

**Blowing the Whistle: Investigating the Psychological Consequences of Referee
Abuse in Sport**

BRANDON FRITH

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Abstract

In today's sports landscape, there is a prominent emphasis on ensuring a safe environment for athletes yet the critical issue of safeguarding the well-being of sporting officials (i.e., referees) has been vastly overlooked. This oversight is evident not only at the professional level, but also in youth competitive settings. In collaboration with Ontario Soccer, Saskatchewan Soccer Association, and British Columbia Soccer, the experiences of referee abuse were examined in 1183 primarily White (66.8%) referees (80.8%; 17.6% women, and 1.6% gender diverse) working in Ontario, Saskatchewan, or British Columbia. Results indicated that the abuse of referees was common across the three provinces with 34.9% reporting being physically abused and 94.2% reported being verbally abused while officiating. Consistent with initial predictions, referees encountering higher levels of abuse reported more symptoms of depression and anxiety compared to those with lower exposure. Contrary to predictions, women and racialized referees were not abused at higher rates than men and White referees. In fact, White referees reported higher rates of physical abuse than racial/ethnic minority referees. When examining the moderating role of gender, results indicated that gender did not moderate the relation between physical abuse and symptoms of either depression or anxiety. However, gender did moderate the relation between verbal abuse and depression symptoms; there was a significant positive association for both men and women and the effect was stronger in women. Similarly, gender moderated the link between verbal abuse and anxiety symptoms, such that female referees who were verbally abused reported more symptoms of anxiety than male referees who were verbally abused. Race/ethnicity did not moderate the relation between exposure to either physical or verbal referee abuse and symptoms of depression or anxiety. Finally, gender and race/ethnicity were not associated with an increase in abused referees with the exception that men reported higher average physical abuse. Given the high prevalence of abuse reported, there is an urgent need to create programs and establish policies to enhance the safety of Canadian soccer referees.

Introduction

The world's game, known as soccer or football, is commonly referred to as "the beautiful game." It is played by 240 million children, adolescents, and adults worldwide (Library of Congress, n.d.). In Canada 689,938 participated in organized soccer in 2022 (Canada Soccer, 2022). Soccer can create an inclusive environment, uniting people worldwide. It offers a space where people can express their personality and develop life skills like self-regulation and corporation which can help promote a positive life trajectory for the future (Neely & Holt, 2014). Although soccer can bring so much positivity into the world and to the individual, in recent years, a dark side has been revealed. Specifically, the abuse referees (also called match officials) are enduring is occurring at an alarming rate at all levels of the game.

Across the world, soccer referees manage games played from the highest level in professional leagues down to grassroots soccer where, for example in Canada, the youngest of children compete with no scores or standings in the hopes of having players fall in love with the game, develop skills, and feel safe to do so without pressure of performance. Yet even at this level, referees face high levels of abuse (NASO, 2017; NASO, 2023). For example, referee, from Toronto, Ontario, shared this in an interview:

I was physically assaulted in July of 2021. I was refereeing a U18 recreational match on my own, and a fist fight broke out between two players. I sent them both off the field but got caught in a much larger brawl between the two teams and the parents. I was struck several times before leaving, and players and parents followed me to my car shouting obscenities. (Cyr, 2023)

Many involved in refereeing feel that facing abuse is a part of the role, regardless of the sport, and that referees need to accept this reality (Webb et al. 2019). But what if exposure to this type of abuse has negative consequences, such as a decline in mental health? Should this type of hostile work environment be tolerated? The focus of my thesis is the link between soccer referee abuse and mental health. Specifically, the main objectives of my thesis were to examine the: (1) prevalence of workplace violence exposure in Canadian soccer referees, (2) relation between workplace violence and mental health, and (3) the moderating role of gender and race/ethnicity.

Theoretical Framework

According to the World Health Organization (WHO), exposure to violence is a notable threat to physical and mental health (WHO, 2002). The association between exposure to violence

and poorer health has been found across all forms of violence examined to date. For example, meta-analytic results suggest an association between poor mental health and intimate partner violence (Golding, 1999), child maltreatment (Gardner et al., 2019), bullying victimization (Moore & Woodcock, 2017), and community violence (Fowler et al., 2009). Exposure to violence has a notable impact on internalizing symptoms (i.e., anxiety and depression; Rudolph et al., 2005). It has been postulated that people who experience interpersonal abuse get sad and anxious because the abuse not only threatens their physical safety, but also challenges their drive for social acceptance (Baumeister & Leary, 1995). Indeed, according to Baumeister and Leary's (1995) seminal theory, humans have a fundamental need to belong. Belonging encompasses the feeling of being accepted, valued, and included within a group, which contributes positively to self-esteem, mental health, and overall well-being (Baumeister & Leary, 1995; Maslow, 1943).

Focusing on the emotional perspective, Baumeister and Leary (1995) stated that “many of the strongest emotions people experience, both positive and negative, are linked to belongingness” (p.508). Exposure to violence in the workplace is a threat to physical and mental health (Verkuil et al., 2015), because it thwarts a person's desire for inclusion (McDougall & Vaillancourt, 2015). Although not studied in earnest, being abused as a match official is likely to also be associated with poorer mental health because the abuse creates feelings of fear, mistrust, and alienation, thus disrupting an individual's sense of belonging. Moreover, the mental health outcome might in fact be more pronounced in this group given some of the contextual characteristics that may lead to greater vulnerability. Specifically, as sport takes place in a public setting, referees' decision making is on display for many people to observe, judge, and potentially publicly criticize. This feature is associated with more sources of abuse (e.g., spectators, coaches, players) than in other contexts. There is also a societal tolerance for abuse of match officials that makes the abuse implicitly sanctioned which can leave the referee feeling isolated and even more vulnerable (Chiafullo, 1998; Tingle et al., 2021).

Prevalence of Soccer Referee Abuse

Violence in sport refers to any behaviour that causes physical or psychological harm as a direct or indirect result of the behaviour (Jamieson & Orr, 2009). The National Association of Sport Officiating (NASO) conducted a survey in 2017 with 17,000 American officials/referees across multiple sports and found that 46.3% of sports officials felt unsafe or feared for their safety. Given this high rate of abuse, it is not surprising that on average, 50% of officials quit in

their first year and 70% within their first three years (NASO, 2017). In 2023, NASO conducted a second survey to measure improvements in the sporting culture and how it relates to officials' experiences. The 2023 survey consisted of 35,000 officials of whom, 51% reported they felt unsafe or feared for their safety when acting as a sports official (NASO, 2023). Sixty-eight percent of the respondents also declared that they felt sportsmanship had gotten worse (NASO, 2023). These disquieting rates are similar to those reported in Canada. Ontario Soccer, the largest Provincial Sport Organization in North America, conducted a survey of their officials and found that 82% of referees reported feeling threatened or uncomfortable while officiating (Ontario Soccer, 2019). Ontario referees reported that most of the abuse directed toward them was initiated by coaches (65%), followed by spectators (58%), and then players (57%). The Ontario referee discontinuation rate was 40% annually over the past three years (Ontario Soccer, 2020).

In all the surveys, the main reason given as to why referees quit was the abuse and violence faced in the workplace (NASO, 2017; NASO, 2023; Ontario Soccer, 2021). Regarding soccer specifically, according to the English Football Association, nearly two-thirds of their referees have experienced some form of verbal abuse while officiating (Webb et al., 2017). This issue has been documented in other countries as well. For example, Webb et al. (2019) found that 68.1% of French officials reported facing verbal abuse and 16% reported being physically abused. In the Netherlands, the rates were 51% for verbal abuse and 14.6% for physical abuse (Webb et al., 2019). Referees from both countries, France (65.8%) and Netherlands (66.8%), stated that abuse is more prevalent when officiating lower levels of the game. The latest NASO (2023) report found that the majority of the abuse came from parents and fans (64%), followed by coaches (25%), and players (9%). A striking 81.7% of officials reported that the abuse was worse at the youth sport level of play, followed by the adult amateur level (13.9%), and then the collegiate and professional levels (4.4%; NASO, 2023). The reasons for more prevalent abuse at lower levels of soccer could be the unrealistic expectations and knowledge of developing referee performances, the proximity and access of fans to the playing area, and the size of the crowd at lower-level games compared to professional environments (Lima et al., 2022; Webb et al., 2019).

The abuse of referees is not exclusive to soccer, as sports like hockey, basketball, baseball, and lacrosse have also witnessed adverse effects on referee retention (Forbes et al., 2013; Ridinger, 2015; Warner et al., 2013). Furthermore, the abuse in sports is not a new phenomenon. For example, Vamplew (1980) found that in the early years of professionalized

soccer, there was evidence of referees being assaulted by gamblers who lost money on match outcomes. However, only in recent years there has been an acknowledgement that referees are facing high levels of abuse, which is now threatening the game given the high exodus of referees (Cleland, 2021), especially at the youth level where most referees begin their journey of officiating and where most of the abuse takes place (Ridinger 2015; Webb et al. 2020).

These rates highlight a pervasive and a long-standing issue with the abuse of match officials in sports which is reported to be worsening (NASO, 2017; Ontario Soccer, 2018; Webb et al., 2019). Despite this widespread problem, there is limited research on the impact this type of workplace the mental health of soccer referees.

Referee Abuse and Mental Health

Mental health problems are the leading cause of disability in adults world-wide, affecting 12.5% of the adult population (WHO, 2022). Poor mental health has a substantial impact on many aspects of life, including school and work performance, relationships with family and friends, and the ability to participate within the community (American Psychiatric Association [APA], 2022).

Two of the most diagnosed mental health conditions in adults are anxiety and depression (WHO, 2022). Anxiety is characterized by excessive fear and worry and affects 4% of the population (WHO, 2022). Individuals with anxiety display symptoms like excessive worrying over a situation or outcome, panic attacks, or awkwardness on how to interact in social settings. Depression is a disorder of motivation characterized by persistent feeling of sadness and a loss of interest in things and activities once enjoyed (APA, 2022) and affects 3.5% of the population (WHO, 2022). Depression is associated with feelings of emptiness, irritability, and sadness. Depressed individuals may also lose a sense of pleasure in activities they once felt fulfillment. Other symptoms of depression range from excessive guilt and low self-worth, disruption of sleep, low energy, hopelessness, and suicidal thoughts and behaviour (WHO, 2022). In 2019, 301 million adults were living with anxiety and 280 million adults with depression (WHO, 2022). During the COVID-19 pandemic, anxiety and depression increased globally, with an increase of 26% for anxiety (increase of 76.2 million cases) and 28% for depression (increase of 53.2 million cases; Santomauro et al., 2021).

Although there are many reasons why people are anxious and/or depressed, one common pathway is through exposure to violence in intimate relationships, families, and communities

(Flannery et al., 2007). There is also evidence linking exposure to workplace violence to poorer mental health. For example, a meta-analysis of cross-sectional and longitudinal studies indicated that workplace bullying was positively associated with depression ($r = .28$, 95% CI = .23–.34) and anxiety symptoms ($r = .37$, 95% CI = .30–.44; Verkuil et al., 2015). The longitudinal links were also positive for overall mental health complaints ($r = 0.21$, 95% CI = 0.13–0.21). And yet, the research on how being abused (bullied) as a sport official affects mental health is scant. In one of the few studies to examine soccer referees, Lima et al. (2022) surveyed 433 officials in Turkey and found that 34.6% of the referees had clinically elevated depression scores, 24% had elevated anxiety scores, and 40.6% reported elevated stress symptoms. Poorer mental health in referees was associated with younger age, being single, refereeing at lower levels, having less refereeing experience, and having inadequate social support (Lima et al., 2022). Given these features, I examined the possible moderating role of gender and race/ethnicity in the relation between referee abuse and anxiety and depression symptoms.

Moderating Role of Gender and Race/Ethnicity

Sports frequently harbor an anti-referee sentiment, especially when the referees are women. For example, in 2011 derogatory comments were made by Sky Commentators, Andy Gray and Richard Keys about the lack of soccer knowledge female match officials possessed and their innate lack of physiological or psychological ability to manage professional men's soccer (Jones & Edwards, 2013). Female officials not only endure the inherent pressure of managing the game, but also grapple with facing scrutiny before they even get the chance to prove their competence (Forbes et al., 2014). Studies have revealed that female leaders within male-dominated sports cultures often encounter stress arising from prejudice, discrimination, unequal treatment, and internalizing negative stereotypes linked to their marginalized identities (Melton & Bryant, 2017). These experiences are consistent with the concept *minority stress* which is the chronic stress experienced by members of stigmatized minority groups due to their social, economic, and political marginalization (Meyer, 2003). Minority stress has been shown to negatively impact mental health (Hoy-Ellis, 2023). At all levels of the game, whether at an amateur or professional level, the efforts of female referees are not acknowledged to the same extent as those of their male counterparts (Viera et al., 2019).

Past studies have indicated that the significant pressure imposed on sports officials, including those at grassroots and house league levels, may result in various psychological stressors

(Ridinger, 2015; Taylor et al., 1990; Webb & Hill, 2020). Female referees receive less recognition for their efforts, regardless of the level of competition, compared to their male counterparts (Viera et al., 2019). Tingle et al. (2021) highlighted the repercussions faced by referees when they are predominantly valued for their physical appearance rather than their officiating skills. Additionally, exclusion from structural decision-making induces high levels of anxiety, a decline in self-esteem, and fear among them (Tingle et al., 2021).

The concept of “race” is a social construct based on the differentiating features between humans (Carter et al., 2018). Within social constructs there has been a creation of marginalization to protect power and status, which could easily be observed in the history of the United States of America with respect to African Americans and White Americans (Carter et al., 2018). Race-based traumatic stress injuries can be caused through racial or discriminatory harassment, either done at the individual or institutional level (Carter, 2007).

Unfortunately, sport officials are not exempt from racial discrimination (Walker & Melton, 2015). Racial abuse in the workplace has also been shown to negatively impact the mental health of racialized minorities. For example, in Paradies et al.’s (2015) meta-analysis, racial discrimination was significantly related to poorer health ($r = -.23$, 95% CI $[-.24, -.21]$, $k = 227$), including depression and anxiety. The experience of racial or discriminatory harassment is often characterized by intense negative emotions, described as both emotional and overwhelming. By its very nature, racial discrimination can trigger traumatic stress responses and accumulated stresses can lead to minor events causing a stress reaction for certain minority individuals (Carter, 2007). In the case of sport officiating, Devís-Devís et al. (2021) conducted a qualitative study in which eight racially/ethnically diverse soccer officials (four men and four women) from Spain were interviewed. Two participants reported experiencing discrimination based on their perceived race and ethnicity, coming from players, coaches, and spectators alike. For example, one referee said: ‘There are people who cry out racist insults and do not know where I come from. For instance, they tell me: ‘Hey, this is football not the cricket you play in your country!’ And cricket is played in India and not in Morocco the place I come from... Many insults make no sense.’

Limitations in the Literature

As the attention placed on the abuse of referees has only taken place in recent years, there is limited research investigating the impact abuse has on the mental health of referees. Nevertheless, there are some limitations to the current literature that should be considered. One,

most of the research has been conducted in Europe and has focused on the professional level leagues with professional referees that are almost explicitly men with strong support systems in their environments. Accordingly, the current literature is not likely a fair representation of most of referees in North America. Most referees in Canada are typically part-time contract employees with limited access to support networks and thus are more exposed to the negative impacts of abuse faced in their workplace. Two, most of the research to date on this topic, has been qualitative (Drury et al., 2022, Gorczynski & Webb, 2021, Tingle et al., 2021). This approach makes sense given the novelty of this topic. However, it is important to also look at this issue using a quantitative approach which can capture the experiences of a larger number of officials who may be struggling with abuse in the workplace (i.e., prevalence). This approach also allows for the examination of the compounding effects of this abuse (i.e., moderators), and how it impacts their mental health (i.e., associations). This methodological approach can also provide policy makers with statistics to help form action plans and safeguard this underserved cohort of our community. Three, to my knowledge, there is no research investigating the realities of soccer referees working in at the youth competitive level in North America or worldwide. This is a notable gap in knowledge given that soccer officiation employs over 10,000 Canadians (Canada Soccer, 2022).

The Present Study

The mental health of sports officials has not been carefully examined to date. In fact, what is known about this topic comes from studies of officials in professional and semi-professional environments in Europe. Within these environments, the players tend to be older, the coaches are more educated, and the officials are placed further away from spectators (Gorzynski & Webb, 2021). These games are also televised and so the abuse of referees is easier to sanction. Within the context of the Canadian landscape, the vast majority of officials do not officiate at the professional or semi-professional level (Canada Soccer, 2022). Indeed, most officials will work in the youth competitive and recreational environments where standards are not upheld, coaches are less educated in the context of game day best practices, spectators are closer to the officials, and there are fewer barriers protecting the safety of officials. For these reasons, the abuse at the amateur level is worse than in professional environments (Cleland et al., 2021; Ridinger 2015). These differences notwithstanding, all game officials start their career at the grassroots level and if these environments are not protected and safeguarded, we limit the

number of potential officials who are available to match the growing demands of the competitive game. We also compromise their wellbeing.

Against this backdrop, I examined the extent of adult referee abuse in three Canadian provinces (Ontario, Saskatchewan, and British Columbia) and how this abuse related to anxiety and depression symptoms. Based on the evidence provided in the literature review, I predicted that: (1) the abuse of soccer referees would be common (i.e., >50% of officials; Hypothesis 1), (2) abused referees would report more symptoms of depression and anxiety than non-abused referees (Hypothesis 2), and (3) the association between abuse and mental health would be moderated by gender and race/ethnicity (Hypothesis 3), such that women referees who are abused would report more symptoms of depression and anxiety than men who are abused (Hypothesis 3a), and racial minority referees who are abused would report more mental health symptoms than White referees (Hypothesis 3b). I also expected that female and racial minority referees would be abused more than male and White referees (Hypothesis 4).

Methods

Participants

Participants were recruited through their provincial soccer association. Inclusion criteria included: (1) being a contract employee as a soccer referee in Ontario, Saskatchewan, or British Columbia, and (2) 16-years of age or older. A total of 1183 (80.8% men, 17.6% women, and 1.6% gender diverse) individuals participated in this study. Participants ages were 16-20 years old (32.3%), 21 – 30 years old (20.1%), 31 – 40 years old (11.5%), 41- 50 years old (13.8%), and 51+ years old (22.4%). Participants identified their race/ethnicity as White (66.8%) and Non-White, racial minority (33.2%).

Procedures

The study partners, Ontario Soccer, Saskatchewan Soccer Association, and BC Soccer initiated the recruitment process for this study. A letter of invitation was emailed to all registered soccer referees in the provinces of Ontario, Saskatchewan, and British Columbia by their provincial soccer organization. Interested participants accessed the survey from this invitation letter, along with the consent information. Once consented, the research team took over the study procedures. Specifically, consented participants were asked to complete an online questionnaire on Survey Monkey. The duration to complete the questionnaire took on average 35 minutes to complete. The survey asked participants about their experience with abuse as a sport official in

soccer, their current well-being, and their experience in the role of a soccer referee. Data about their occupational background as a referee, cultural background, age, and gender were also collected. Participants received \$25.00 compensation for their involvement.

The University of Ottawa's Research Ethics Board was received (S-05-23-9200). All participants were required to provide written consent to participate in the study. The information obtained was assigned to Survey Monkey's technically and physically secured servers located in Canada. Upon completion of data collection, the information obtained was downloaded from the Survey Monkey servers to a secure server located in the Brain in Behaviour laboratory where only authorized users, who have completed a confidentiality agreement, were able to access the data. Funding for this study (\$90,000) was provided by Safe Sport Research Grant Program; Sport Dispute Resolution Centre of Canada (SDRCC) awarded to T. Vaillancourt.

Measures

Measures were chosen based on their established psychometric properties and their prior use in studies with comparable objectives focused on violence and health (Vaillancourt et al., 2013).

Referee Abuse. Exposure to abuse in the context of soccer officiating was assessed using a modified measure by Webb et al. (2017) and Downward et al. (2023). This measure has been used across Europe to evaluate the occurrence of referee mistreatment in various sports, including soccer (Downward et al., 2023). The tool used was an amalgamation of Webb et al. (2017) Referee Respect Campaign questionnaire and Downward et al. (2023) behaviour, abuse, and well-being inventory. These tools have been modified to reflect the officiating levels in Canada compared to Europe. Modifications were made to incorporate questions from NASO's 2017 survey, where the interactions between the referee(s) and coaches, players, parents, and spectators were included to better understand who was delivering the abuse directed to the referee(s) during or after the game based on their past experiences. Referees reported how often they experience physical abuse and verbal abuse from each of the four perpetrators during and after the game (16 items total). Responses were rated on a four-point scale *Never* = 0, *Rarely* = 1, *Sometimes* = 2, *Often* = 3. Items were averaged across reporter and time (during/after) within form of abuse. Internal consistency reliability was excellent for physical abuse ($\alpha=.91$) and verbal abuse ($\alpha=.93$). This measure is copyright protected and is available upon request to Tracy Vaillancourt at the University of Ottawa.

Depression Symptoms. Depression symptoms were assessed using the Patient Health Questionnaire (PHQ-9) (Kroenke, 2021). The PHQ-9 is the most commonly used screening tool for depression symptoms in adults. The tool is comprised of nine questions based on the DSM-5 diagnostic criteria (APA, 2022) that assesses the frequency of specific depressive symptoms over a two-week period. Participants rate how often they experienced each of the 9 symptoms on a 4-point scale (0 = *not at all*, 1 = *several days*, 2 = *more than half the days*, 3 = *nearly every day*). The psychometric properties of PHQ-9 are well established in community samples (Sun et al., 2022). In the current sample the internal consistency of the PHQ-9 was excellent, Cronbach's alpha = .89. Items were averaged to create a depression symptoms composite.

Anxiety Symptoms. Anxiety symptoms were assessed using the Generalized Anxiety Disorder scale (GAD-7) (Spitzer et al., 2006). The GAD-7 is the most commonly used screening tool for generalized anxiety disorder symptoms in adults. The seven components of the questionnaire measure the individuals' excessive worrying, restlessness, irritability, and physical manifestations of anxiety. Each of the 7 items are responded to using a 4-point scale (0 = *not at all*, 1 = *several days*, 2 = *more than half the days*, 3 = *nearly every day*). The psychometric properties of GAD-7 are well established in community samples (Moreno et al., 2016). In the current sample the internal consistency was excellent, Cronbach's alpha = .91. Items were averaged to create an anxiety symptoms composite.

Demographic Background. Demographic information was obtained using a modified survey from the National Longitudinal Survey of Children and Youth (NLSCY) and has been used in several longitudinal and population-based studies (Vaillancourt et al., 2013; Vaillancourt et al. 2022). This survey collects information such as race/ethnicity, age, and gender. In the present study, the following questions were asked: 'How old are you?' [min and max add categorical responses], 'What is your gender?' [add categorial responses], 'Which of the following best describes your sexual orientation?' [add categorial responses], and "Which best describes your ethnic and cultural background?" [add categorial responses].

Analytic Plan

Analyses were conducted in SPSS v28. Because the measure of physical and verbal abuse was established for this study based on the modification of the behaviour, abuse, and well-being inventory, an exploratory factor (EFA) with maximum likelihood extraction and promax rotation (oblique rotation allowing correlated factors) was conducted to explore the number of factors.

The analysis included 16 items for physical abuse and verbal abuse across perpetrators (parents, coaches, players, and spectators) and timing (during and after games). Hypothesis 1 was assessed using the cut from abuse reported from the questionnaire as rarely, sometimes, and often. Confidence intervals were provided around the prevalence estimates to convey the precision of the measurement. The percentage of referees in each category was then be calculated by type of abuse and by perpetrator. Hypothesis 2 was assessed using *t*-tests to compare mean of depression and anxiety scores between identified abused and non-abused referees. Following the *t*-tests, a zero-order correlation to measure the strength of the linear relation between abuse and mental health (i.e., depression and anxiety) using referee abuse as a continuous score. Hypotheses 3a and 3b were examined using linear regression using the SPSS PROCESS macro (Hayes & Montoya, 2017) and following recommendations by Aiken and West (1991), unweighted effects coding for dichotomous variables were used and continuous variables were mean centered. Interaction was created between abuse and each moderator by multiplication. Significant *R*-square change of the addition of the interaction term was used as an indication of moderation. Significant interactions were further probed at levels of the dichotomous variable (i.e., men/women and White/non-White) using the PROCESS macro (Hayes & Montoya, 2017). Hypothesis 4 was assessed using *t*-tests to examine gender and racial/ethnic mean differences in abuse. Gender and race/ethnicity were coded, (i.e., 0 = Men, 1 = Women, 0 = White, 1 = Racial Minority).

Results

Descriptive Statistics and Psychometric Properties – Referee Abuse. Results of the EFA indicated that two-factors had eigen values greater than 1. Inspection of the screen plot revealed sharp declines for the first two factors followed by a stable horizontal line, supporting a two-factor solution. The two factors accounted for a cumulative variance of 60.23%. All factor loadings exceeded 0.690. Factor 1, physical abuse, loaded on a single factor with loadings .716 - .835. Factor 2, verbal abuse, loaded on the second factor with loading of .690 - .861. There were no cross loadings. Factors correlated at $r = .410$.

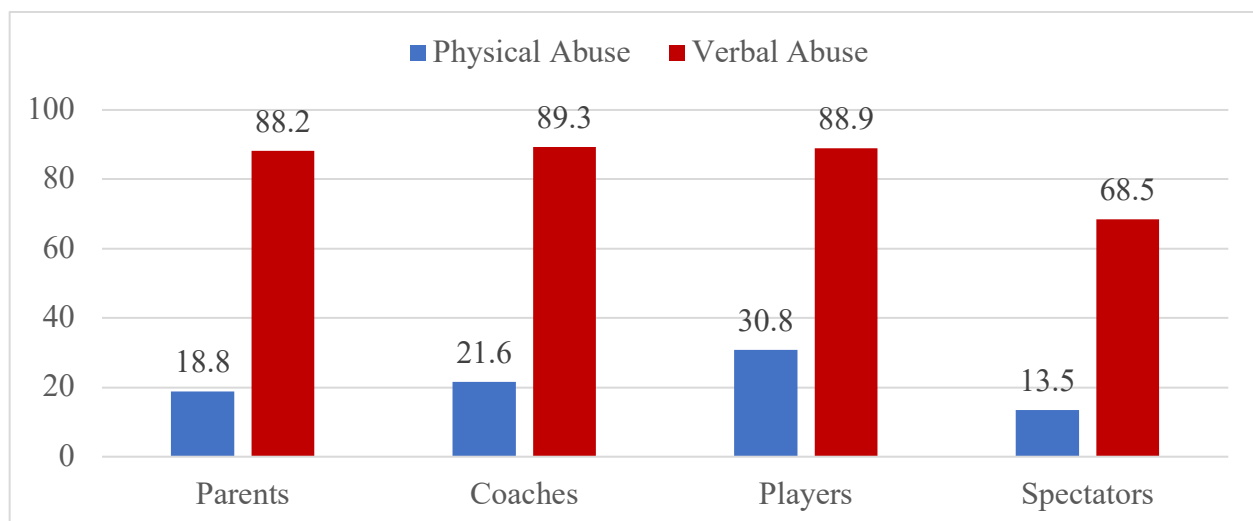
Based on the results of the EFA, a mean was created for physical abuse (8 items, $\alpha = 0.925$) and verbal abuse (8 items, $\alpha = .918$), allowing up to two items to be missing. The correlation between the means of physical and verbal abuse was $r = .381, p < .001$. Means were also created for depression ($M = .440, SD = .541, \alpha = .895$) and anxiety symptoms ($M = .477, SD$

= .606, $\alpha = .907$). The correlation between depression and anxiety symptoms was $r = .754$, $p < 0.001$. The inclusion criteria for respondents' survey submissions to be used to develop the mean was that the individual needed to complete 60% of anxiety and depression scales.

Physical abuse was statistically significantly correlated with depression symptoms, $r = .111$, $p < .0001$, but not anxiety symptoms, $r = .055$, $p < .07$. Verbal abuse was statistically significantly correlated with depression, $r = .167$, $p < .0001$, and anxiety symptoms, $r = .194$, $p < .0001$. There were no provincial differences for physical abuse, $\chi^2(2, 1137) = 0.386$, $p = .825$ or verbal abuse, $\chi^2(2, 1138) = 5.264$, $p = .072$.

Hypothesis 1: The abuse of soccer referees will be common (i.e. >50%). Frequencies were examined by type of abuse (physical and verbal) and by perpetrator (parents, coaches, players, and spectators). The cut-off used was referees reporting not facing any abuse compared to those that reported facing abuse rarely, sometimes, and often. The use of this cut-off was based on recommendations by Vaillancourt et al. (2010) for establishing population-based prevalences. Results indicated that 34.9% of referees reported facing physical abuse and 94.2% of referees face verbal abuse in the workplace. When reviewing the reported type of abuse by perpetrator, physical abuse was most common from players (30.8%), followed by coaches (21.6%), followed by parents (18.8%), followed by spectators (13.5%). Verbal abuse was most common from coaches (89.3%), followed by players (88.9%), followed by parents (88.2%), followed by spectators (68.5%). See Table 1.

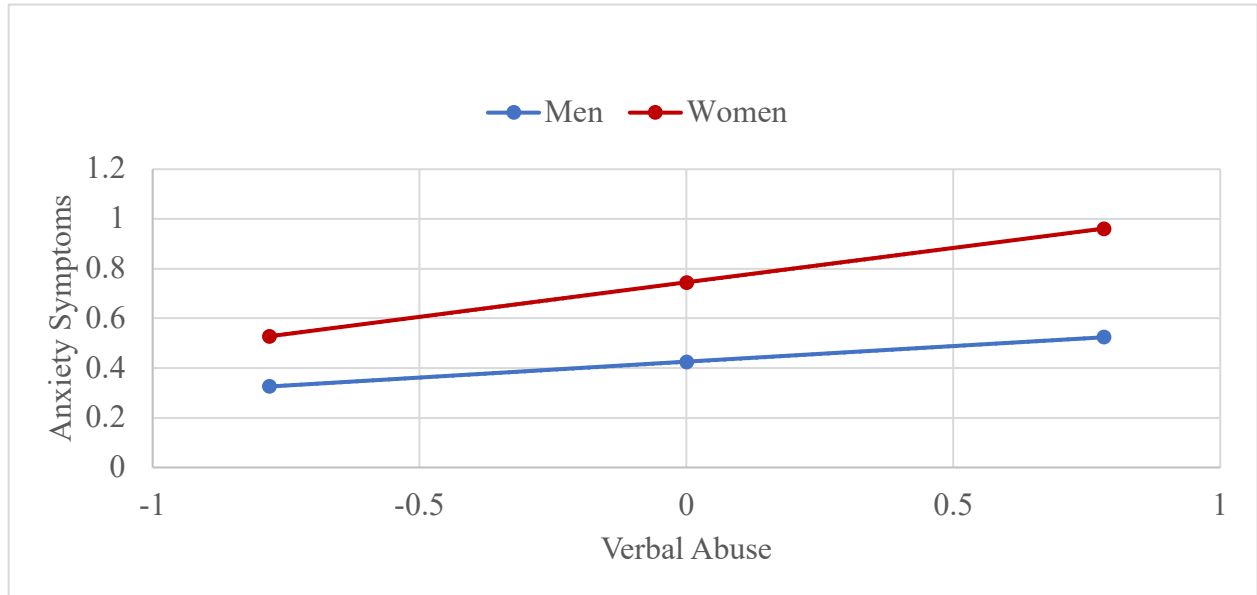
Table 1. Prevalence of abuse by type by perpetrator



Hypothesis 2: Abused referees will report more symptoms of depression and anxiety than non-abused referees. Physical abuse and verbal abuse were examined as independent variable in the predictions of depression and anxiety symptoms. Using the cut-off of reported abuse, abused versus non-abused officials, individuals who reported experiencing abuse had higher levels of depression compared to those who reported not being abused, $t(705.49) = -2.074, p = .019$. Individuals who reported experiencing abuse had higher levels of anxiety compared to those who reported not being abused, $t(1109) = -1.870, p = .031$. The mean depression level reported for those that experienced physical abuse was $M = 0.44 (SD = 0.53)$, compared to those that reported not experiencing physical abuse ($M = 0.39, SD = 0.56$). The mean anxiety level reported for those that experienced verbal abuse was $M = 0.485 (SD = 0.61)$ compared to those that reported not experiencing verbal abuse ($M = 0.34, SD = 0.53$). In examining abuse as continuous, depression symptoms were statistically significantly associated with physical abuse ($r = 0.11, p < .001$) and verbal abuse ($r = 0.17, p < .001$). Anxiety symptoms were not significantly associated with physical abuse ($r = 0.06, p = .068$); however, were significantly associated with verbal abuse ($r = 0.194, p < .001$).

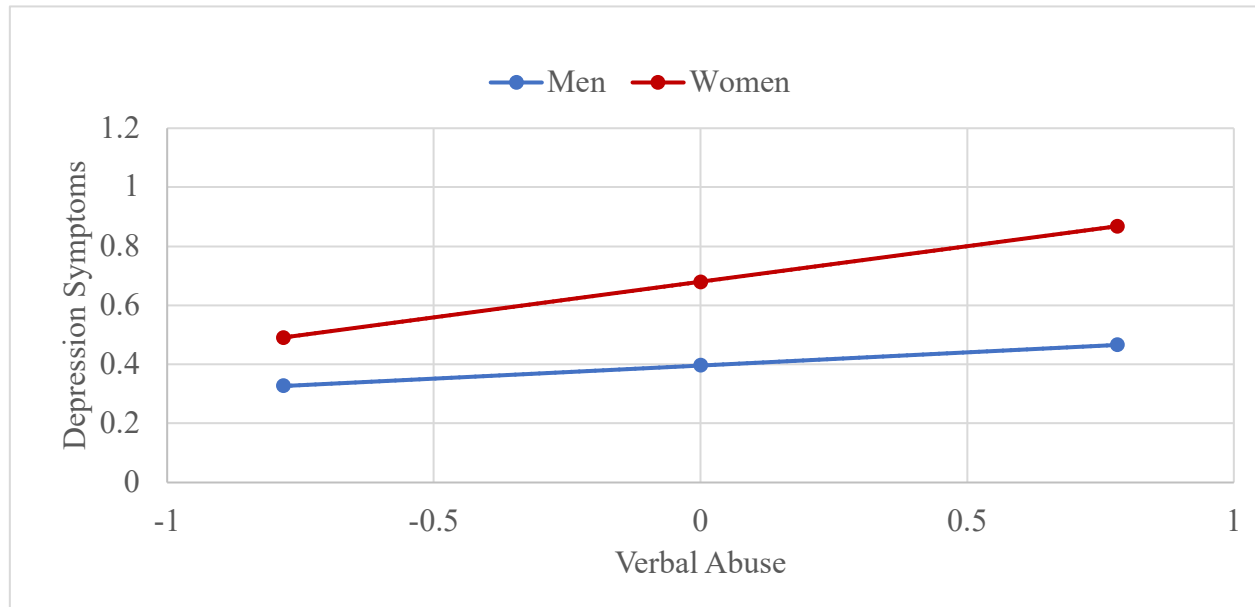
Hypothesis 3: The association between abuse and mental health will be moderated by gender and race/ethnicity. H3a, female referees who are abused will report more symptoms of depression and anxiety than male referees who are abused. H3b, racial minority referees who are abused will report more mental health symptoms than White referees. The moderating effects of gender and race/ethnicity were examined using regression analysis. Results indicated that gender did not moderate the association between physical abuse and depression symptoms ($\Delta R^2 = 0.001, b = 0.086, p = .404$) or physical abuse and anxiety symptoms ($\Delta R^2 = 0.003, b = 0.223, p = .055$). Gender moderated the association between verbal abuse and depression symptoms ($\Delta R^2 = 0.007, b = 0.152, p = .006$) such that the association was statistically significant and positive for both genders but was stronger in women ($b = 0.241, p < .001$) than men ($b = 0.089, p < .001$). See Figure 1a.

Figure 1a: Moderating role of gender on the relation between verbal abuse and reported anxiety symptoms.



Gender also moderated the association between verbal abuse and anxiety symptoms ($\Delta R^2 = 0.005$, $b = 0.151$, $p < .014$). Specifically, there was a stronger association between verbal abuse and anxiety symptoms for women ($b = 0.277$, $p < .001$) compared to men ($b = 0.127$, $p < .001$). See Figure 1b.

Figure 1b: Moderating role of gender on the relation between verbal abuse and depression symptoms.



Race/ethnicity was not found to be a statistically significant moderator on the association between exposure to referee abuse, either physical or verbal, and depression symptoms (physical abuse: $\Delta R^2 = 0.002$, $b = -0.102$, $p = .162$; verbal abuse: $\Delta R^2 = 0.002$, $b = -0.062$, $p = .165$) or anxiety symptoms (physical abuse: $\Delta R^2 = 0.001$, $b = -0.069$, $p = .407$; verbal abuse: $\Delta R^2 = 0.001$, $b = -0.046$, $p = .354$).

Hypothesis 4: Women and racial minority referees will be abused more than male and White referees. Results indicated that there were generally no gender and race/ethnicity difference by referee abuse, with the exception of physical abuse, where men reported more abuse than women (see Table 2)

Table 2. Gender and racial/ethnic differences by type of abuse.

	Men	Women	Test of significance (gender)	Race/Ethnicity: White	Race/Ethnicity: Other	Test of significance (ethnicity)
Verbal abuse	$M = 1.34$ $SD = 0.78$	$M = 1.27$ $SD = 0.76$	$t(1087)=1.084, p=.139$	$M = 1.33$ $SD = 0.77$	$M = 1.31$ $SD = 0.80$	$t(1053)=0.519, p=.454$
Physical abuse	$M = 0.25$ $SD = 0.48$	$M = 0.17$ $SD = .040$	¹ $t(332.651)=2.298, p=.011$	$M = 0.23$ $SD = 0.45$	$M = 0.24$ $SD = 0.51$	$t(1052)=-0.398, p=.345$

¹Levene's test for homogeneity of variances was statistically significant. Adjusted degrees of freedom reported.

Discussion

The purpose of the present study was to examine the prevalence of referee abuse in Canada and to examine how the effect of this abuse on the mental health of adult soccer referees. Results indicated that the working conditions of soccer referees in Canada are not safe. In the present study, 34.9% of referees reported being physical abuse while on the job, and 94.2% of officials worked in environments where verbal descent was normative. These results are unfortunately consistent with other studies that have shown a high prevalence of abuse directed at referees. For example, Webb et al. (2019) found that verbal abuse was more prevalently experienced by referees (68% in France, 51% in Netherlands), while physical abuse occurred at less frequently (16% in France, 15% in Netherlands). In France, professional referees reported encountering higher rates of abuse, both physical and verbal than amateur referees. In another study, Downward et al. (2023) found that professional and amateur referees reported more verbal abuse than physical abuse. This makes sense given the strict sanctions against physical violence worldwide.

The tolerated actions of abusing another human being, acting in the role of an official, and justifying one's actions because 'it is part of the game' is concerning given the relation found between exposure to abuse as a soccer official and poor mental health. In the present study, referees who reported being abused at a higher rate also reported more symptoms of depression and anxiety. One common pathway to poor mental health is exposure to violence (Rudolph et al., 2016; Vaillancourt & Brittain, 2024). In the context of sport officiating others have also found

similar links. For example, Lima et al. (2022) reported that 35% of soccer referees had elevated depression scores, 24% had elevated anxiety scores, and 41% reported elevated levels of stress. In another study, Gouttebauge et al. (2016) assessed the impact of abuse at the professional level and found that soccer referees self-reported more symptoms when abused. Specifically, among abused referees, over the course of one season there was an increase in reported distress (4%), anxiety and depression symptoms (4%), sleep disturbance (5%), eating disorders (10%), and decrease for adverse alcohol use (9%). Finally, Downward et al. (2023) found that verbal abuse was directly associated with a reduction in well-being, and that abuse was associated with the intention to discontinue refereeing. Not addressing the abuse of referees in sports is problematic because it contributes to referee shortages, lower quality officiating, the erosion of sportsmanship, legal and safety risks, and decreased participation in sports. Without soccer referees, games cannot be mounted. What is particularly worrisome is how the abuse of referees contributes to their pain and suffering. It negatively affects their personal lives and professional performance.

Past studies have shown that women referees are more at risk for poorer mental health outcome than men, and that racial/ethnic minorities also fare worse when abused. In the present study, there were no gender difference by type of abuse by gender or race/ethnicity with the exception that men report more physical abuse than women. This stands in contrast to past research showing that female referees are more abused than male referees (Schwenk & Berman, 2019). This likely reflects the fact that in society, it is more socially acceptable for men to display aggression behaviour toward other men in public compared to women (Tomada & Schneider, 1997), which might protect female referees in public spaces. This difference might also reflect the fact that there are not many female officials in Canada. In the present study, 17.6% ($n = 208$) of participants were women which may have led to imbalanced statistical power. Specifically, when one group (e.g., men) has significantly more participants than the other (e.g., women), the larger group will have more power to detect differences within that group. In contrast, the smaller group may not have enough power to detect a difference. This can lead to underrepresentation of the minority group's effects (Rochon et al., 2004). The unequal sample size in the present study also violates the assumption of homogeneity of variance, which can lead to biased test statistics and incorrect conclusions, especially if the variances are also unequal (heteroscedasticity). This statistical power imbalance might also explain why

racial/ethnic minority referees were not abused at a higher rate as has been shown in other studies (Devís-Devís et al., 2021). In the present study, 77% of referees were White. Still, it could also reflect a deep commitment by soccer worldwide to combat racism. For example, FIFA launched a “Say No to Racism” campaign in 2006 to address this issue. It is possible that these efforts have translated into better safety among racialized minority referees in Canada.

These important statistical caveats notwithstanding, it remains important to understand how female referees are impacted by abuse. Representation matters. A good example comes from coaching where the ratio of men to women English women’s soccer is 96 men to 4 women (UEFA, 2017; Clarkson et al., 2019; Sawiuk et al., 2021). Not having women well-represented in the workforce can have a wide range of social, economic, and organizational consequences. These impacts can affect everything from company performance to societal well-being, and as demonstrated in the present study, poorer mental health outcomes for women who are verbally abused. Indeed, when the moderating role of gender and race/ethnicity was examined, results indicated that although male and female referees had poorer mental health when abused, the association was in fact stronger for women than men. Moreover, gender did not moderate the association between physical abuse and depression symptoms and race/ethnicity did not moderate the relation between type of abuse and internalizing problems. The greater toll female referees face may be related to gender discrimination, not only within the context of officiating games, but within the referee community where they tend to have proven their competency more than their male colleagues (Drury et al., 2022; Forbes et al., 2014). Moreover, women also have to face the battle of managing authority with games. Historically, the role of the referee has been held by men, and as such, women are more susceptible to having their decisions challenged by coaches, players, and spectators than men. Due to the constant struggle for authority in games, the exit of women referees is understandable, however the consistent exit of female referees does not aid in creating more visibility of female officials. With less visibility of women holding authority at all levels, there is a higher expectation and greater amount of scrutiny placed on these trailblazers. At the present moment, the equitable approach to support female officials from an institutional level is lacking; they are not receiving the necessary help needed to succeed. This support could be in the form of formal and/or informal mentorship programs, protection against abuse, and a clear reporting system where their feedback is acknowledged, reviewed, and actioned, as discussed further in the implication section.

Limitations

There are many strengths to the present study including the large sample size, the involvement of three provincial soccer organizations as study partners, and the use of established measures to assess mental health. There are however several limitations that should be considered when interpreting the findings. First, the study employed a cross-sectional design that captured information from a singular point. This approach precludes the examination of change or the established of causality. Second, as previously acknowledged, the sample size was imbalanced across groups, which may have impacted the results. Third, the generalizability to referees outside of Ontario, Saskatchewan, and British Columbia must be heeded with caution given that random sampling was not used. Fourth, due to the lack of representation of individuals who self-identified as racialized in the study, a ‘race/ethnicity other’ group was created that combined many different racial/ethnic groups into one category. It is understood that each minority group would face different dynamics of abuse. Fifth, in analyzing the results related to prevalence, a clear understanding of the amount of abuse based on perpetrator type was gained. However, it would have been beneficial to also examine who initiated the abuse toward officials. This information would have provided valuable insight into which group—players, coaches, or parents/spectators—tends to instigate the abuse, offering a deeper understanding of the power dynamics between these groups. Sixth, the mental health of the participants was not examined prior to participating in the study. Depression and anxiety show high stability in adulthood (Vaillancourt & Brittain, 2024). According, it is not clear if the higher rates of internalizing problems in abuse referees simply reflects a continuation of their poor mental health. Seventh, Lima et al. (2022) found that referees who experienced abuse reported poorer mental health, however several demographic factors contributed to this decline such as younger referees were more at risk than those who were older, single individuals were at higher risk than those in relationships, officiating at lower levels was more detrimental than at higher levels, and greater experience offered a protective effect. Additionally, inadequate social support heightened the risk of poor mental health, with those lacking sufficient support being more vulnerable than those with stronger social networks. These features were not examined in the present study and should be considered in future studies.

Implications

Participation in sport plays a more profound role in our society than identifying and rewarding a team that is better than their opponent on the day. The benefits of participation in sport are to provide an environment and platform for those in a community to participate in physical activity and promote a healthier lifestyle (Duijvestijn et al., 2023). Sport participation also provides participants socio-emotional and psychological benefits with participation, such as reducing depression and anxiety symptoms (Ahn & Fedewa, 2011). This focus is not only to service those playing the sport, but also provide health benefit experiences for coaches, parents, and officials as well. Without addressing the main concern of referee abuse and the drastic reduction of the referee pool due to quitting, recreational and competitive sport that service member of communities will begin to vanish, and this in turn can compromise the health of society. Less access to physical activity leads to a more sedentary lifestyle that comes with the complications of obesity, cardiovascular and metabolic disease, cancer, and psychosocial problems (Tremblay et al., 2010), and thus greater stress placed on our health care systems servicing physiological and psychological needs of our communities (Manson et al. 2004).

The exposure of violence in the workplace directed toward referees has been shown to have a negative effect on their mental health, yet sport governing bodies have only just begun to take action to improve their working conditions. As positive step, Ontario Soccer has recently begun a marketing campaign called “No Ref = No Game” to raise the awareness about the abuse direct at officials and how it is causing an alarming exodus of referees from the game. Without referees, matches cannot not be able to be played.

There is also a need before more investment in the training of match officials. The current training officials receive upon embarking on their referee career is a weekend course outlining the laws of the game (BC Soccer, 2024; Ontario Soccer, 2024; Saskatchewan Soccer Association, 2024). Following this training, referees are equipped with a whistle, flags, and a badge and put out into the soccer world to learn through trial and error with a differentiating level of theoretical and contextual knowledge they have after the course. A massive challenge is that these officials are introduced into matches where coaches, players, parents, and spectators hold an unrealistic expectation of perfection, and this attribution error is what contributes to their vitriolic responses. In the current structure, the investment in training and capacity building is on the top identified officials at the expense of those just entering the game. It is important that new

referees are also given the appropriate support to be successful. In fact, I would argue that this is where capacity building should be focused.

There has been a recent, well-intended, focus on Safe Sport, with the goal of creating safe environments for players and coaches to participate, develop, and grow their abilities.

Unfortunately, referees have been forgotten when trying to ensure a safe and positive experience for all participants (Warner et al. 2013; Webb et al. 2017). What is currently missing from safe sport education is an acknowledgement that referees are a central component of sports and deserve to work in safe environments. Comments (and behaviour) made during a game unfortunately do not just stay between the white lines of the field; they burden officials well after the final whistle.

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