmes, "administrators and leaders must develop and implement stringent policies and procedures placing the safety of their youth participants as their main priority, and creating a culture of zero tolerance for any form of abusive behaviour" (p. 52). Mountjoy et al. (2016) suggested that to eliminate abuse from sport, "a systematic multiagency approach" that considers the design, implementation and evaluation of culturally-relevant, safe sport policies and procedures, education, and law enforcement strategies is required (p. 1019). Furthermore, Mountjoy et al. (2015) recommended "clearly defining inappropriate and violent behaviours in sport," which may assist organisations with the adoption of proper safeguards in sport (p. 885). Having a unified understanding pertaining to which safeguards should be implemented by sport organisations may also ensure that there are consistent efforts to respond to unsafe practises.

The International Safeguarding Children in Sport Founders Group, comprised over 50 organisations, developed the International Safeguards for Children in Sport, including eight safeguards to protect children participating in sport from harm: (1) developing policy; (2) designing procedures for responding to safeguarding concerns; (3) provision of advice and support; (4) minimising risks to children; (5) identifying guidelines

for behaviour; (6) recruiting, training and communicating; (7) working with partners and (8) monitoring and evaluating (Mountjoy et al., 2015). The safeguards are meant to "reflect international declarations, the United Nations Convention on the Rights of the Child, relevant legislation, government guidance, existing child protection/safeguarding standards and good practice" (Rhind and Owusu-Sekyere, 2018, p. 42). Furthermore, research that involved ongoing interviews and group discussions with organisation leads, as well as continuous feedback from the Founders Working Group, led to the creation of the "CHILDREN" framework, an acronym that stands for cultural sensitivity, holistic, incentives, leadership, dynamic, resources, engaging stakeholders, and networks, which should be considered when implementing the international safeguards (Mountjoy et al., 2015).

At the 2019 National Safe Sport Summit, hosted by the Coaching Association of Canada, current and retired national level athletes recommended a variety of strategies for advancing safe sport. Recommendations included: address all forms of maltreatment (rather than exclusively focusing on sexual misconduct); design and implement mandatory education for all sport stakeholders; prohibit all sexual relations and forced acts of intimacy between athletes and individuals in positions of power, such as coaches and support staff; increase the focus on athletes' holistic well-being; strengthen accountability measures; provide support and resources to victims of maltreatment and implement an independent regulatory body to investigate, respond to and adjudicate complaints and apply sanctions (Kerr et al., 2020, p. 76). At the time of writing this paper, Canada awaits a decision on a national independent mechanism to address concerns of athlete maltreatment, and only then will we know whether athletes' recommendations have been heeded.

Previous researchers have recommended that ensuring safe sport is the responsibility of all adults in the sport (Brackenridge, 2001; Kerr et al., 2019), and it may be argued that sport administrators hold a particularly important position of influence. Sport administrators have positions of power and authority over the operations of the organisation, including funding allocations, staffing decisions, implementation of policy and procedures, risk management and legal issues and accountability. Moreover, sport administrators have significant influence on the culture of the organisation by infusing values and priorities through communications, decision-making and implementation of policies; the sport administrator can determine whether the organisational climate is one that prioritises safe sport or performance excellence or revenue generation, as some examples. Given the responsibilities of sport administrators to set the tone of their organisation including which priorities are established and operationalised, monitored and evaluated, it is important to understand sport administrators' views on what is needed to advance safe sport. As such, the following study sought to understand sport administrators' perspectives of how to advance safe sport. Understanding sport administrators' perspectives may be helpful in informing a framework to guide the development and implementation of safe sport strategies.

MATERIALS AND METHODS

Paradigmatic Position

This study adopts a constructivist paradigmatic position to further understand the perspectives of sport administrators regarding the advancement of safe sport. Constructivism upholds an interpretative worldview that advances the notion that reality is actively created by individual interactions with society and the environment (Rapmund, 1999; Kukla, 2000; Campbell, 2002), and in this way, interpretations of reality are culturally and socially influenced (Rapmund, 1999). A constructivist approach to conducting research with stakeholders, such as sport administrators, can illuminate the practicality of theoretical knowledge facilitating learning through the sharing of knowledge and experiences (Mesquita et al., 2014). The conceptualisation of strategies to advance safe sport was a codependent process facilitated by the negotiation of different topics between the participants and researchers.

Ontology

Research positioned within a constructivist paradigm embraces a relativist ontology (Guba and Lincoln, 1994; Lincoln et al., 2011). A relativist ontology posits that realities may be understood as several, imperceptible "mental constructions" that are constructed "experientially" and co-constructed "socially" (Guba and Lincoln, 1994, p. 110). A relativist ontology suggests that sport administrators' awareness of strategies to achieve safe sport is formulated through negotiated interactions with other stakeholders, the researchers and the environment in which they are immersed.

Epistemology

A constructivist paradigm assumes a transactional, subjectivist epistemology. Guba and Lincoln (1994) reported that the researcher and researched "are assumed to be interactively linked so that the "findings" are *literally created* as the investigation proceeds" (p. 111). Moreover, subjectivism acknowledges that separation "between the knower and the known" cannot exist "because all knowledge is constructed through a meaning making process in the mind of the knower" (Daly, 2007, p. 23). The epistemological assumptions of this study consider that sport administrators' knowledge of safe sport strategies is created through the recollection of prior safe-related experiences, personal experiences and through social interactions with other stakeholders and the researcher, which may influence the participants' recommendations of safe sport practises.

Methodology

The following study utilised a grounded theory methodology to investigate the strategies that sport administrators recommend to advance safe sport. Grounded theory is defined as an inductive, methodical, and comparative style of conducting research for the purpose of theory development (Bryant and Charmaz, 2007). Researchers engage in an iterative process of transitioning between empirical data and emerging analysis; this process ensures that data analysis becomes increasingly more focused and theoretical (Bryant and Charmaz, 2007). Grounded theory research has been characterised with the following

criteria: concurrent data collection and analysis, inductively developing analytic codes/categories, reliance on the constant comparison method, evolving theory throughout each stage of data collection/analysis, memo-writing, and theoretical sampling (Charmaz, 2006; Kenny and Fourie, 2015).

Methodologically, we adopted a constructivist grounded theory method (CGTM), which is an interpretative and iterative strand of grounded theory methodology that acknowledges the co-construction of knowledge between researcher and participant and perceives data analysis as the construction of multiple realities created through the negotiation of topics with the participants (Belgrave and Seide, 2019, p. 301). Charmaz, known for advancing the CGTM, suggested that this approach prioritises the phenomena of interest and interprets the data and analysis as being co-created through shared relationships and experiences between participants and other sources of data gathered from their surrounding environment (Charmaz, 2006). A CGTM acknowledges the interpretive nature of developing theory; this process encourages the researcher to be reflexive, flexible and creative in theorising data to interpret participants' experiences and knowledge (Charmaz, 2006).

Participants

Thirteen sport administrators who held leadership positions within national and international sport and coaching organisations were recruited to share their views on how best to achieve safe sport. Sport administrators are at the forefront of designing and enforcing strategies that promote safe sport. Daube and Thomas (2016) acknowledged the social responsibility of sport administrators to monitor organisational behaviour and promote sport codes that protect athletes and promote healthy behaviours. Furthermore, given the limited understanding of the structural and social mechanisms in sport organisations through which athlete maltreatment is enabled and normalised (Roberts et al., 2020), it seemed critical to speak with sport administrators to understand their views on how to best respond to and mitigate the risks associated with unsafe and violent practises in sport.

To preserve confidentiality, a pseudonym has been assigned to each participant. Sport administrators are referred to as "SA"; to further distinguish between participants, they have also been assigned a numerical value, for example, SA1 and SA2, etc.

Data Collection

The dialectical and interpretative nature of CGTM welcomes methods that elicit open dialogue. The following study included the use of in-depth semi-structured interviews. Although an interview guide was prepared in advance, we allowed space for unanticipated directions to the questions and responses. Charmaz (2006) advocated for using in-depth interviews to intimately explore the meanings participants attach to their shared experiences. To understand the ways in which we can advance safe sport, sport administrators were asked questions such as: "What strategies would you implement to achieve safe sport?" "What are the barriers to advancing safe sport?" and "What facilitators are required to advance safe sport?" Several probes were also used, such as "Please tell me more about that," "Can you provide me with an example?" and "What were the positive and negative implications of that safe sport initiative?" The interviews ranged between 45 and 120 min; all interviews were audio-recorded with the participants' consent and transcribed verbatim.

Multiple sampling procedures are considered when recruiting participants for grounded theory research. The initial stages of the study relied on convenience sampling; participants who were accessible to the researcher and satisfied the participant criteria were asked to participate in the study. Morse (2007) suggested that the early phases of sampling aid in defining the scope, boundaries and trajectory of the study and research process. After preliminary data analysis, purposeful sampling was utilised to find participants who fell along the trajectory of the study (Jones et al., 2014). In the later stages of research, theoretical sampling was employed; this approach sought to collect relevant data through participants who were believed to contribute to the elaboration, development and refinement of emerging theory (Charmaz, 2006). For this project, participants were limited to those who met the age of consent and were affiliated with sport as an administrator.

Data Analysis

Constant comparisons and memo-writing are often relied upon when analysing data in grounded theory research. Charmaz (2006) defined the constant comparative method as:

> A method of analysis that generates successively more abstract concepts and theories through inductive processes of comparing data with data, data with category, category with category, and category with concept. Comparisons then constitute each stage of analytic development (p. 187).

At each stage of analysis, constant comparisons were made as part of the coding process. A CGTM includes two main phases of coding–initial and focused–followed by a process of theoretical coding (Charmaz, 2006). During initial coding, we thoroughly read through the transcript data line-by-line (Jones et al., 2014) and answered the questions, "What are these data a study of?" and "What do the data suggest?" (Charmaz, 2006, p. 47); answering these questions assisted in the naming of initial codes. Next, we engaged in a process of focused coding, which permitted us to develop more selective, directed and abstract codes (Charmaz, 2006). In this stage of analysis, focused codes develop into theoretically rich and integrative categories (Jones et al., 2014). The final theoretical codes depict potential relationships between categories of codes developed through focused coding (Charmaz, 2006). The grounded theory that emerges from the data is founded on the formation of the integrative theoretical codes (Charmaz, 2006; Jones et al., 2014).

Lastly, analysis occurred through a process of memo-writing, "… *the* fundamental process of researcher/data engagement that results in a "grounded" theory" (Lempert, 2007, p. 245). Memos were written with an analytical, rather than a descriptive, mindset (Jones et al., 2014). As the analysis progressed, literary resources were examined so that the theoretical underpinnings of other research could aid in identifying patterns within our dataset (Lempert, 2007).

Ethical Considerations

The study protocol was reviewed and approved by the Research Ethics Board at the University of Toronto (approval number 37715). A detailed letter of information and consent form was provided to each sport administrator and reviewed prior to conducting the interview; the purpose of the letter of information was to highlight the participants' rights and the risks of participating in the study. Participants were required to provide written informed consent before the interview began. Participant confidentiality was assured given the social risks associated with portraying participants negatively or the disclosure of information that may jeopardise their public image or position or the reputation of the organisation they lead. To preserve confidentiality, all participants were assigned a pseudonym, and any personally identifiable information was omitted from the study.

RESULTS

Recommendations for Advancing Safe Sport

Recommendations made by the sport administrators to advance safe sport included: constructing a universal framework of safe sport for all sport organisations to adopt; the development of safe sport education, policy implementation and enforcement; the establishment of independent monitoring and complaint mechanisms and ongoing research to support the development and refinement of safe sport policies and procedures. The sport administrators perceived these strategies as being essential in shifting the culture of sport towards one that is committed to the prevention of harm and values-based.

The subsequent sections will elaborate on the sport administrators' recommendations for advancing safe sport.

Advancing Safe Sport Through an Established Framework of Safe Sport

Participants claimed that the absence of a universal understanding and definition of safe sport weakens efforts to advance it. As such, participants recommended that a generally agreed upon definition or framework of what safe sport is be developed, as highlighted by SA2, "I think that there is a need for a [safe sport] framework that would apply to all sport, so we understand what exactly we're all talking about." SA9 acknowledged the importance of having one, consistent definition because the varying interpretations of safety in sport have made it difficult to advance a culture of safety:

> Safe sport was originally focusing on preventing abuse, but now it has expanded to include so many other factors. Is the exclusion of trans-athletes a safe sport topic? Does the inaccessibility at arenas represent a safe sport issue? I would say yes, but that's not the common stance held by my peers… I agree, I do think we need a unified definition. It provides us [sport administrators] direction with what is needed to improve safety in sport.

SA9 recognised the significant developments of safe sport over time, and consequently, it has become increasingly difficult for sport administrators to advance safe sport because the topics included are ever-changing. SA11 also expressed the need for a consistent definition of unacceptable conduct across all sports:

> The idea of sport, very generally, is flawed. Within the greater scheme of sport, you have multiple sports that have their own system of right and wrong. So, [ice] hockey tells you it's okay to drop the gloves to settle an issue, but volleyball says otherwise. So, what does my kid learn when he's in a conflict? It's okay to use your fists or your words to resolve it. That's non-sense. You can't have millions of policies and programmes that define safety differently from sport to sport because they'll all at some point end up contradicting each other and we won't ever actually achieve safety. Every sport needs to be consistent. Violence is wrong, abuse is wrong, these are the repercussions. When individual sports start to align their stance on safety, sport as a whole will start to eliminate these broader issues of abuse and so on. (SA11)

Similarly, SA10 stated:

> I don't think there's one definition of safe sport, and that's the problem… It's a continuous type of work that identifies different issues that can hurt an athlete, hinder development, or enjoyment of sport. With so many issues in sport we've developed so many definitions, so how do we help anyone if our understanding is continuously broadening?

The participants referred to the changing field of safe sport as presenting continuous challenges; as sport administrators commit to making sport safer, they need to explore the issues that contribute to an unsafe environment in an ongoing way. SA12 agreed that a unified philosophy of safe sport is required and, like other participants, suggested that safe sport should include the reduction of physical and psychological harm or unsafe practises and also extend to include the benefits of sport participation:

> I think there's a tendency to go to the headlines and to the problematic behaviours and for sure there is a need to prevent those behaviours so that has got to be a major area of focus, but I think it really limits the impact of the whole safe sport concept if it doesn't describe those benefits and the positive things that come out of sport. I think part of what's missing in a lot of cases is the lack of a clear philosophy of sport or a philosophy of athlete-centred sport… we need that universal philosophy of safe sport which isn't all about the negatives. It's about the positives, the benefits, and the reasons why we do this and the importance of being athlete-centred. I think that's something that's missing.

SA12 acknowledged the importance of identifying the problematic behaviours prevalent in sport; however, SA12 recommended advancing a universal philosophy of safe sport that extends beyond harm-based definitions and focuses on the benefits of sport and the promotion of athlete-centred values.

Advancing Safe Sport Through Education

All participants agreed that offering education around safe sport was integral to creating a physically and psychologically safe environment for all participants. According to SA10, "The

answer is education. I think we need to spend much, much more time educating… I think everybody needs to be educated and everybody needs to comply with safe sport requirements." Whereas, most safe sport education targets coaches, SA10 suggested that additional education be developed and made compulsory for all participants in sport. For other participants, education was often recommended solely for coaches:

> I think part of the challenge with the coaches is to educate them on the harm that they are doing to the individual on the emotional, psychological, and physical level that is detrimental long-term. To make them understand that whatever they learned as young athletes themselves or whatever they witnessed and thought that's how you make people suffer or whatever, that it is causing very serious harm and it is not as effective in getting the result they are after because to be more positive, to be more supportive, to allow for more enjoyment of the sport, all those things will actually elicit much greater performances from the athletes… The education part is really important. Letting them know that these kinds of activities constitute physical or psychological harm… Education about these things is really important first and foremost because some of these definitions of abuse are going to challenge people's view of what they felt was acceptable and normal coaching techniques. (SA2)

SA12 further supported the notion that coaches need education to encourage self-examination and reflection:

> I think education programmes are important for coaches to better analyse their own behaviours and realise what some of the problems are and what some of the things are that they can do to manage the problems… programmes that encourage self-reflection allow some of these coaches to realise how problematic their behaviours are.

SA12 elaborated on the importance of safe sport education to move beyond awareness-raising to address ways of facilitating behaviour change:

> I do think the education programmes don't go far enough. I think they convey information but they're not going to the point of really achieving behavioural change. There is far more work that has to be done in terms of learning and supporting coaches in the environment to really bring about behavioural change.

Numerous educational topics were recommended by sport administrators to be included in safe sport education, including "policy, prevention, about different types of misuse of power, education about how to report and when to report" (SA10). SA1 suggested topics related to "all the "-isms" should be addressed [in safe sport education]—racism, ableism, sexism, classism, ageism. Anytime someone is discriminated against, that produces an unsafe experience. People need to know that." SA5 acknowledged the growing concern of mental health issues and the importance of educating coaches on how to recognise these issues:

> Coaching today has to change given the mental health issues. For example, say they have a student-athlete with significant mental health issues on their team, coaches typically don't know how to deal with that type of athlete… the coaches often don't know what's going on with the athlete. The athlete may be in a better situation to take time off the sport to get mentally better, but they don't want to, and they end up staying with the team. The coaches don't know how to deal with that situation, they assume the player isn't strong enough to play and end up cutting them. Well, that creates more mental health issues. It can be dangerous. It is a really complex issue. The coaches are struggling with how to deal with that and need to be informed. It impacts the team dynamic, performance, and can be mentally unsafe for athletes.

Finally, a few participants recommended that safe sport education addresses the positive side of sport. SA13 explained, "we focus a lot on the terrible things happening in sport and not enough on the good that can come from sport. If we educate others on the positives, then maybe that becomes the new norm." Similarly, SA9 suggested that safe sport education that is values-based would enable the safe sport movement to thrive:

> These conversations about safe sport, they're very reactive. We've had terrible acts of abuse that have tainted the image of sport and now everyone is frantically creating education, policies, presentations, you name it, to increase people's awareness about the dangers of sport. Now, whenever you think safe sport, you think of child sexual abuse or harassment. We should be focusing on reminding people about the good in sport because let's face it, you would be a fool to continue to participate in sport after hearing about safe sport. Safe sport is abuse? Safe sport is harmful? Safe sport is dangerous? Yeah, no thank you. Instead, safe sport is healthy? Safe sport is fun? Safe sport is fair? Yup, I'll take that. Safe sport would thrive if we thought that way because people want to be part of the solution, not the problem. They want to identify with something positive, not negative.

Both SA13 and SA9 recognised the limitations of safe sport education that focuses solely on the prevention and reduction of harm and the value of positioning safe sport education to promote the positive values of healthy, fair and safe sport experiences.

Advancing Safe Sport Through Policy Implementation and Enforcement

The sport administrators acknowledged the importance of policies to foster a safe sport environment; however, the benefits of this advancement strategy were reportedly contingent on many factors. First, participants emphasised that policies need to clearly define unsafe conduct and consequences for breaching policies. For example, SA7 described the policies defining unacceptable behaviour and related consequences that coaches are expected to adhere to:

> There is zero tolerance for abuse, sexual assault or harassment, some statements about drugs and alcohol, abuse of power and abuse of players or officials. There is a whole series of them.

> We've developed automatic sanction charts for all our league sports, so coaches and athletes know that there is no grey area. You do this, this is your suspension or suspension and fine or suspension and fine and review. They can actually lose their privilege of playing for us this season.

The clear delineation of consequences appears to give safe sport policies traction. Additional consequences were suggested in response to violating policies. For example, SA13 advised on cutting funding from sport programmes or organisations that fail to comply with policies: "consequences of not being compliant, probably withholding funding, seems to crack the whip in sport in Canada." In the absence of consequences, participants believed that policies are rendered useless. SA13 continued:

> You can have a nice policy document but if no one ever actually checks on whether you are abiding by it and there are no consequences as a result of a breaching that code of conduct, then it might as well not be there.

Participants identified weaknesses in the enforcement of existing policies as well:

> I think enforcement of policies is quite weak because coaching isn't a profession and it isn't a regulated activity. Whatever policies are put in place tend to be dependent on goodwill not on a real enforcement mechanism so people can avoid a lot of the policies if they choose to. So, I think there is work that needs to be done on enforcement and regulation. (SA12)

SA1 reinforced the notion that for policies to be effective, they need to be linked with enforcement processes:

> Policies are great. They don't do anything in and of themselves. It has to be policies with implementation plans… I don't think it's a strength in our sport system. I think policies are checkboxes for our funders. Some organisations are great at taking these policies and bringing them to life. I do think organisations need help also with the implementation.

The perception that policies are mere "checkboxes" for sport organisations suggests that in the absence of enforcement strategies, safe sport policies are ineffective.

Advancing Safe Sport Through Independent Monitoring and Complaint Mechanisms

Participants recommended advancing safe sport through the development of an unbiased, centralised, independent body, separate from the sport organisation, that would be responsible for conducting investigations on complaints of safe sport-related issues. SA13 stated:

> I think a truly neutral system that involves reporting, like a triage investigating mechanism that could also refer third-party support services that are not just to handle that complaint. If there are mental health resources that are necessary, child protection etc… There is a bit of a web that happens depending on what that triage looks like but the investigation that ensues -that is fully independent and coming from a third-party and then ultimately a tribunal or adjudication type process that can actually look and potentially sanction individuals or parties for non-compliance.

SA13 continued:

> I think it needs to be a fully independent neutral third-party mechanism that will uniformly enforce the code and make sure that organisations are compliant with it, that everybody has the same expectations and understandings and then oversee any kind of investigation that happens as a result of any kind of breach or report and then potentially have actual discipline proceedings or be able to enforce sanctions.

According to the participants, the development of an independent body not only ensures that reports are handled impartially but also allows for specific sanctions to be placed on non-compliant sport programmes and organisations. SA10 expressed:

> I think its crucially important to have a centralised body that deals with [safe sport]… We want medals, we want trophies, we want prize money. I think the next step is making sure that this comes second after making sure that everybody is safe… having a centre focusing on safety would be best.

Similarly, SA1 recommended having external third parties to police stakeholders in sport and hold them accountable for their actions:

> The idea of third parties and external parties, I think is really relevant. I personally advocate for the idea of having an independent body…The accessibility of other supports and other observers or whatever the right term is or an independent officer to be there. I think the trick being that they have a policing role sort of to speak… I think it holds people accountable.

SA7 agreed that the behaviours of coaches should be monitored as a way of advancing safe sport: "If you are worried about safe sport and how coaches communicate with athletes and deal with mental and physical and emotional abuse, why is there no observation level? Why are we not observing coaches in the training setting?"

Participants recognised how sport organisations may be ill-equipped to investigate reports of harm, and thus intervention from an independent third-party may relieve sport administrators of tasks they are unfit to execute. SA13 explained:

> I think what the messaging should be for national sport organisations is that an independent body will take actually like a lot of issues off their hands too… I know national sport organisations like [Canadian sport organisation] say that they don't want to deal with those issues. They want an independent third-party to deal with these issues. They don't want the liability. They know they are not specialised or capable. They are very happy to say "please independent third-party step in and investigate and tell us what to do here."

SA13 acknowledged how it would be legally wise for sport organisations to consider the aid of an independent third-party.

Similarly, SA9 agreed that an independent body would be beneficial to support sport organisations who often seem unqualified to effectively investigate cases of abuse:

> I think the increased media attention on sexual abuse has pressured organisations to step up when it comes to responding to cases of abuse. And yes, many organisations have not been fully transparent, but for many others it's a capacity issue. We don't have the support, resources, funding, time to investigate every report of abuse… I'm also not qualified to respond to these issues, and neither are many others on my team. We're volunteers. We are qualified in other ways… definitely, I think it would be advantageous for an independent body to be established in sport. They can focus on that aspect of sport and we can continue to focus on ours.

In addition to not being qualified, SA1 acknowledged that internal investigations of abuse are often unworkable due to limited sources of support; as such, it would be beneficial for sport to establish an independent system to investigate reports of abuse.

Advancing Safe Sport Through Research

Although not as prominent as the other recommended strategies, a few participants understood the importance of research informing the advancement of current safe sport strategies. SA4 stated:

> Quality education needs to do a better job of being more responsive to research so we can do a better job of keeping materials, trainers and learning facilitators up to date. The whole reason we are doing this is so that participants of all ages are getting the best experience. We need to ensure that they have the best material being taught to them or being shown to them or learn from so that the athletes are getting the most quality experience. I would say the one thing is becoming more responsive to the changing of research and times.

Similarly, SA1 highlighted the importance of research:

> The research and evidence in this area is extremely important to us. If I don't have evidence to back things up, I can't say it. I can talk anecdotally. I can say this is logical but having the ability to look at… research and say abuse and harassment is gendered. We know in society violence against women is manifesting in sport and we actually have evidence of that. What do we think of that then? We can have a conversation then. We can create policies that achieve real change because we understand the evidence driving those policies.

Finally, it was recognised that further research is required to improve the current reporting mechanisms in place within Canadian sport:

> There's been countless failed attempts by organisations trying to respond to reports of abuse. An independent reporting system would make the most sense for athletes, but the logistics of it need to be explored further. I think the research will really justify to organisations why this is an important step in the field. It's not to expose the organisation of wrongdoing, but really aid sport organisations in fully embracing safe sport and protect athletes. (SA13)

Shifting Towards a Safe Sport Culture

The participants perceived their recommendations as necessary to stimulate a cultural shift in sport. Specifically, the establishment of a universal framework, development of safe sport education, implementation and enforcement of policies, the provision of independent complaint mechanisms and ongoing research are believed to be fundamental to challenging the current sport culture in which harmful behaviours are normalised. For example, SA10 highlighted the need for a cultural shift and cited the current culture as a barrier to achieving safe sport:

> I think the main reason is cultural. You know what they call "old school"? I hate this word. I've heard it so many times. It's resistance to change because people think the way they did it is best… there's lots of good coaches… They got individuals to the Olympics, they got gold medals, but that doesn't mean that's the right way to do it. They come and tell you, "Well don't tell me how to behave. I have five individuals from my career that went to Summer Olympics. Who are you to tell me how to coach my athlete?" I think the resistance is from that old school type of education. It's realising that you can still achieve the same or better results, which we know by research already, without applying those techniques. And once you apply those [old] techniques, the athlete might win a medal, but you scar them for the rest of their life.

According to SA10, education is integral to advance a culture of sport that moves beyond the traditional style of controlling coaching. SA11 alluded to the controlling culture of sport as well and suggested that the control stems from the military and hypermasculine roots of sport:

> I think that the culture, the background of sport coming from a military tradition and male-dominated area, it's been one of the areas that has been the slowest to change. It's really been going from a master to the athlete and then a lot of the athletes are getting into coaching and they're just repeating their own experience. The culture is lagging behind in a lot of changes… it's hard to educate and change…

A cultural shift was also identified as being important given the evidence of the oppressive culture, specifically towards women and individuals who identify with the LGBTQ community:

> People are targeted with homophobic slurs as a way of trying to keep them in their place and minimise their power. This was as much reflected in sport and perhaps more because it's a hypermasculine space or has been traditionally more than other areas in society and so as research has shown… women in sport have been significantly impacted by harassment and discrimination and overall a culture of oppression where they don't feel like they belong… anecdotally we hear a lot from women about practises and precedence and attitude that would reflect a lot of hostility towards women's involvement or the women's involvement being tolerated to a certain point

> and certain women's involvement is seen less [as] acceptable than others… it does create an atmosphere for many women where they are made to feel that they are unwelcomed and certainly some say discriminated against in sport.

According to the participants, the current culture of sport must shift away from being oppressive, hypermasculine, violent, autocratic, and discriminatory.

The participants used several descriptors to articulate what they envisioned to be the outcomes of successfully advancing safe sport through the recommended strategies. Specifically, participants referred to values, such as ethical, open, respectful, welcoming, accepting, fair, fun, safe, inclusive, equal, empowering, holistic, humane and free, to describe what safe sport would look like if a cultural shift is successfully achieved. For example, SA2 suggested values that are foundational to real safe sport experiences:

> A true safe sport experience would demonstrate sport principles of safety, respect, fairness, fun, inclusion… when those values are being promoted, highlighted, supported by the sport organisation, there is going to be less chance of us being involved in unsafe practises.

SA2 elaborated:

> If sport organisations at the community level, up to the national level, are ensuring that the sport experience they provide is driven by sport principles of safety, respect, fairness, fun, inclusion, then there is going to be less chance of us being involved in unsafe practises and an increased chance of us transforming sport into an endeavour that prioritises the safety and needs of athletes. People in the sport sector need to be reminded of these positive values.

SA2 also recognised the potential for safe sport to build communities and strengthen the national sport identity:

> Safe sport experiences could prevent the bad things from happening but can also promote the good. It will help instil character in our kids, it will strengthen our communities, sport organisations and neighbours will come together with their kids in sport, relationships will be built, social capital will be built, and many positive things will come from that… it will increase the base of participation in sport, it will increase the likelihood of creating greater excellence in sport and so on the world stage, we would have more athletes representing Canada. That's why a good sport experience or a safe sport experience is so important because it maximises those positive benefits.

Inclusion was referred to by participants as an aspect of safe sport. As an example, SA1 described safe sport policies better supporting transgendered athletes:

> As we have come to understand gender identity and the sport model, you're either male or female based on your physical anatomy. We know that doesn't really explain the human condition, so we have helped develop policy in place for sport to use to make their sport more safe and welcoming for trans persons… it is about the safety of those individuals so that they can participate in sport in a safe and welcoming way and not be subject to any kind of discrimination or bullying or harassment based on their gender identity.

An ideal safe sport environment is an inclusive one—one in which inclusion expands beyond the acceptance of participants with distinct gender identities to include participants with varying abilities:

> Access should be a fundamental right but because it's not built into a lot of our culture and behaviours, there are a lot of barriers. I think a lot of our Para-athletes end up normalising that some of the stuff they experience a lack of access to is okay. To make it, whether it is dealing with their disability and/or the lack of environment that is supportive, they need to work twice as hard… Do I think some of the information is readily available to our coaches? No… It just hasn't been part of the safe sport conversation, but it should be because without it, you end up losing out on some great athletes. (SA3)

SA3 continued, explaining that an ideal safe sport environment would extend beyond the prevention of harm to fostering a quality environment, defined as accessible, welcoming and inclusive:

> Safe has a really basic, very minimalist view in my opinion for what we should be looking for… One of my concerns in a lot of this safe sport work is that it's very gap or issue oriented and for me, a safe, welcoming and inclusive system is way more than the absence of these issues. Right now, it feels like a lot of our strategies are focused on the reduction of harm or filling in the gaps as identifying with these areas and I am thinking okay, but it's like performance. It will neutralise it. It might stop it but it's kind of flat line…I think that's where some of the discussion needs to go so people understand the importance of these processes in creating an accessible and inclusive quality environment for all.

DISCUSSION

The purpose of this study was to explore sport administrators' perspectives on advancing safe sport. Analyses of the interview data indicate that sport administrators believe a number of strategies to advance a culture of safe sport are needed, including: establishing a universal framework, developing safe sport education for all, implementing and ensuring compliance with policies, creating independent monitoring and complaint mechanisms and researching safe sport to ensure that current programmes, policies and procedures are relevant. Additionally, the findings indicate that the effective implementation of these advancement strategies is perceived as fundamental to ensuring a needed cultural shift in sport, one that is characterised by the achievement of ideal, safe sport-related outcomes, such as inclusion, accessibility, fairness, safety, and human rights.

Interestingly, the strategies offered by the sport administrators already exist to varying degrees within the current landscape of safe sport. Sport organisations previously mentioned, such as the Coaching Association of Canada (2020), International Olympic Committee (2017), the U.S. Center for SafeSport (2020), and the U.K. Child Protection in Sport Unit (2020), have developed safe sport education addressing a range of topics, implemented safe sport policies focusing on the prevention of harm, established reporting measures in response to abuse and referenced safe sport-related research in their programmes and materials. Furthermore, the recommendations made by sport administrators are consistent with the findings by Noble and Vermillion (2014) that sport administrators recognise the importance of implementing policies on reporting maltreatment and ensuring employees receive adequate training that enhances their awareness of different types of maltreatment that manifest in sport. Wurtele (2012) further supports that participation in education is critical in preventing maltreatment and may influence positive changes in organisational culture insofar that sport administrators recommend and advance policies and procedures to enhance the safety of young and vulnerable participants. The findings of the current study also align with suggestions made by Mountjoy et al. (2015, 2016) to establish a framework to better protect athletes in sport and to advance policies and education. Specifically, the sport administrators in the current study acknowledged that clearly defining safe sport-related behaviours will aid sport organisations in understanding which safeguards are most appropriate to protect athletes from harm. The recommendations made by sport administrators are consistent with the existing advancement strategies and suggest that the participants are aware of the shortcomings associated with the current methods employed to achieve safe sport.

However, the study's findings differ from those of Mountjoy et al. (2015), who recommended defining the inappropriate and violent behaviours of sport to effectively advance safeguards. Based upon the reported positive effects of successfully advancing a safe sport culture, this study supports the notion that safe sport frameworks extend beyond definitions of harm prevention to include the optimisation of the sport experience through the promotion of positive values. Therefore, the recommended strategies would be designed and enforced not only to solely prevent harm but also to promote a culture of sport that is inclusive, accessible, welcoming and safe for all participants. The positive effects of advancing safe sport conveyed by the sport administrators in the current study are consistent with interpretations of values-based sport. Values-based sport represents an organisation's commitment towards establishing a sport system defined by the ideas of fairness, excellence, fun and inclusion (Public Policy Forum, 2019). Values-based sport allows all participants to experience the range of physical, emotional and social benefits sport has to offer and ensures that policies, programmes and procedures are designed to eradicate unethical issues corrupting the integrity of sport while simultaneously striving to improve the sport experience for all stakeholders of sport (Public Policy Forum, 2019).

The current participants' descriptions of an ideal safe sport environment are also congruent with the United Nations Convention on the Rights of the Child given their references to the recognition and promotion of human rights and the commitment to safeguarding children from all types of abuses and harm (Office of the United Nations High Commissioner for Human Rights, 2020). These findings are important because they extend the original and more commonly accepted purpose of safe sport of preventing maltreatment of athletes to the promotion of human rights and the recognition of sport's potential to contribute to optimal development of individuals, communities and societies. The promotion of human rights is a defining feature of the term safeguarding. The National Society for the Prevention of Cruelty to Children (NSPCC) in the United Kingdom describes safeguarding as: protecting children from abuse and maltreatment, preventing harm to children's health or development, ensuring children grow up with the provision of safe and effective care and taking action to enable all children and young people to have the best outcomes (National Society for the Prevention of Cruelty to Children, 2020). Safeguarding encompasses the benefits of safe sport (i.e., prevention of harm) and is driven by the promotion of positive values and human rights in sport. To achieve safe sport, therefore, sport organisations must develop education, policies, complaint mechanisms and research that not only prevent harm in sport but also advance values, such as inclusion, fairness, ethics and accessibility, as recommended by the participants. Interestingly, the term "safeguarding" has traditionally been used in the U.K. but is not the norm in other countries. Even in international sport organisations, such as the International Olympic Committee and Safe Sport International, the term safe sport is used rather than safeguarding.

The findings suggest that the sport administrators' recommendations are more congruent with advancing safeguarding than safe sport. The participants' reports are interpreted to indicate that the prevention of harm framework that largely characterises safe sport initiatives is limited and should expand to include the promotion of positive values to reflect the desired cultural shift towards safeguarding sport. Although some sport organisations acknowledge in their conceptualisation of safe sport the importance of promoting positive values, the safe sport strategies implemented by these organisations fail to exemplify these. It may be that sport organisations assume that strategies employed to prevent harm will also achieve the positive outcomes of inclusion, accessibility and adherence to human rights. As such, organisations may overlook the importance of designing and implementing advancement strategies to achieve these safeguarding outcomes distinctively and instead employ preventative strategies assuming the concurrent achievement of harm prevention and values-based sport. While values-based sport may be associated with the positive by-product of preventing harm, the reverse is not true. In other words, a focus on the prevention of harm exclusively will not guarantee the positive benefits that emerge from values-based sport, but a focus on values-based sport will inherently include the prevention of harm. This may explain why the sport administrators

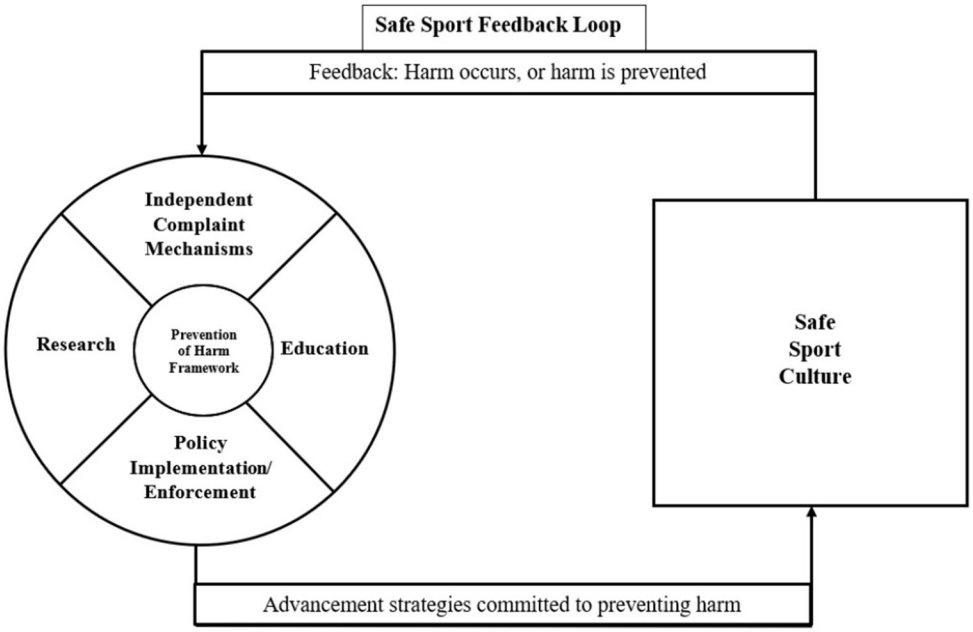

FIGURE 1 | Prevention of harm framework for safe sport.

recommended strategies that currently exist within the safe sport landscape; these strategies are important but ineffective if grounded within principles of harm prevention rather than being values-driven.

Informed by the data and research in the areas of safe sport and safeguarding, we propose a model that illustrates the current status of the safe sport landscape that reflects a prevention of harm approach (**Figure 1**). This is followed by an additional figure, which illustrates a values-based approach to safeguarding athletes (**Figure 2**).

Prevention of Harm Framework for Safe Sport

The development and execution of the advancement strategies recommended by the sport administrators function collectively and interactively to reinforce a framework of prevention; all education, research, policies, independent monitoring and complaint mechanisms are designed to prevent harm in sport, thus contributing to a safe sport culture. The safe sport culture is depicted within a square to illustrate the confined interpretations of harm prevention that have largely defined safe sport. When a sport organisation employs these strategies, the success of these strategies is assumingly measured by reduced rates of harm within the sport organisation. For example, if there is a report of sexual abuse within a sport organisation, the strategies associated with safe sport may adjust to further prevent future acts of sexual abuse. The advancement strategies are continuously modified based upon the feedback received from the sport context (i.e., whether harm is occurring or not), and the feedback ensures that strategies are continuously refined to reinforce the prevention of harm framework. However, the findings of the current study suggest that a shift from a harm prevention towards a values-driven approach is needed. This is depicted in **Figure 2**.

Values-Based Framework for Safeguarding Sport

The values-based safeguarding framework is a representation of the cultural shift advocated by the participants. Education, research, policies and independent complaint mechanisms are designed and implemented to achieve a safeguarding sport culture, characterised by the prevention of harm and the promotion of values, such as inclusion, safety, fairness, accessibility, and human rights. Similar to the prevention framework for safe sport, the advancement strategies in the values-based framework for safeguarding are interconnected to the extent that the development and modification of one strategy influences the others to some degree. However, in this framework, the advancement strategies reinforce both harm prevention and promotion of values-based sport. The safeguarding sport culture is depicted as an evolving circle to illustrate the everchanging, growing culture of safeguarding sport; this suggests that discourses of values-based sport related to concepts of inclusion, accessibility and human rights in sport will continuously evolve relative to societal changes and emerging research in these particular fields of interest.

Sport administrators' support of shifting towards a safeguarding sport culture demonstrates a commitment to confront and disassemble traditional and prevailing beliefs in sport, such as hegemonic masculine norms, win-at-all-costs

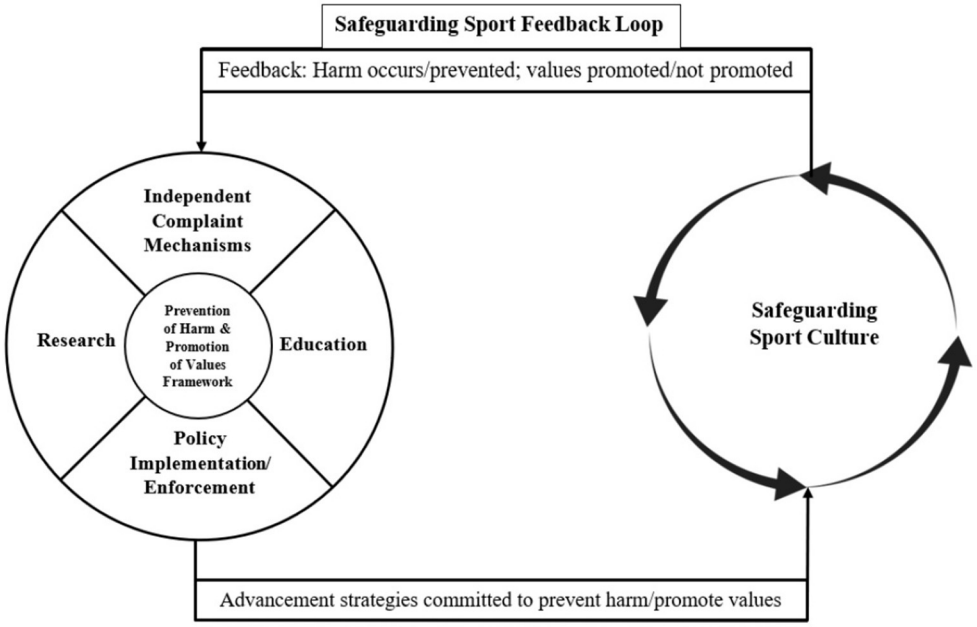

FIGURE 2 | Values-based framework for safeguarding sport.

and controlling coaching strategies (Hughes and Coakley, 1991; Silva et al., 2012; Stebbings et al., 2015). Preventing experiences of maltreatment will require a different set of prevailing assumptions, a notion supported by the current sport administrators' claims that a culture reflective of inclusion, accessibility and human rights is needed. By grounding advancement strategies in the principles of safeguarding, a cultural shift to the promotion of positive values and human rights in sport will be promoted.

This study was limited by exclusively investigating sport administrators' recommendations for advancing safe sport. Inquiring about the perspectives and recommendations from one stakeholder group may limit our understanding, and the recruitment of diverse participants (e.g., Black, Indigenous or LGBTQ) may elicit recommendations for advancing safe sport that have yet to be considered in the literature. Given the sensitivity of the topic area, the participants' perspectives may have been influenced by a social desirability bias, whereby participants' responses reflect the assumed interests of the researcher, rather than their actual personal views. Additionally, there was limited socio-demographic diversity in the sample, and only one method of inquiry was utilised to collect data. To advance safe sport, it is integral to explore the perspectives of other stakeholder groups, especially those of athletes, which are often missing in discourses of safe sport. Moreover, researchers should further explore ways to shift the culture of sport from a prevention of harm to a values-based approach in which human rights guide the design and implementation of sport. Finally, the recommended modes of intervention should be piloted and assessed within subcultures of sport to understand how these strategies, when grounded within a framework of safeguarding, affect the perspectives and behaviours of stakeholders and the welfare of participating athletes.

CONCLUSIONS

The purpose of this study was to explore sport administrators' perspectives on strategies to advance safe sport. The findings indicated recommendations for a consistent framework for safe sport, education, research, policy implementation and enforcement and an independent complaint mechanism. These strategies are consistent with findings from previous studies and, interestingly, are already in existence across multiple sport organisations. We speculate that sport administrators have recommended strategies that are currently in place because the focus of these existing strategies is inadequate. More specifically, most sport organisations implement strategies that focus on the prevention of harm, but the sport administrators in the current study advocated for strategies that focus on the promotion of inclusion, equity, accessibility, and human rights, consistent with a values-based approach to sport. Such an approach is congruent with the notion of safeguarding that reflects both ensuring safety as well as the adherence to human rights.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of Toronto Research Ethics Board. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JG collected and analysed the data, wrote each section, and edited the manuscript. GK contributed to the analysis and writing and thoroughly edited the paper. JG and GK collaboratively conceptualised the study. Both authors contributed to the article and approved the submitted version.

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ORIGINAL RESEARCH
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Static and Dynamic Recidivism Risk Factors of People Who Have Committed Child Sex Offenses in Sport

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Current knowledge of people who commit child sex offenses (PCSO) in sport contexts is based on descriptive information from cross-sectional self-report studies of survivors and media coverage of court cases. In-depth scientific analyses of characteristics, interpersonal dynamics, and applied theories of sexual offending in sport are largely absent. This paper starts with a description of available Belgian data on PCSO in sport, coming from self-reports in community samples, reported cases in the media, and interviews with survivors. The main goal of this study is the analysis of treatment file information from 16 convicted PCSO in sport using two actuarial recidivism assessment instruments (STATIC-99R and STABLE-2007). Overall, the majority of the included PCSO's risk assessments indicated relatively low risk of sexual recidivism. Notable was the preponderance of high risk scores on items related to exclusively unrelated victims, male victims, sexual deviance, and the absence of an intimate relationship. Other static and dynamic factors related to the risk of sexual recidivism, e.g., (prior) non-sexual violent offenses, unknown victims, hostility toward women, lack of concern for others, and poor cooperation with supervisors were rated relatively low in this sample of PCSO in sport. The findings point toward the complex and nuanced patterns that underlie child sexual abuse in sport. The current findings bring us one step closer to filling in the puzzle of child sexual abuse in sport and will help inform evidence- and experience-based prevention and intervention efforts.

Keywords: child sexual abuse, prevention, sexual violence, risk factors, extrafamilial abuse, recidivism

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INTRODUCTION

The Global Problem of Child Sexual Abuse

Child sexual abuse (CSA) is a global problem of considerable extent. A meta-analysis on the worldwide prevalence of CSA, based on 331 independent samples reported in 217 publications between 1980 and 2008, revealed an overall self-report prevalence rate of 14% (Stoltenborgh et al., 2011). Self-reported CSA was more common among female participants (18%) than among male participants (8%). A systematic review focused on more recent studies, including 55 studies between 2002 and 2009, revealed prevalence estimates ranging from 8 to 31% in girls and 3 to 17% in boys (Barth et al., 2013).

Estimates of CSA prevalence vary greatly depending on the definitions used. Depending on country, discipline, or institution, definitions of sexual abuse can include narrow perspectives (e.g., only including genital penetration) vs. broad perspectives, including various contact sexual behaviors, such as fondling or oral penetration, as well as non-contact sexual behaviors, such as verbal sexual harassment or sextortion. In addition to the use of various definitions and differences of CSA worldwide, the legal age of consent to engage in sexual activity also yields differences in prevalence numbers of CSA.

The World Health Organization (WHO) defines CSA as

> "the involvement of a child in sexual activities that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violate the laws or social taboos of a society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person" (World Health Organization, 1999, p. 15).

This paper uses CSA, and concurrently sexual offending against children, as a broad umbrella term for sexually transgressive behaviors, while recognizing that the varying use of definitions across research precludes broad generalizations.

Many victims of CSA do not disclose their experiences of abuse to anyone. If they do, it often takes a long time from the start of the abuse to their disclosure, and many refrain from making official complaints or reports. These aspects are likely responsible for the estimated high "dark number" of reported CSA (Schönbucher et al., 2012; Federale politie, 2018). Official statistics notoriously underestimate the actual prevalence of CSA, given the barriers for reporting and disclosure.

Official statistics and scientific data on CSA are scarce in Belgium. The Belgian legislation considers minors younger than 16 unable to consent, thus rendering all sexual activities with these minors as illegal in Belgium (Belgisch Strafwetboek, 1867). Bal et al. (2003) explored self-reports of sexual abuse among Belgian children aged 11–19. The results indicated that 10% of all Belgian children had experienced sexual abuse at least once in their lifetime. A 2010 study of 2,014 Belgian adults asked about their experiences of CSA -in total, 9% of women and 3% of men said they had experiences of CSA8 (Pieters et al., 2010). A large-scale study of sexual health in Flanders in 2013, known as the *Sexpert* study, explored experiences of CSA in 1,731 adult respondents and found that 22% of women and 11% of men reported having experienced sexually transgressive behaviors before the age of 18, ranging from unwanted sexual touching, to being forced to watch pornographic content, and having experienced rape and/or attempted rape (Buysse et al., 2013).

CSA in Sport

How often does it happen? CSA does not occur in limited or specific contexts, but occurs across a multitude of environments and places, including the sports context. Prevalence studies on sexual victimization in sport are scarce. A systematic literature review yielded seven eligible studies on experiences of CSA in sport (Bjørnseth and Szabo, 2018), with only one study examining the prevalence of CSA in sport (Vertommen et al., 2016). Herein, an estimated 14% of children in sport reported experiencing sexually transgressive behaviors, including non-contact sexual harassment (i.e., verbal or non-verbal), contact sexual harassment (i.e., physical), and sexual abuse.

Studies focusing on people who commit child sexual offenses (PCSO)[1] in sport are even scarcer. Only a few studies, some quantitative and others qualitative in nature, report on characteristics of PCSO in the context of sport. Self-report victim studies on sexual abuse in sport found that the majority was victimized by men (Vertommen et al., 2017). Interestingly, some studies find that peer athletes are most often identified as perpetrating the sexual violence, more often than coaches or other adult sport staff. Contrary to popular belief, studies across the world, mainly with student-athletes samples, found that the majority of sexual harassment in sport incidents are perpetrated by peer athletes: 88% in a UK study (Alexander et al., 2011), 86% in a Nigerian study (Elendu and Umeakuka, 2011), 33% in a Turkish study (Gündüz et al., 2007), and 23% in a Kenyan study (Rintaugu et al., 2014). In the same studies, the proportion of coaches who had perpetrated sexual harassment was remarkably lower: 8% in the UK study, 34% in the Nigerian study, 25% in the Turkish study, and 8% in the Kenyan study. The operationalization of sexually transgressive behaviors in these studies is different, which means a clear estimate of the prevalence of CSA cannot be determined.

Less is known about psychological characteristics of PCSO in sport. A qualitative study by Brackenridge and Fasting (Fasting and Brackenridge, 2009), based on interviews with 19 female athletes who were sexually harassed by their coaches, led to a preliminary typology development of coaches who sexually harass athletes: (1) the flirting-charming coach, (2) the seductive coach, and (3) the authoritarian coach. It should be noted that the sample size of this study was small, that all athletes in this study were at least 13 years old, but mostly older, and only included girls and women; thereby restricting the generalizability of this typology to other contexts. Another qualitative study examined court reports to determine the characteristics of PCSO in the context of sport to gain more knowledge about sexual violence, including sexual abuse, in sport (Fasting et al., 2013), but concluded that there was an absence of any "typical" perpetration profile.

Available Data on PCSO in Sport in Belgium

To outline the current knowledge of the characteristics of PCSO in the Belgian sport context, several available data sources were consulted. First, information was drawn from the sole major prevalence study of sexual abuse in Belgian sport (Vertommen et al., 2017) that included both contact and non-contact types of (sexually) transgressive behaviors against child athletes below

[1] In this paper, we use person-first language for people who have committed sexual offenses against children because of the stigmatizing effect of labeling language (Lowe and Willis, 2020).

the age of 18. In a large general population sample of 2,044 Belgian (Flemish) adults who participated in organized sport before the age of 18, 341 (17%) reported experiences with sexually transgressive behaviors before the age of 18 (Vertommen et al., 2016). These participants were asked about the characteristics of the person who had perpetrated these behaviors. Results indicated that these sexual offenses were mainly perpetrated by men (91%), who were older than the victim (69%), and who had a position of authority within their respective sport organizations (Vertommen et al., 2017). While around two-thirds of the people reported to have committed these behaviors had coaching or managing positions, the other one third were (peer) athletes. The majority of the 75 persons reporting these experiences were women and were younger than 14 when the first instance of CSA happened (68 and 71%, respectively).

Second, information from newspaper articles on criminal cases was analyzed. In an unpublished Bachelor thesis, Bruyninckx (Bruyninckx, 2017) analyzed newspaper articles on 73 criminal court cases concerning sexual offenses in sport, of which 60 reported on sexual offenses committed against minors younger than 18. Of these, 63% of the cases reported on victims younger than 16. Within these cases, all prosecuted persons were men and were older than the victim, and 90% had a position of authority in the sport organization. More than one victim was identified in over half of the cases. About half of the cases concerned female victims only (49%) or male victims only (47%), and just 4% concerned both female and male victims.

Last, survivors' narratives provide qualitative information on the characteristics of CSA in sport. Following the European project "Voices for truth and Dignity: Combatting sexualized violence in sports," nine Belgian survivors of CSA by their coach shared their narratives (Vertommen et al., 2019). All were extremely young when the abuse started, with an age range between 6 and 14, and an average age of 11. Most of them were girls ($n = 7$). In all narratives an older, male coach was reported as perpetrating the abuse, and, except in one case, all survivors reported also knowing about other children who were victimized by the same coach, before, during, or after their own victimization.

In summary, a high proportion of young and mostly female athletes experience sexually transgressive behaviors in sport. While we see a preponderance of this abuse perpetrated by older, male coaches, abuse perpetrated by peer athletes is not a rare occurrence.

Explaining CSA

Persistent myths on PCSO still exist in most of society. While great advances have been made in the scientific domain of sexual offending and forensic psychology and psychiatry, taboo, stigmatization, and disinformation around sexual offending and recidivism remain big challenges. For example, of all types of delinquency, offenses breaching a person's sexual integrity, and in particular that of a child, are considered the most egregious (Quinn et al., 2004). Society often presumes that people who sexually offend are extremely dangerous and have a high risk of reoffending. Contrary to this belief, the base rate of sexual recidivism on a follow-up period of 5 years is in the 10–15% range (Hanson and Bussière, 1998; Harris and Hanson, 2004; Hanson and Morton-Bourgon, 2005), which is lower than commonly expected, and lower than most other types of offenses. In a recent study (Helmus L. M. et al., 2012), Helmus and colleagues found that, typically, sexual recidivism rates for PCSO are between 4 and 12% after 5 years, and between 6 and 22% after 10 years. Some longitudinal studies even demonstrate that it is more likely for PCSO to reoffend with a non-sexual offense than with a sexual offense (Hanson and Morton-Bourgon, 2004; Parkinson et al., 2004).

Most theories of sexual offending emphasize two psychological dispositions as main factors for the onset, persistence, and re-occurrence of sexual offending, namely antisociality and atypical sexual interests (Finkelhor, 1984; Hanson and Bussière, 1998), which can be further exacerbated by situational factors such as alcohol, strong emotions, and opportunity (Seto, 2018). Antisociality refers to propensity to engage in antisocial behavior, for instance typified by impulsivity, a willingness to cross social and legal boundaries, and risk taking (Seto, 2017). Atypical sexual interests can refer to non-normative sexual interests, preferences, or behavior. For instance, pedophilia (the persistent and recurrent sexual interest in prepubescent children), hebephilia (the persistent and recurrent attraction to pubescent children) (American Psychiatric Association, 2013), sexual regulation issues, or sexual coping (Seto, 2017). Contrary to common belief, pedophilia or hebephilia are not synonymous to sexual offending against children (Parkinson et al., 2004). According to various studies, 60 to 80% of the sexual offending against children is *not* committed by people with a pedophilic of hebephilic preference (Seto, 2008; Op goede grond, 2014). Many sexual offenses against children rather seem to be part of a generalist antisocial or criminal pattern, i.e., many people who commit a sexual offense have previously committed non-sexual offenses (Seto, 2017).

Next to psychological dispositions to commit sexual offenses against children, state facilitation factors and situational factors may play an important role. State facilitation factors are more dynamic and can differ from time to time within an individual, e.g., intoxication by alcohol or drugs, or strong emotions. Situational factors are related to opportunities to offend (e.g., being alone with a potential victim) (Seto, 2017).

Contrary the continuing myth that CSA is perpetrated by strangers in a cruel, aggressive way, much CSA occurs after a considerable period of friendly interaction that escalates to sexual abuse, also known as grooming (Mcalinden, 2006). More importantly, most CSA occurs within the home or by people who are known to the victim and with whom the victim has a close relationship (Kinderrechtencommissariaat, 2011; Tabachnick, 2013). The strong societal reaction to CSA and the stereotyping of PCSO as "dirty old men" or "monsters" reinforces both taboos and myths of sexual offending as well as contributes to keeping the barriers to report CSA high (Sanghara and Wilson, 2006). Prediction of sexual recidivism in child sex offending using risk assessment tools.

Recidivism is defined as the reversion to criminal behavior by an individual who was previously convicted of a criminal offense (Maltz, 2001). Because of the devastating impact on victims, their

environment, and society at large, prediction of recidivism risk in PCSO is an important scientific, societal, and political issue. In this next section we will discuss sexual recidivism, which refers to any (sex) offense that is based on a sexual motivation, including contact and non-contact offenses (Marques et al., 1994; Harris and Hanson, 2004).

It is commonly thought that PCSO are at lifelong high risk for reoffending and remain dangerous. However, this assumed risk of reoffending in PCSO is overrated. Differences in recidivism rates vary considerably across settings and samples, and reoffending rates are affected by differences in follow-up time and sample selection (Helmus L. M. et al., 2012). Estimated recidivism risk also varies based on victim characteristics, e.g., recidivism risk is lower for people who have committed a sexual offense against a female, intrafamilial (incest) victim, than for people who have committed a sexual offense against a male, unrelated victim (Hanson, 2002). The risk of recidivism is the highest in the first year after release (Hanson, 2018). There is an emerging body of evidence that finds that sexual recidivism risk in people who have sexually offended decreases with age and offense-free time after release from custody, regardless of initial risk status (Barbaree et al., 2009).

The purpose of risk assessment is to determine the risk of recurrent (sexual) offending and to identify the specific factors that are of importance in determining treatment course to reduce recidivism risk (i.e., criminogenic needs) using validated risk assessment tools.

Risk assessments are generally based on both static and dynamic risk factors. Static risk factors are historical items (i.e., unchangeable items) relating to criminal history, age, and victim characteristics. These static risk factors are supplemented with dynamic risk factors (i.e., risk factors that are changeable over time), such as excessive sexual preoccupation, sexual deviance, emotional congruence with children, interpersonal problems, offense-supportive attitudes and beliefs, antisocial associates, resistance to rules, self-regulation difficulties, and substance use (Perkins et al., 1998).

Generally, three different risk assessment approaches are used in forensic psychology: unstructured clinical judgment, structured clinical judgment, and actuarial risk assessment. The first generation of risk assessments were unstructured clinical judgment. Clinicians individually assess the risk of recidivism based on their clinical (subjective) judgment, which might affect validity and reliability (Brown and Singh, 2014). Structured clinical judgment is an example of evidence-based assessment that emphasizes the use of research and theory, making use of a structured list of empirically validated risk factors, with room for other factors that the clinician deems relevant. The decision making is not a mathematical calculation, but a clinical estimation based on all items. The result of the assessment is not a numbered score but a judgment in terms "low," "medium" or "high" risk of (sexual) recidivism (Goethals et al., 2020). Finally, actuarial risk tools are structured methods for combining static and dynamic risk factors into a total score or risk category. They represent highly structured risk assessment scales using empirically determined and thoroughly operationalized variables (Rettenberger and Craig, 2017). Actuarial risk assessment typically calculates the base rate, or the expected sexual recidivism rate, of the "typical" person who has committed a sexual offense with their relative risk score. This overall rate can then be adjusted up or down based on aggravating or protective factors (Helmus L. M. et al., 2012). Actuarial instruments provide empirically directed estimates of recidivism probabilities and are widely used in forensic treatment of PCSO (Hanson et al., 2013; Rettenberger and Craig, 2020).

Knowledge of and insight in recidivism rates are of paramount importance for treatment programs for PCSO since the primary goal of forensic treatment is desistance from committing new offenses. By estimating the risk of recidivism, the setting, intensity, and duration of treatment can be modified according to the risk level. Dynamic risk factors, which can be changeable over time, determine associated criminogenic needs, which in turn determine the focus of forensic treatment (van den Berg et al., 2020). It is important to note that most research into recidivism risk is based on new charges and/or convictism, i.e., recidivism records known to the justice, and it is unknown what amount of sexual recidivism goes undetected (Perkins et al., 1998; Harris and Hanson, 2004).

Risk Factors for CSA in Sport

Analyzing risk factors for sexual recidivism might also be useful for the development and monitoring of prevention strategies at the level of sport organizations. Based on interviews with female athletes reporting sexual harassment in sport, Cense and Brackenridge proposed a temporal model of risk factors for sexual abuse in sport (Cense and Brackenridge, 2001), building on Cohen's Routine Activity Theory (Cohen and Felson, 1979). This theory emphasizes that crime occurs when three elements converge: a motivated offender, a suitable target, and the absence of a capable guardian. Cense and Brackenridge categorized risk factors for sexual abuse under risk factors having to do with coach, athlete, and the sport characteristics. Some of these risk factors seem to overlap with empirically validated risk factors for general sexual recidivism (e.g., lack of empathy, intimacy deficits, or disregard for other's boundaries), but others seem to be context specific and remain yet to be validated (e.g., dress requirements, amount of physical handling).

The Aim of This Study

Current models and assessment tools in forensic psychology have not yet applied sexual offending research to the context of sport, and most previous research has focused on organizational and sociocultural factors in sports organizations. Up until today, very little is known about characteristics of PCSO in sport or risk factors related to the onset, persistence, or recidivism of sexual offending in this area. PCSO in sport, just like PCSO in other contexts, undergo criminal investigations, court trials, treatment, and supervision in general society, but may have idiosyncratic criminogenic or treatment needs, personality characteristics, or sexual deviancy issues that are different from the general PCSO population. This information can be very valuable in solving a piece of the puzzle of CSA in sport and informing future prevention and intervention efforts.

This study aims to combine insights from violence in sport research with insights from the practice of actuarial risk assessment for sexual recidivism and CSA prevention. This study analyzes the treatment files of 16 adult Belgian male PCSO in sport and examines static and dynamic risk factors related to child sexual reoffending in the context of sport. By using risk assessment tools, validated in general population samples of PCSO, we aim to identify which risk factors are important in sexual offending against children, specifically in the context of sport.

METHODS

Data

This study is based on the casefiles of 16 PCSO in sport, recruited from two outpatient forensic treatment facilities in Belgium that treat adults who have committed or are at risk of committing sexually transgressive behaviors. Cases were selected based on the following inclusion criteria: being convicted for a hands-on sexual offense against at least one child who was aged 15 or younger at the start of the sexual offense and having at least one victim who they met in the context of organized sport. All participants were men with an average age of 30 at time of the first offense (range 12–44 years old) (see **Table 1**). At the most recent risk assessment, which took place at the end of treatment, or while still in treatment, the average age of the participant was 46 (range 26–61 years old). Most participants were single with no children. Ten different sports were represented in this sample. The majority of participants had a position of authority in the sport organization ($n = 11$). The average number of identified victims was 5 (range 1–13) and the average age of the youngest victim was 11 (range 2–14 years old). Ten participants offended against male victims, and seven offended against female victims, which means one participant offended against both male and female victims.

Materials

All participants had previously been convicted of a child sexual offense and concurrently followed or had completed a psychiatric and psychological treatment in a Belgian forensic outpatient treatment facility. The treatment was a condition for parole, probation, or alternative penalty. The case files included police reports, court case records, victim statements, treatment records, and medical and diagnostic assessments. This information was used to assess their risk of recidivism using two actuarial risk assessment tools that are well-validated and widely used in assessing sexual recidivism risk, and should be favored over other approaches in recidivism assessment (Hanson and Morton-Bourgon, 2009).

STATIC-99R

The STATIC-99R (Phenix et al., 2000) is an empirically derived actuarial risk assessment tool designed to predict sexual recidivism in men who have committed a sexual offense. The STATIC-99R was validated in 2014 in the Netherlands and is thus available in Dutch (Smid et al., 2014; Phenix et al., 2016). The STATIC-99R consists of 10 historic items assessing demographic information (age at release, relationship history), sexual criminal information (prior sexual offenses, any male victims, any unrelated victims, any stranger victims, any non-contact sexual offenses), and general criminal information (prior sentencing dates, index offense including non-sexual violence, prior non-sexual violent offenses). The absence of the risk factor is scored with a "0," the presence of the risk factor is scored with a "1," i.e., lower scores indicate lower risk of reoffending. Current age is scored between "−3" and "1," with people 40 or older scoring "−1" and people 60 or older scoring "−3" (i.e., indicating that older age is related to a lower risk of reoffending). The risk score for the number of previous sexual offenses is based on both the number of charges as well as convictions and varies between "0" and "3." The risk score for index sexual offense is based on the most recent sex offense for which the person was charged, arrested, or convicted. A meta-analysis found a moderate relationship between the STATIC-99R and sexual recidivism (AUC.69) (Helmus L. M. et al., 2012).

STABLE-2007

The STABLE-2007 is a risk assessment tool using 13 dynamic risk factors related to sexual self-regulation, general self-regulation, social relationships, intimacy deficits, and cooperation with supervision (Fernandez et al., 2012). Because of the potentially changeable nature of dynamic factors, the STABLE-2007 is often used to inform treatment targets and criminogenic needs (Hanson et al., 2017). The scoring manual is available in Dutch (van den Berg et al., 2007). Risk factors are scored with a "0" indicating "no concerns" or "not present," a "1" is given when there is uncertainty about whether the factor is present or when the factor is present but not strong enough to justify a maximum score of 2, and a "2" suggests sufficient concerns within this risk domain (Fernandez et al., 2012). Higher scores on the STABLE-2007 indicate a higher risk of reoffending. Validation studies show a moderate predictive value of the STABLE-2007 for sexual recidivism (AUC.67) (Rettenberger and Craig, 2017).

Static-Stable

The static and dynamic risk scores, determined by the score on the STATIC-99R and STABLE-2007, can be combined to get an overall assessment of the risk and needs level of a PCSO. Hanson and colleagues (Hanson et al., 2017) make use of the standardized risk framework, which is a method for quantifying risk according to standardized risk levels for sexual offending (Hogan and Sribney, 2019). The risk levels are: Risk level I, *very low risk*, which is similar to people with non-sexual criminal histories; Risk level II, *below average risk*, which is higher than the very low (I) risk profile but lower than the average (III) risk profile; Risk level III, *average risk*; Risk level IVa, *above average risk*, which is approximately two times the average risk (III); and Risk level IVb, *well above average risk*, which is approximately three to four times higher than the average risk (III) (Brankley et al., 2017).

Procedures

In order to gather sufficient data for this study, two outpatient treatment facilities in Belgium that treat adults who have

TABLE 1 | Characteristics of PCSO in sport, offenses and victims.

Pseudonym	Age at first offense	Age at last risk assessment	Civil status	Sport	Role in the sport organization	Number of victims	Age of youngest victim	Victim's sex
Seppe	12	31	Single, no children	Sport diving	Member	5	6	Male
Stan	18	50	Single, no children	Basketball	Member	7	2	Male, Female
Jan	21	25	Single, no children	Basketball	Member	2	14	Male
Lars	21	26	Single, no children	Swimming	Coach	2	13	Female
Max	25	46	Single, no children	Martial Arts	Club owner	3	10	Male
Jef	26	42	Single, no children	Kayaking	Coach	4	5	Male
Kurt	28	61	Married, 2 children	Swimming	Instructor	13	11	Female
Lucas	31	56	Single, no children	Martial Arts	Coach	7	10	Male
Davy	32	40	Single, no children	Pétanque	Member	1	13	Male
Willy	34	61	Single, no children	Martial arts; football	Coach & club delegate	2	14	Male
Tom	35	44	Divorced, 2 children	Martial Arts	Coach	5	11	Female
Thomas	35	39	Single, no children	Diving	Member	1	12	Female
Jarne	36	52	Married, no children	Horse racing	Coach	7	14	Female
Maurice	39	50	Divorced, 1 child	Horse racing	Coach	5	14	Female
Ronald	43	58	Single, no children	Sailing	Coach	10	13	Male
Mark	44	48	Married, no children	Football	Coach	1	14	Male

committed or are at risk of committing sexually transgressive behaviors were contacted. Based on the inclusion criteria of this study (conviction for contact child sexual offenses in the context of sport, victim's aged 15 or younger), a total of 16 treatment files were selected. Treatment files were anonymized by the treatment facilities and the researchers signed a confidentiality agreement before accessing the files. The files were not digitalized and only accessible in the treatment facilities. Files were consulted in the treatment facilities between February 2017 and February 2018. Notes, required to substantiate the scores, were preserved. Depending on the treatment facility protocols, risk assessment tools are regularly scored, or are scored depending on key dates in their trajectory (e.g., at the end of the parole dates). Scores in this study are based on end-of-treatment scores ($n = 8$) or scores during ongoing treatment ($n = 8$). Assessment scores were checked with the clinician responsible for the respective file and discussed within the research team, which included two persons professionally trained in scoring the STATIC-99R and STABLE-2007. Assessment was performed following the guidelines provided in the Dutch manuals of the tools (van den Berg et al., 2007; Smid et al., 2014). Raw scores on both instruments were combined, following the guidelines for the five level risk communication (Hogan and Sribney, 2019). These instruments are validated on their intended target group (i.e., men convicted of contact sexual offenses). By no means are these instruments intended to be used for screening in a general population.

Short vignettes describing the offense characteristics were composed, consisting of information on the persons' pseudonyms, type of sport, age, gender, number of victims, and some characteristics of the offense circumstances. The study protocol was submitted to and cleared by the Ethics Commission of the University of Antwerp (code 16/50/550).

RESULTS

The following sections give a descriptive analysis at group level per risk factor item for each of the risk assessment instruments.

STATIC-99R

Demographic Items

The age of release from index sex offense *(STATIC item 1)* in this sample of PCSO in sport is relatively high, mostly between 40 and 60 years old, which indicates a decreased risk of recidivism (see **Table 2**). Regarding their civil status *(STATIC item 2)*, 10 out of the 16 PCSO in sport had never lived with an adult intimate (sexual) partner for 2 years or longer, prior to release from the index offense.

Criminal History

Two PCSO in sport had any prior or index offense convictions of non-sexual violent offenses *(STATIC item 3 and 4)*, and five PCSO had previous charges or convictions for sexual offenses (*STATIC item 5*). Of these, four PCSO had one or two charges or one conviction for a sexual offense prior to the index offense, and one PCSO had eleven previous sexual offense charges, but no convictions. None of the PCSO in this sample scored at elevated risk for having multiple prior sentencing dates (*STATIC item 6*), meaning all of them had three or less previous sentencing dates. The *STATIC item 7* considers any (also other than the index offense) non-contact sexual offenses and mainly refers to the possession or distribution of CSA materials (commonly,

TABLE 2 | Risk assessment scores per item ($N = 16$) on the STATIC 99-R.

Item	Risk factor	−3	−1	0	1	2	3
1	Age at release from index sex offense	2	12	–	2		
2	Ever lived with an intimate partner – 2 years			6	10		
3	Index non-sexual violence – Any convictions			14	2		
4	Prior non-sexual violence – Any convictions			16	–		
5	Prior sex offenses			11	4	–	1
6	Prior sentencing dates			16	–		
7	Any convictions for non-contact sex offenses			12	4		
8	Any unrelated victims			–	16		
9	Any stranger victims			16	–		
10	Any male victims			6	10		

- indicates none of the participants were assessed to score at that particular level. Blank spaces indicate items are not measured on those scoring levels.

TABLE 3 | Risk assessment scores per item ($N = 16$) on the STABLE-2007.

Item	Stable - 2007	0	1	2	DNA
1	Significant social influences	12	4	–	
2	Capacity for relationship stability	5	2	9	
3	Emotional congruence with children	6	5	–	5*
4	Hostility toward women	16	–	–	
5	General social rejection/loneliness	6	9	1	
6	Lack of concern for others	13	3	–	
7	Impulsive acts	13	2	1	
8	Poor problem-solving skills	9	4	3	
9	Negative emotionality/hostility	12	4	–	
10	Sex drive/pre-occupation	12	2	2	
11	Sex as coping	16	–	–	
12	Deviant sexual interests	1	6	9	
13	Co-operation with supervision	13	3	–	

**This item can only be scored when victims are below the age of 14. Five PCSO in sport have victims older than 14.*
- indicates none of the participants were assessed to score at that particular level. Blank spaces indicate items are not measured on those scoring levels.

but misleadingly, referred to as "child pornography"). Four PCSO in this sample had previous convictions for non-contact sex offenses.

Victim Characteristics

The last three items in the STATIC-99R concern victim characteristics. Having unrelated, stranger, and male victims is related to increased risk of recidivism in PCSO. The scoring of these items is based on all available, credible information, including self-report, victim statements, and collateral information. The average number of victims in this sample was five. This does not include victims of non-sexual violence, possession of CSA materials, or visiting sex workers. As expected, all PCSO in sport in this sample had at least one unrelated victim, i.e., the child in the sport context *(STATIC item 8)*. Two PCSO had both unrelated and related (i.e., familial) victims. None of the participants had any unknown (i.e., stranger) victims *(STATIC item 9)*. The majority of participants ($n = 10$) had at least one male victim *(STATIC item 10)*.

STABLE-2007

Social Contacts

The first item in the STABLE-2007 captures positive and negative influential social contacts (see **Table 3**). None of the PCSO had negative social contacts at time of assessment. Four PCSO had insufficient positive social contacts.

Intimacy Deficits

Eleven PCSO's showed increased risk concerning their incapacity of having and maintaining an intimate sexual relationship with an adult partner (*STABLE item 2*). This finding mirrors the scores on the STATIC item 2 *Ever having lived with an intimate partner for more than 2 years* but additionally evaluates the quality of the PCSO's current relationship. The presence of a safe and healthy adult relationship is considered as a protective factor against sexual recidivism.

Some PCSO show emotional congruence with children, which refers to a heightened emotional identification with children and the feeling of being emotionally connected to children. PCSO with high emotional congruence with children may find

themselves to connect more easily with and feel that they understand and are understood better by children than by adults or may be childlike themselves in terms of interests and leisure activities. Five PCSO showed moderate emotional congruence with children (*STABLE item 3*), and six did not. As this item is only scored when there are identified victims who are 13 or younger, this item was not scored in the remaining five cases.

The sample scored in the direction of low risk regarding items representing lack of empathy or general antisocial attitudes. None of the PCSO in this sample showed hostility toward women *(STABLE item 4*). The majority of the PCSO in this sample ($n = 13$) showed adequate concern for others *(STABLE item 6)* with only three PCSO showing moderate problems in terms of lack of concern for others. However, 10 out of 16 PCSO indicated experiencing feelings of general social rejection and loneliness (*STABLE item 5)* and were feeling insecure in their connection to their social environment at the time of the assessment.

General Self-Regulation

PCSO in this sample reported varying levels of risk related to cognitive problem-solving skills (*STABLE item 8*), with four PCSO showing moderate issues and three PCSO showing severe deficits related to problem solving skills. Contrarily, risk related to impulsivity (*STABLE item 7*) was absent in most of this sample, with only two PCSO showing moderate and one PCSO showing severe problems related to impulsivity. Negative emotionality/hostility, or the tendency to feel victimized and generally mistreated by others, was rated relatively low in this sample (*STABLE item 9*), and only 4 PCSO showed moderate signs of negative emotionality.

Sexual Self-Regulation

The item "Sexual deviant interests" (*STABLE item* 12) can be retrospectively scored based on victim characteristics. Scores can be determined by either the total number of victims, the total number of deviant victims (i.e., in this sample, boys younger than 14 or girls younger than 13), by results of specialized testing, and/or by self-reported deviant sexual interest. Having two to seven victims results in a score "1" and having eight or more victims results in a score "2." Having one deviant victim results in a score "1" and having two or more deviant victims results in a score "2." The majority of PCSO in sport in this sample had elevated scores on this item, with nine PCSO scoring at highest risk, and six PCSO scoring at moderate risk. Further, two PCSO experienced severe problems and two PCSO experienced moderate problems related to sexual preoccupation *(STABLE item 10)*, such as excessive and/or high sex drive, frequent use of sex websites, porn collections, impersonal sexual behavior, or fetishistic sexual behavior negatively impacting their relationships or other domains in their life. Based on the case file information, the other PCSO did not report problems related to sexual preoccupation at the moment of the assessment, and none of PCSO in this sample used sex as coping at the time of assessment (*STABLE item 11*).

Cooperation With Supervision

Most participants cooperated well with supervision, such as probation officers or therapists *(STABLE item 13),* indicating no issues in terms of adherence to parole conditions or treatment programs.

Risk Categories and Combined Risk

The total scores of the STATIC-99R and the STABLE-2007 are combined to calculate the overall risk of sexual recidivism based on the static and dynamic risk factors. The majority of PCSO in this sample were assessed at a Below Average *($n = 6$)* or Average Risk ($n = 7$) of sexual recidivism (see **Figure 1**). The Below Average Level (Level II) means that on average 5.3% of PCSO assessed as this risk level reoffend with a sexual offense within the next 5 years. An Average Risk (Level III) means that on average 7.5% of PCSO assessed at this risk level reoffend with a sexual offense. Three PCSO showed an Above Average Risk (Level IVa) of sexual recidivism, related to a 13.6% sexual recidivism risk in a follow-up time of 5 years (Brankley et al., 2017).

DISCUSSION

This study assessed case files of 16 PCSO in sport to assess static and dynamic risk factors related to sexual recidivism. The assessments indicated a *below average* or *average* recidivism risk for the majority of the PCSO in this sample, which means that 5.3–7.5% of PCSO assessed at this risk level reoffend with a sexual offense within 5 years after release from custody. Only three PCSO were assessed at an *above average* risk level, corresponding to a sexual recidivism risk of 13.6% within 5 years (Brankley et al., 2017).

Some interesting patterns emerged from the analyses of the individual static and dynamic risk factors in this sample of PCSO in sport. On the one hand, PCSO in this sample seem to have low risk scores related to markers of antisociality (such as sexual or non-sexual criminal offense histories, little use of violence in during their index sexual offenses, low impulsivity, and low hostility), showed limited emotional congruence with children, and reported few problems related to sexual preoccupation or using sexual coping strategies at the time of the assessment. On the other hand, the majority of this sample of PCSO in sport showed higher risk scores related to markers of deviant sexual interests (such as offending against boys, unrelated, and multiple victims), had significant problems related to intimate adult relationships, and experienced feelings of social rejection, which are all risk factors for sexual reoffending.

Interestingly, most PCSO were relatively old (at least 40 or older) at their time of release. Older age is related to lower chances of sexual recidivism (Helmus L. et al., 2012). The relatively old age at time of release within this sample may have different explanations, such as a late start of offending behavior, a long time between the start of the sexual offending behavior and the victims' disclosures (and thus the start of the judicial process), the clustering of several sexual offenses against different victims over the span of several years in the index offense, and/or a long judicial and treatment process (Rettenberger and Craig, 2017).

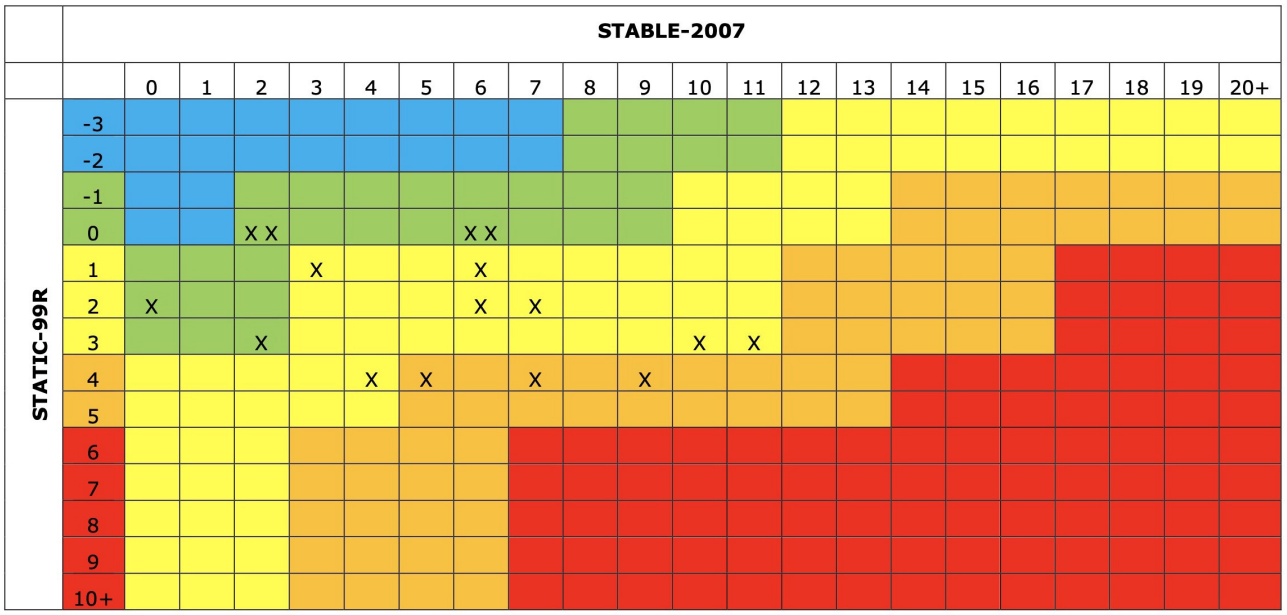

FIGURE 1 | Combined risk categories. Blue: Risk level I, very low risk, which is similar to people with non-sexual criminal histories; Green: Risk level II, below average risk, which is higher than very low (I) risk profile but lower than average (III); Yellow: Risk level III, average risk level; Orange: Risk level IVa, above average risk, which is approximately two times the average risk (III); and Red: Risk level IVb, well above average risk, which is approximately three to four times the average risk (III) (Brankley et al., 2017).

While the PCSO in this sample had no or few known previous sexual or violent offenses, it should be noted that these only include officially registered (charges or convictions of) previous offenses. It is possible that previous offenses were not reported to the police, and thus not officially registered by the justice system. Alternatively, some sport organizations prefer to informally deal with reported transgressive behaviors within their organizations, which contributes to the hypothesized high dark number of sexual offenses. Furthermore, CSA, especially when the person who commits the sexual abuse is known to the victim, is seldomly a sudden or violent occurrence. The grooming process, that is commonly described as a precursor to CSA in sport (Brackenridge, 2001; Owton and Sparkes, 2015), often includes preparatory behaviors leading up to the offense that are hardly detectable due to the intimate and secret relationship of trust that is built between the adult and child. Sport often includes physically intimate behaviors, during practice, training or circumstantial activities such as changing and showering, but these may also provide a guise for transgressive behaviors and escalation thereof. The further widespread normalization of physically and sexually transgressive behaviors in sport (Parent and Fortier, 2018) may also contribute to transgressive behaviors going unrecognized by victims, guardians, or organizations, or a further minimization or concealment by sport organizations of inappropriate behaviors that lead up to the offense.

Poor or inadequate problem-solving skills and impulsivity may be related to sexual reoffending. Poor cognitive problem-solving skills might increase the risk of recidivism as this impacts the capacity for problem and solution evaluation. Impulsivity may increase recidivism risk if someone does not oversee the long-term consequences of their behavior, or if someone does not have adequate skills to inhibit impulsive wants or needs. In order to be assessed at elevated risk scores on these items on the STABLE-20007, problems in these areas should be present across a number of settings apart from the sexual offense. While poor problem-solving skills and impulsivity are often related to each other, this sample surprisingly reported almost no problems related to impulsivity and moderate problems related to problem solving skills. CSA behaviors can be, but are not necessarily, impulsive acts (Brackenridge and Fasting, 2005; Mcalinden, 2006). The findings in this study might suggest that the PCSO in sport of this sample did not commit their sexual offenses because of problems with impulse control, which would be in line with previous research that indicates that most sex offending in sport by people in positions of power is preceded by a grooming process (Brackenridge and Fasting, 2005; Mcalinden, 2006; Owton and Sparkes, 2015).

The findings that this sample of PCSO included more participants with one or more male victims than participants with only female victims was surprising as findings of the Belgian prevalence study and court files analysis indicated that the victimization rates of girls and women is higher than of boys and men (Vertommen et al., 2016; Bruyninckx, 2017). It is possible that the dark number of sexual victimization among boys and men in sport is even higher than those of girls and women, given the greater taboo of disclosure of male-on-male sexual offending, or, alternatively, the normalization of sexualized behavior between men (Hartill, 2009). It is not possible to determine whether the high number of PCSO with male victims in this sample is a reflection of the sexual gender

attraction of the PCSO, or due to situational factors. For example, situational factors might be that boys participate at higher rates in sport compared to girls (Sport Vlaanderen, 2020), or there are more situational opportunities for sexual offending to occur between male coaches and male athletes, for instance as changing and shower rooms are shared. It is also possible that sexual victimization of girls is problematized more than sexual victimization of boys in our society. The downplaying and minimizing of male sexual victimization may conserve the taboo around reporting and may lead to less awareness and vigilance toward boys as possible victims of abuse.

The number of victims identified in the cases of these 16 PCSO is high, with five victims on average. While the number of victims is not an unambiguous predictor of recidivism, it might give us useful information related to the predation of sexual offending. The high number of victims per PCSO combined with the relative absence of previous convictions might plausibly indicate there were multiple opportunities across longer periods of time for PSCO in sport to offend against several victims, while their offenses were undetected.

Stigmatization and social rejection of PCSO in sport after they are arrested, charged, or convicted of a sexual offense is not uncommon, but nonetheless concerning for the mental health of PCSO. PCSO suffer stigmatization and rejection of their sport's communities (Cortoni et al., 2017). The vignettes of the 16 PCSO in this sample revealed that many of these people had a fulfilling social lives that were primarily centered in and around the sport club predating the offense. When CSA cases are disclosed or reported to official authorities, leading to criminal investigations and possible convictions, this has a major impact on the individual and social life of the person who is accused of CSA. Not surprisingly, the risk assessment also indicated problems in the social areas of the PCSO in this sample, even though results seemed somewhat contradictory: when assessing the social contacts of PCSO, it was found that most of the PCSO in this sample still have sufficient positive and/or neutral social influences, indicating they are sufficiently embedded in a social structure. However, their perceived social isolation or rejection scores indicates that most of them do not feel adequately embedded and experience some form of insufficiency of their social life. This might reflect the possible loss of a widespread social network via the sport organization. It should be noted that such dynamic risk factors can change over time and could have been different at the time of the offense.

It is important to note that some of the established general risk factors for sexual reoffending are not present in this sample. Hostility toward women was not notably present in this sample and is likely more closely related to sexual offenses against adult women than to sexual offenses against children. Also, there were few signs of sexual preoccupation and sexual coping, which indicate problems related to sexual regulation and being able to deal with stressful emotions in a non-sexual way. We should note, however, that these items were scored at the time of assessment and not retrospectively at the time of the offense. It is possible that these scores have changed over time, for instance through treatment interventions, and would have a higher (or lower) score if they were assessed at the time of offense.

Recommendations for Prevention of CSA in Sport

The findings in this study show that PCSO in sport, just like PCSO in general, are not a homogenous group. It is also clear that this sample of PCSO in sport score lower on the antisocial factors and do not have extensive criminal histories. On the contrary, looking at their social embedding, the PCSO in this sample appear to be largely normally functioning, socially accepted people with often significant roles in the sport organization. While there are no rational reasons for not performing a criminal record check on all adults working with children in sport, we should be acutely aware of its limited effectiveness. A criminal record check does not provide protection against people who will commit their first offense, or people who have committed offenses that are not reported or noticed by the justice system (Abrams and Bartlett, 2019). The PCSO in sport of this sample had indeed often committed multiple sexual offenses against multiple victims that remained undetected for a long time.

Prevention efforts for CSA are generally divided into three types: primary, secondary, and tertiary prevention. While definitions differ, researchers such as Wortley and Smallbone (Wortley and Smallbone, 2006) define primary prevention and secondary prevention as having the purpose of preventing CSA before it occurs. Primary prevention focuses on the general population or sub-groups of the general population, and secondary prevention focuses on specific groups at risk. Tertiary prevention on the other hand is aimed at preventing the reoccurence CSA by focussing on individuals who have engaged in sexual offending against children (Smallbone et al., 2008; Knack et al., 2019). Primary and secondary prevention strategies are most useful when combatting sexual violence in sport, as we are often not even aware of CSA in sport, and as we want to prevent children in sport for being victimized in the first place. This is why prevention efforts cannot solely focus on tertiary efforts, Empowering athletes, coaches, and their entourage by educating them about adequate communication about sexual integrity, personal boundaries, and respect will have more far-reaching impact than investing in reactive measures only (e.g., criminal background checks). Involving all stakeholders in sport in primary prevention initiatives, such as proper awareness raising, educational activities about codes of conduct, and information on the availability of reporting mechanisms, will not only empower athletes, but also stimulate bystanders to appropriately intervene when necessary. The clear and safe availability of reporting mechanisms, safety procedures, and local points of contact, as part of the secondary prevention strategy, might lower the threshold to report or disclose sexual misconduct (Mathews et al., 2016). The world of sport shows to be a conducive climate for all sorts of integrity violations. Situational factors at the organizational level, e.g., changing and shower rooms, hotel rooms, car drives, or time spent alone between a coach and a young athlete all create ample practical opportunities for abuse to take place. Sport organizations should undergo continuous evaluations and subsequent behavioral adjustments to minimize these potentially risky situations (Wortley and Smallbone, 2006).

Available helplines for people who experience deviant sexual thoughts or worry about their own behaviors, and for people who are worried about other people's behavior, such as *Stop it Now!* (Horn et al., 2015) should be more thoroughly promoted in the sport context. By offering help to people who are worried about themselves, and by spotting signs of abuse early and starting a conversation, (potential) CSA can be prematurely detected and stopped. It is not up to the sport organization to reinvent the wheel, as general secondary and tertiary prevention services for people who are (potentially) victimized or who are perpetrating transgressive behaviors have adequate tools available. Investing in open communication about risks, responsibilities, and safety of children requires a shift in mentality and a willingness to acknowledge the everlasting need of child protection in sport.

Tertiary prevention focuses specifically on preventing PCSO from reoffending. Banning all PCSO from sport forever could theoretically prevent this population from reoffending in the sport context, but practically is not manageable or controllable. Also, denying all convicted PCSO to return to sport is not a waterproof method to prevent sexual offenses from happening, as those who reoffend only make up a small portion of the total of offenses that take place. The lifelong ban of PCSO from sport also means their social reintegration is significantly stunted, which may lead to a lack of meaningful professional or leisure activities, social rejection, loneliness, lack of positive social contacts, isolation, and stigmatization, which are all related to an increased risk of recidivism (de Vries Robbé et al., 2015). Recidivism models, such as the Good-Lives-Model, stress the importance of meaningful life goals and working toward positive and healthy ways to meet personal needs (Ward and Brown, 2004). Taking away protective factors, such as positive social contacts and meaningful activities, can lead to an accumulation or acceleration of factors related to reoffending risk. Formulating a strategy in which reintegration in sport is possible, but controlled (e.g., not in a coaching role, only working with adult athletes, always having someone else in the room, under strict conditions of social control mechanisms) provides more opportunities to balance the vulnerable equilibrium between both societal and individual interests of reintegration. However, fewer risks of reoffending and an increased embeddedness of people who have committed sexual offenses within society eventually decreases risks of reoffending and increases safety for everyone. Unfortunately, thorough public debate about safe reintegration of PCSO in sport is currently hindered by negative or false beliefs about sexual recidivism rates and other stigmatizing myths about this population. A better understanding of the risks and needs of this population would help us to develop safe reintegration strategies.

Limitations

While this research brings new insights to research into sexual offending in sport, it also has several limitations that should be considered. This case study is based on a select sample of Belgian, adult, and male PCSO who are or were in treatment in two outpatient forensic treatment facilities in Belgium. This selection creates bias in several ways: PCSO who are convicted might be different from PCSO who are not prosecuted or convicted; the recidivism risk of people in forensic outpatient treatment facilities should in principle be lower compared to people in inpatient treatment or prisons; and it is possible this sample had received previous treatment in detention or in inpatient facilities. The generalizability of the characteristics of this small and heterogeneous sample and their concurrent risk assessment is therefore limited.

This sample only included adult, male, PCSO. While previous studies suggest that a significant portion of sexually transgressive behavior in sport is perpetrated by peer athletes, minors are not treated at the facilities where participants were recruited, and this sample therefore did not include minors. Further, no women in the treatment facilities met the inclusion criteria of this study. Little is known about the prevalence and severity of sexual offending perpetrated by women, even less so within the sport context. The Dutch-Belgian anonymous self-report study indicated that up to 12% of sexual violence against boys in sport is perpetrated by women, but these numbers are not reflected in official or clinical records (Vertommen et al., 2017). Women who have sexually offended only make up 1–2% of all people involved within the justice system for sexual offending (Cortoni et al., 2017). By necessity of the sample and the literature, this paper was also limited to adult, male PCSO in sport. However, the sport organizations and scientific field at large should acknowledge that female-perpetrated and peer-perpetrated sexually transgressive behavior constitutes a significant problem in sport and should make an effort to research this with more attention.

In terms of prevention, the static risk factors may give more insight into the mechanisms of CSA in sport compared to the dynamic risks, considering the high prevalence of multiple victims, and the often-long duration between the first offense and conviction. This might indicate that CSA in sport goes unnoticed and undetected for a long time. The dynamic risk factors are dynamic and thus changeable in treatment. This means these scores do not represent a "profile" of PCSO in sport, nor do they represent the state of the dynamic risk factors at the time of offense, but rather describe the state of that specific person under their specific, current conditions. These results cannot be used to build personality profiles or be used as a basis for selection and screening in sport staff positions. Other specific possible risk factors connected to the sport context, e.g., harsh training conditions and authoritarian coaching styles (Cense and Brackenridge, 2001), are not included in the risk assessment tools, but may be valuable in further investigation of the problem of CSA in sport.

We cannot emphasize enough that performing a forensic risk assessment is not a valid element of general screening in sport practice. It may lead to a false feeling of safety. Recidivism risk assessment is only valid to measure recidivism, i.e., re-offending, and does not measure someone's propensity to commit a first offense. These tools are developed to use in clinical practice to align treatment needs and judicial supervision of a PCSO with the recidivism risk that was assessed. The tools are developed to assess the recidivism risk of individuals and are not applicable for all people working in sport. Knowing that the vast majority

of people who sexually offend are seen for the first time by the justice system (McGrath et al., 2011), these tools do not provide insights to use in a wider population.

Last, it is important to note that the researchers who completed the risk assessment used all available case file information but were not able to perform interviews with the PCSO. In common clinical practice, the assessor uses both case file information as well as an interview with the person.

CONCLUSION

There is not one distinctive profile of "the" person that commits child sexual offenses, not in general society and not in sport specifically. The PCSO in sport in this sample were not the "mean, evil, creepy monsters" with many antisocial traits, as often depicted in the public discourse. People who are working in youth sport are often social and well-functioning adults who are socially embedded, integrated, and well-respected within their sport organization. While the analyses showed some prevalent risk factors, the overall expected level of sexual recidivism in this sample was lower than often assumed. These findings reiterate the importance of general primary and secondary prevention in sport and society at large.

DATA AVAILABILITY STATEMENT

The data analyzed in this study is subject to the following licenses/restrictions: Original data is owned by the forensic treatment centers. Requests to access these datasets should be directed to Tine Vertommen, Tine.Vertommen@thomasmore.be.

ETHICS STATEMENT

The study protocol was submitted to and cleared by the Ethics Commission of the University of Antwerp (code 16/50/550).

AUTHOR CONTRIBUTIONS

TV: substantial contributions to the conception and design of the review, responsible for data collection, with support of undergraduate research students, analysis and interpretation of data, manuscript writing, revising of the manuscript, and final approval of the version to be published. HV: substantial contributions to the conception and design of the review, analysis and interpretation of data, manuscript writing, revising of the manuscript, and final approval of the version to be published. FM and MD: substantial contributions to the analysis and interpretation of data, manuscript writing, revising of the manuscript, and final approval of the version to be published. All authors contributed to the article and approved the submitted version.

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