

## **Non-Accidental Violence among Elite Athletes in Finland: Associations with Sport Conditions and Mental Well- and Ill-Being**

### **Abstract**

The aim of this research was to study the prevalence of non-accidental violence among elite athletes in Finland, the predisposing factors to violence, and its consequences for mental well- and ill-being. A total of 2045 Finnish athletes participated in the study. Logistic and linear regression analyses were used to analyze the associations. The results indicated that 38.8% had experienced psychological abuse, 14.7% bullying, 13.3% gender-based harassment, and 5.5% sexual harassment. Female and younger athletes reported more violence experiences than male and older athletes. Team's safe atmosphere and readiness to act protected athletes from non-accidental violence, whereas the coach did not play a role. Non-accidental violence, particularly psychological abuse, associated with reduced mental well-being and increased ill-being. Our results suggest that it is worth investing in the team's mutual relationships and safe cooperation when ensuring appropriate behavior and preventing non-accidental violence among athletes.

**Keywords:** coach behavior, elite athletes, mental well- and ill-being, non-accidental violence, readiness to act, safe atmosphere

## **Non-Accidental Violence among Elite Athletes in Finland: Associations with Sport Conditions and Mental Well- and Ill-Being**

According to the consensus statement of the International Olympic Committee, every athlete has the right to "a safe sporting environment that is respectful, fair and free from all kind of violence towards the athlete" (Mountjoy et al., 2016). Violence means "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (Krug et al., 2002). In sport violence is mostly defined as harm-inducing behavior, outside the rules of sport, bearing no direct relationship to the competitive goals of sport (e.g., Abrams, 2016). Thus, the harmful intention differentiates violence from aggressive behavior, of which main goal is not necessarily causing harm to another (Abrams, 2016).

Existing empirical evidence has demonstrated that sport is not always safe for athletes. There exist so called non-accidental violence, which includes a wide array of violence through which athletes are maltreated. Non-accidental violence can be seen as bullying, harassment or abuse (see e.g., Stierling et al., 2011; Mountjoy et al., 2016). According to Stierling et al. (2011), abuse is defined as a pattern of sexual, emotional or physical ill-treatment in the context of a caregiving relationship resulting in actual or potential harm to the athlete. Harassment refers to behaviors that are in violation of an individual's human rights, occurs outside the context of a caregiving relationship, and have the potential to be harmful. Bullying is defined as a pattern of physical or verbal behavior between peers/teammates that have the potential to be harmful.

According to Mountjoy et al. (2016), psychological abuse is at the core of all other forms of harassment and abuse since it is impossible to conceive of any form of harassment or abuse that does not also have psychological underpinnings. Psychological harassment and abuse refer to deliberate and prolonged harmful behaviors such as belittling, humiliating, shouting, scapegoating, rejecting, isolating, and threatening (Stirling & Kerr, 2008). In the study by Vertommen et al. (2016), which was conducted in Belgium and the Netherlands, 38% of athletes reported to have experienced psychological non-accidental violence, such as threatening or exaggerated negative comments on their performance or body.

International Olympic Committee consensus statement says that bullying is intentional, unwanted and repeated negative aggressive behavior from which the target feels defenseless (e.g., Mountjoy et al., 2016). Aggressive behavior refers here to reactive aggression that has as its primary to do harm to someone (Abrams, 2016). Stanfford et al. (2015) reported in their study, conducted in the

UK, that about 30% of athletes had experienced bullying, which includes before mentioned forms of non-accidental violence.

Research has shown that sexual harassment appears in sport, too. Sexual harassment includes any unwanted and unwelcome conduct of a sexual nature, whether verbal, non-verbal or physical. It has appeared in different studies from 19% to even 92% (Mountjoy et al., 2016). Gender-based harassment, which is not sexual, but based on gender, gender identity or gender expression, exists also in sport (Marks et al., 2011). According to Lang et al. (2022), there is no reliable data on the amount of gender-based harassment in sport due to methodological reasons and the fact that it is not easy to distinguish what is gender-based harassment and what is not. However, women report experiencing gender-based harassment more often than men in sports (Fasting et al., 2003). Likewise, it is more common among other gendered people, for example, among people who express their own gender "non-normatively", for example, by their clothing or behavior (Garcia, 2011), and among those who belong to gender minorities (Denison et al., 2021).

### **Factors exposing to non-accidental violence**

According to research, a special risk to non-accidental violence is based on age. Children and young athletes are more vulnerable to abuse because of their need to be cared for, protected and supervised during their development (Bergeron et al., 2015). Nevertheless, it is also known that the risk to non-accidental violence increases as an athlete advance to a higher level in sports with higher competitiveness (Reardon et al., 2019; Vertommen et al., 2015; 2016). As said, female gender increases the risk of being a victim of abuse or harassment more often than male gender (Fasting et al., 2003; Stierling et al., 2011). Special risk is also based on belonging to a minority group (Mountjoy et al., 2016). In other words, the risk is higher for children, adolescents and young athletes, as well as for those athletes who have a disability, or who belong to a sexual and/or ethnic minority (Mountjoy et al., 2016; Stierling et al., 2011).

Sport conditions and culture may also include potential risk factors that may expose the athlete to non-accidental violence. For example, the dominant position of the perpetrator is often emphasized as a factor exposing to violence (Mountjoy et al., 2016). In addition, a heteronormative and hypermasculine narrative can prevent the perception of potential violent behavior or intervention in it (Hartill, 2013). This happens because through the narrative verbally aggressive, sexually colored and derogatory speech of other genders and sexual orientations are normalized (Hartill, 2013).

These kind of sport cultures are characterized by homophobia, discrimination, and lack of mutual pride and respect (Mountjoy et al., 2016). As a consequence, the group lacks the readiness to

intervene in non-accidental violence as they do not notice the violence (see Roberts et al., 2019). In general, it is known that the mutual relationships and behavior between the athletes affect how being in sports is experienced (Frazer-Thomas & Cote, 2009). If there are no rules governing athletes' behavior and patterns to follow them, for example, bullying occurs (Vveinhardt & Fominiene, 2020).

Coaches' attitudes and actions also affect what kind of behavior is allowed in the group where athletes are practicing (Vveinhardt & Fominiene, 2020). Coaches can emphasize that only those athletes who behave and whose behavior is interpreted by the coaches as psychologically strong, are good athletes and others are not. Such a perception can justify bullying in the group. If the athletes do consider that this is acceptable behavior of the coach, they may feel that they have deserved the punishment (e.g., bullying). The coach's behavior is justified because the intention is good (Lazarevic & Kristic, 2015), that is, good results are not achieved without negative behavior (Stirling & Kerr, 2014). Hence abusive coaching practices might become normalized (e.g., Mountjoy et al., 2016). Also, if coaches use coercive practices and pressure athletes, for example, by using controlling language, it might transfer to the athletes and also create a prejudiced attitude for the athletes and a basis for non-accidental violence, for example, criticizing, swearing, or otherwise verbally abusing behavior (Kavussanu & Al-Yaaribi, 2019).

In general, permissiveness and non-interference are a necessary condition for any kind of non-accidental violence. So how coaches behave in this regard impacts athlete behavior. Non-accidental violence may be allowed because it is seen beneficial to sport results and is thus constructed as an inevitable part of elite sport (Jacobs et al., 2017). If it is not tolerated in the sport group/organization, it would be easier for individual people to intervene (Roberts et al., 2019). Non-accidental violence relates to the functioning of organizations and the readiness to act responsibly (Roberts et al., 2019).

### **Outcomes of non-accidental violence**

According to the research, the consequences of non-accidental violence are diverse, including sport performance (e.g., Mountjoy et al., 2016) and mental health (Gervis & Dunn, 2004; Stirling & Kerr, 2013). Non-accidental violence can have an impact on athletes' social, physical and mental well-being (Mountjoy et al., 2016). Gervis and Dunn (2004) reported in their study that young athletes experienced worthlessness and depression, which affected their belief in their own ability to perform. When performance expectations were not met, it added coach's non-accidental violence. Stirling and Kerr's (2013) research showed how the coach's comments and actions can distress and

influence the athlete's self-esteem in a debilitating way. Also, other studies have highlighted the negative consequences of non-accidental violence, such as anxiety and depression, and reduced enjoyment of sport (e.g., Gattis & Moore, 2022; Mountjoy et al., 2016; Reardon et al., 2019).

According to the review article by Kavussanu and Al-Yaaribi (2019), athletes' mutual misbehavior causes several negative consequences, such as feeling negative affect and burnout, and conversely, encouraging and constructive behavior increases enjoyment and effort in sport. In sport, passive attitudes, silence by people in power and bystanders, and most of all lack of formal accountability create an impression for victims that such behavior is normal and socially acceptable causing the victims to hide their distress and anxiety (see e.g., Gattis & Moore, 2022; Mountjoy et al., 2016).

In summary, non-accidental violence is connected to mental ill-being, meaning, for example, stress (e.g., Stirling & Kerr, 2013), anxiety, and depression (Gervis & Dunn, 2004; Stirling & Kerr, 2013). However, less is known what the consequences of non-accidental violence are for mental well-being, meaning feeling good and being satisfied in sport. It has been shown that encouraging behavior has a positive effect on athletes' enjoyment, commitment and performance (Kavussanu & Al-Yaaribi, 2019) and that harassment relates to the deterioration of mental well-being among employees (Zaid et al., 2022). Thus, we can expect that bullying, harassment and abuse can relate to lack of mental well-being.

### **Research questions**

In summary, existing non-accidental violence research has shown that all kind of harassment, abuse and bullying occur in sport. In this study we concentrate on bullying, sexual and gender-based harassment, and psychological abuse, because they have turned out to be most common and harmful in sport (see e.g., Mountjoy et al., 2016; Reardon et al., 2019; Stierling & Kerr, 2013). Nevertheless, we lack knowledge about their prevalence in Finland. Therefore, our first research question was:

1. How commonly Finnish athletes experience sexual harassment, gender-based harassment, bullying, and psychological abuse?

In addition, we explored the factors exposing to non-accidental violence and its consequences for mental well- and ill-being. Thus, our second and third research questions were:

2. Which background factors (gender, age, belonging to a minority group) and sport conditions (team safe atmosphere, team's readiness to act, coach responsible behavior) expose to harassment, bullying, and psychological abuse?

3. Do harassment, bullying, and psychological abuse have consequences for mental well-being (subjective psychological well-being, enjoyment) and ill-being (anxiety/depression and stress)?

## **Methods**

### **Participants**

A total of 2045 Finnish athletes participated in the study. All participants were over 16-year-old (age range 16 to 70 years). Most of the participants were under 30-year-old, the largest groups were 16-20-year-olds ( $n = 597$ , 28.5%) and 25-30-year-olds ( $n = 312$ , 14.9%). Of the athletes, 52% were men, 46% were women, and 2% answered "else" or did not want to identify their gender. Most of the respondents did not belong to any minority group ( $n = 1666$ , 84.5%). Among those 15.5% ( $n = 305$ ), who belonged to the minority group, the most often mentioned minority groups were sexual minority (6.5%) and linguistic minority (5%). Only 2% belonged to ethnic minority, and the rest to minority based on disability (1.5%), religion (1.4%) and gender (0.7%; e.g., transhuman)

Participants represented a total of 45 different individual/team sports, of which the most common were floorball (10%), and shooting (9%). Of the athletes, 54% played sports at national level in Finland. There were about 7% professional athletes and 21% played sports at international level. About 40% had achieved Finnish Championship medal, 6.5% had won an international competition medal, while 5% had been successful in international professional sports.

### **Procedure**

The questionnaire was sent to the target group of the study through the registered sports organizations, which were asked to send an electronic link of the study to their competitive athletes. Competitive athletes refer to athletes, who participate in the highest competitive events in sports defined by sports federations and organizations. The research material was sent to sports organizations in April 2022. The material included instructions for forwarding the survey to the target group, a cover letter with instructions for the respondents (including the aim and purpose of the study and a reminder that participation was voluntary) and a link to the survey. The sports organizations themselves determined to whom the survey was sent. Sports organizations were asked to remind the athletes to answer the survey twice within the response time. This research was carried out by the Finnish Center for Integrity of Sports (FINCIS), of which task is to promote ethical sports in co-operation with sports organizations. An ethical statement was requested from the Human Sciences Ethics Committee of the University of Jyväskylä.

### **Measures: Non-Accidental Violence**

Non-accidental violence was approached from four different perspectives: 1) sexual and 2) gender-based harassment, 3) bullying, and 4) psychological abuse. Each of the above behaviors were asked with one question and the behavior in question was defined. *"Have you experienced in the last three years in sport activities sexual harassment/gender-based harassment/bullying/psychological abuse against yourself?"* (1 = yes, 2 = no, 3 = I cannot say, 4 = don't want to say). Sexual harassment was defined as offensive joking, conditioning or insinuations, inappropriate comments on or questions about one's body, clothing or life, barking or name-calling with sexual connotations. Gender-based harassment was defined related to gender, gender identity or gender expression, e.g., disparaging speech about one's gender. Bullying was defined as repeated intentional insult or harm to oneself. Bullying can be verbal, such as name-calling, or physical, such as hitting or social, such as embarrassment. Psychological abuse was defined as inappropriate behavior such as one's action has been criticized unfairly, options have not been listened, unfounded information about oneself has been given, or one has been slandered or treated disrespectfully. For statistical analyses each non-accidental violence had two rating options (1 = yes, 0 = no).

### **Measures: Background Factors and Sport Conditions**

As background factors age, gender (1 = female, 2 = male, 3 = other, 4 = don't want to say), and belonging to a minority group (1 = ethnic minority, 2 = linguistic minority, 3 = religious minority, 4 = sexual minority (e.g., gay), 5 = gender minority (e.g., transhuman), 6 = minority based on disability, 7 = else, what?, 8 = I do not belong to any minority group, 9 = I don't want to say) were examined. For statistical analyses, gender (1 = female, 0 = male) and minority group (1 = yes, 0 = no) had two rating options. In addition, in terms of age, the respondents were divided into 12 different age groups, five years apart, e.g., 16-20 and 21-25.

As sport conditions we examined team's atmosphere with four statements which were self-created for the study purposes, e.g., *"The group/team, where I train regularly, has a good atmosphere"* and *"In the group/team where I train regularly, mutually agreed game rules are followed"*. We calculated an averaged sum variable (range 1-5) with a Cronbach's alpha of 0.92, reflecting the consistency of the items, and named the variable as safe team atmosphere. Team's readiness to act was asked with two statements e.g., *"In the group/team, where I regularly practice, we intervene immediately if inappropriate language or behavior occurs"*. The averaged sum variable's (range 1-5) Cronbach's alpha was 0.84. Coach's responsive behavior was asked with eight statement such as

*"My coach intervenes immediately if someone acts inappropriate or against the rules"*. An averaged sum variable (range 1-5) with a Cronbach's based alpha coefficient of 0.95 was created. These items were partly self-created and partly from Finnish LIITU-research (Kokko et al., 2020). All questions related to team's atmosphere, readiness to act and coach's responsive behavior were answered on a scale of 1-5 (1 = not true at all, 5 = completely true).

### **Measures: Mental Well- and Ill-Being**

As outcomes of non-accidental violence, perceived mental well- and ill-being were measured. Both of these were examined with two measures.

Mental well-being was measured with subjective psychological well-being and enjoyment in sport. Subjective psychological well-being was measured with WHO-5 scale which have five statements, such as *"During the last two weeks I have felt cheerful and in good spirits"* and *"...I have felt active and vigorous"* (Topp et al., 2015). The statements were rated on a scale from 0 to 5, where 0 = at no time and 5 = all of the time. One averaged sum variable of subjective psychological well-being (range 0-5) was calculated of the statements and its Cronbach's alpha coefficient was 0.87.

Enjoyment in sports was asked using the four questions about enjoyment in sport developed by Scanlan et al. (1993), e.g., *"I like sports and being in training"*. The statements were rated on a scale from 1 to 5 (1 = completely disagree, 5 = completely agree). Of the statements one averaged sum variable (range 1-5) was created with a Cronbach's alpha coefficient of 0.95.

Mental ill-being was measured with experience of stress and symptoms of anxiety and depression. Stress was measured with a one-question measure developed by Elo and colleagues (2003), which was modified to only apply to stress experienced in sports. The question *"Stress refers to a situation in which a person feels tense, restless, nervous and anxious or has difficulty sleeping when things are constantly bothering his/her mind. Do you currently feel this this kind of stress connection with sports?"* was answered on a scale of 1-5, where 1 = not at all and 5 = very much. In addition, anxiety and depression symptoms were measured with the PHQ4 scale (Kroenke et al., 2009), in which four symptoms (feeling nervous, anxious or tense, not being able to stop or control worrying, having only little interest or pleasure in doing different things, feeling low mood, depression, hopelessness) were presented in a question: *"How often have the following problems troubled you during the previous two weeks?"*. The statements were answered on a scale from 1 to 5 (1 = not at all, 5 = almost every day) and one averaged sum variable (range 1-5) with a Cronbach's alpha coefficient of 0.86 was calculated.

### **Data Analysis**



Descriptive statistics (frequencies, percentages, means and standard deviations) were calculated for each of the study variables. The first research question concerning prevalence of non-accidental violence was examined by frequencies and percentages. Pearson correlation coefficients were computed to examine the relations between the study variables. In addition to correlations, the second and third research question was examined using regression analysis. The antecedents of non-accidental violence were examined using logistic regression analysis, as the dependent variables were dichotomous (0, 1). We entered all the antecedents at one step to the model. Besides reporting regression coefficients (B), we report odds ratios (OR) and their 95% confidence intervals. If the OR is statistically  $>1$  or  $<1$ , we can conclude that there is a significant relationship between the antecedent and the type of non-accidental violence in question. The consequences of non-accidental violence for mental well- (subjective psychological well-being, enjoyment) and ill-being (anxiety/depression and stress) were examined using linear regression analysis as the dependent variables were continuous. The background factors were controlled for in the analyses, and all types of non-accidental violence were entered simultaneously to the model. We report standardized regression coefficients ( $\beta$ ). The analyses were carried out with the Jamovi program which is open computer software for statistical analyses.

## **Results**

### **Prevalence of Non-Accidental Violence**

The prevalence figures, shown in Table 1, reveal that most often athletes, a total of 38.8%, had experienced psychological abuse. Bullying was the second often reported experience (14.7%), followed by gender-based harassment (13.3%). Of the respondents, 5.5% had experienced sexual harassment.

The Pearson correlation coefficients (see Table 2) showed that all types of non-accidental violence correlated positively with each other. The strongest correlation was found for bullying and psychological abuse ( $r = .44$ ), supporting the view that bullying is a form of psychological abuse. Thus, various types of non-accidental violence seem to occur simultaneously to some extent.

### **Associations of Non-Accidental Violence with Background Factors and Sport Conditions**

According to correlations (Table 2), female gender was statistically significantly associated with all types of non-accidental violence. The strongest correlation was found for gender-based harassment ( $r = .39$ ). In addition, age correlated, although not as strongly as gender, with gender-based harassment ( $r = -.18$ ) and psychological abuse ( $r = -.20$ ): the younger age groups reported these

types of violence more often than the older age groups. Belonging to a minority group associated only slightly with sexual harassment, gender-based harassment and bullying. All (positive) sport conditions examined were negatively related to all types of non-accidental violence. The correlations were strongest with bullying and psychological abuse.

Using logistic regression analysis, we investigated the associations of background factors (gender, age, minority) and sport conditions (team's safe atmosphere, team's readiness to act and coach's responsive behavior) to each form of non-accidental violence. Of the background factors (see Table 3), gender was statistically significantly related to all forms of non-accidental violence, except for psychological abuse. Women had a 6.00-fold higher risk of sexual harassment, a 2.16-fold higher risk of bullying and a 17.47-fold higher risk of gender-based harassment than men. As previously said, the respondents had the option "I don't want to say" and "else" to choose for gender. Further analyses (not shown in Table 3) showed that the risk of gender-based harassment was 36 times higher in the answer category "I don't want to say" and 94 times higher in the answer category "else" compared to men. Age was statistically significantly related to bullying, psychological abuse and almost significantly related to gender-based harassment, meaning younger athletes experienced more bullying, psychological abuse and gender-based harassment (see Table 3). Instead, belonging to a minority group was not associated with any type of non-accidental violence.

Of the sport conditions, team atmosphere was related to bullying and psychological abuse. In other words, safe atmosphere perceived by the team was associated with a lower risk of experiencing bullying or psychological abuse. In addition, team's readiness to act was related to a lower risk of sexual harassment, bullying and psychological abuse. Instead, the coach's responsive behavior was not related to any of the investigated forms of non-accidental violence.

### **Associations of Non-Accidental Violence with Mental Well- and Ill-Being**

Based on correlations (Table 2), all forms of non-accidental violence were statistically significantly associated with all mental ill- and well-being measures. The strongest correlation was found between psychological abuse and stress ( $r = .35$ ) and anxiety and depression ( $r = .30$ ). Mental ill-being measures (i.e., stress and anxiety/depression) correlated positively with each other ( $r = .55$ ), as did the measures of mental well-being (i.e., enjoyment and subjective psychological well-being) with each other ( $r = .31$ ). Mental ill-being measures also correlated negatively with mental well-being measures, anxiety and depression showing the strongest negative correlation with subjective psychological well-being ( $r = -.68$ ).

Using linear regression analysis, we investigated the associations of each type of non-accidental violence with well- and ill-being. When all types of violence were simultaneously in the model (see Table 4), psychological abuse had most detrimental consequences, associating highly significantly with both reduced well-being and ill-being. Bullying had the second worst consequences, as it related highly significantly especially with ill-being measures, but also with lack of subjective psychological well-being. Also, gender-based harassment was related with ill-being and lack of enjoyment. Sexual harassment associated only with stress.

Of the well- and ill-being measures, stress was the consequence which most strongly related to the types of non-accidental violence, followed by anxiety/depression. Instead, the associations with well-being measures were weaker, although psychological abuse related moderately strongly with both reduced enjoyment and subjective psychological well-being.

Also, background factors played a role. Belonging to a minority was associated with reduced subjective psychological well-being and anxiety/depression. Female gender associated with reduced enjoyment and symptoms of stress. Age was also associated with well- and ill-being measures, the younger age groups showing less subjective psychological well-being, and more stress and anxiety/depression than the older ones.

## **Discussion**

The aim of this study was threefold: to get a comprehensive picture of 1) non-accidental violence experienced by Finnish athletes, 2) the factors exposing to such violence and 3) the consequences of violence for well- and ill-being.

It is known that non-accidental violence also occurs in sport. In this study the prevalence was slightly lower than expected according to previous studies (Mountjoy et al., 2016; Stafford et al., 2015; Vertommen et al., 2016). The prevalence of psychological abuse was about 39% which is quite near the figures presented in earlier studies (range 44–75 %). Instead, bullying (about 15%) and sexual harassment (about 6%) were reported clearly less often than in previous studies. Earlier prevalence figures concerning gender-based harassment are missing, but its prevalence in this study was about 13%.

Compared to the violence figures concerning Finnish working life, the abuse figures of the present study are higher. Of the Finnish salary earners, 25% reported to have experienced psychological abuse during the past year (Sutela et al., 2019). Instead, the figures of sexual harassment are at the same level, as sexual harassment was reported by 6% of the Finnish salary earners during the past

year. The figures of bullying are, in turn, lower in the present study than in Finnish working life, where 26% reported having experienced bullying sometimes during their career. All figures were higher among women than among men, and sexual harassment and psychological abuse were most common among young female wage earners (Sutela et al., 2019).

There are several obvious reasons for the different figures. First, the differences relate to the differences of the definitions (measures) and time intervals used in the studies. For example, in the present study the time interval was three years, but the figures among Finnish working life cover only one year. In addition, bullying was asked using a totally different scale. Thus, different measures of non-accidental violence between the studies make comparisons difficult and unreliable. Second, it is possible that we were not able to capture a representative athlete sample to the study. Although the study sample is large, we cannot say how well it represents all Finnish elite athletes. Thus, it is likely that, for example, part of those athletes with experiences of non-accidental violence are missing from the sample. Nevertheless, it is also possible that Finnish athletes do not experience non-accidental violence as often as their international counterparts. Therefore, the prevalence figures of the present study should be taken with certain caution. In the future we would need a comparative international study to be wiser.

In Finland, suspicions of non-accidental violence have gained visibility and several cases have been reported in the media. This may have caused reputational damage to sport organizations and forced them to deal with the cases more carefully. Consequently, the permissive culture may have changed. On the other hand, it could equally be that athletes do not recognize what kind of behavior is appropriate and what kind of behavior should not be tolerated. In this case, for example aggressive, sexually colored and degrading speech of other gender and sexual orientations is normalized and not reported (Adams et al., 2010; Hartill, 2013).

As expected, women and younger athletes belonged to a risk group of non-accidental violence. Female gender was associated with sexual and gender-based harassment and bullying, which supports prior international research evidence (Fasting et al., 2003; Stierling et al., 2011). Younger athletes experienced more bullying, psychological abuse, and gender-based harassment. Young people are at a vulnerable age, and it has been established that young age is a risk factor for non-accidental violence (Mountjoy et al., 2016; Stierling et al., 2011). However, belonging to a minority group was not connected with any type of non-accidental violence, which differs from international research findings (Mountjoy et al., 2016). This can be a sign of the good equality work done in sports in Finland: discrimination experienced by minority groups is addressed at a low threshold. Nevertheless, we noticed that answer categories of other gender, meaning “else” than a woman or a

man and “don’t want to say one’s gender”, were related to gender-based harassment, giving support to earlier research results (e.g., Blondeel, 2018; Kokkonen, 2019). As gender-based harassment may not be recognized, therefore awareness and knowledge of the diversity of genders is important in recognizing and addressing gender-based harassment and having an equal and respectful sport culture.

Of the sport conditions examined, safe team atmosphere and team’s readiness to act were those best preventing non-accidental violence. Thus, it seems that a buffer against non-accidental violence is when it is safe to be in the group, when one dares to express one’s opinion and when the group follows jointly agreed rules. Such conditions make immediate intervention possible if someone acts inappropriately. These results are in line with earlier studies which have shown that mutual relationships between athletes are important for how being in sports is perceived (Frazer-Thomas & Cote, 2009). It is therefore worth investing in building a group operating culture with a safe atmosphere and rules to act, which encourage to express oneself and to feel in safe.

Our results suggest that the coach’s responsive behavior was less meaningful for non-accidental violence. It had no connection with any of the investigated forms of non-accidental violence when team’s safe atmosphere and readiness to act were taken into account. It is worth noting that the connection was found at a correlational level but not in the regression analyses taking all sport conditions examined into account. In our study, this finding can very likely be explained by the strong mutual correlations between coach’s responsive behavior and team’s safe atmosphere and readiness to act, signaling that they co-occur. Nevertheless, our results on the role of coach do not give strong support for those international studies showing that the coach's behavior affects the culture and what kind of behavior is allowed in sports (e.g., Stirling & Kerr, 2014; Vveinhardt & Fominien, 2020). It is difficult to say what is behind this finding, but it may relate to cultural differences: in Finland, equality between people is more significant than in some other countries and this is also visible in sports. In other words, although there is a hierarchical relationship between the coach and the athletes, the importance of the coach does not override the influence of the group.

Our results confirmed that non-accidental violence has detrimental outcomes. Psychological abuse had most detrimental consequences, as it related both with reduced well-being (enjoyment, subjective psychological well-being) and increased ill-being (stress, anxiety/depression). Bullying had the second worst consequences, relating especially with increased ill-being (stress, anxiety/depression). Gender-based harassment related with stress and lack of enjoyment, and sexual harassment associated only with stress. These aforementioned results are valid when all types of

non-accidental violence were studied simultaneously. At a correlational level the relations were more numerous. Thus, our study shows that non-accidental violence is especially a stressful event and can lead a person to develop anxiety and depressive symptoms. Instead, non-accidental violence had minor effects on enjoying sport and subjective psychological well-being in sport. International studies have also shown that non-accidental violence has a clear connection with mental ill-being (Gervis & Dunn, 2004; Kerr et al., 2019; Mountjoy et al., 2016; Stirling & Kerr, 2013), whereas the associations with well-being are not yet well known.

Background factors also played a role in mental well- and ill-being. Shortly said: Male athletes, older athletes, and those athletes not belonging to any minority group reported better well-being and less ill-being. All these results are in line with earlier studies (Blondeel et al., 2018; Fasting et al., 2003; Gervis & Dunn, 2004; Mountjoy et al., 2016; Stierling et al., 2011; Vertommen et al., 2015). It is worth noticing that although belonging to a minority group was not connected to any form of non-accidental violence, it related to well- (lack of subjective psychological well-being) and ill-being measures (anxiety and depressive symptoms). For those who belong to a minority group, we talk about minority stress, which increases chronic challenges related to being a minority, not just sport but life in general (Lee et al., 2019; Meyer, 2015; Thoits, 2010).

### **Limitations and avenues for further research**

Although a comprehensive number of top Finnish athletes participated in this study, the question arises, who did and did not answer and why? It remains unclear whether the survey reached all athletes, because the survey was sent through sports federations and organizations. We have no information whether, for example, all sport clubs and coaches forwarded the survey to the athletes and what has influenced their decision-making. In addition, factors related to the subject area itself (sensitive and stressful) and the timing of the study (the most important competition season was going on) may have reduced the number of respondents. These questions relate to generalizability of the study results, as we do not know how representative the study sample was, for example, in terms of non-accidental violence. Nevertheless, our sample was large and included elite athletes from multiple sports, which can be considered an advantage in terms of generalizability of the findings.

This study was based on self-reports. In this kind of research, therefore a person is the only informant. On the one hand, answering is influenced by how willing the person is to talk about his/her own condition, and on the other hand, how aware he/she is about it. Concerning the topic of the present study, although the person would be willing to report and aware of his/her situation on non-accidental violence, the problem remains that the person's self-reports (i.e., perceptions) may

not necessarily match the intentions of the actor. Outside these are difficult to be observed. Thus, the intentional nature of violence may remain hidden in the questionnaire studies.

The present study was based on a cross-sectional design, so causal relationships remained unrevealed. Although we based our study on a theoretical model where we differentiated antecedents and outcomes of non-accidental violence, it is possible, for example, that mental ill-being, due to depleted personal resources, play a role in how an athlete perceives their sport conditions or existing non-accidental violence. On the other hand, our cross-sectional research aiming at an overall picture was necessary in order to know the situation among Finnish athletes. In the future, it would be important to conduct longitudinal research to gain a better picture of the causal relations between the phenomena. Also, the types of non-accidental violence as well as the exposing factors and the outcomes could be widened to gain still a better overview. In addition, the experiences of minority groups would be worth studying in more detail. It would also be crucial to disentangle the coach's and team's roles from each other more thoroughly as exposing or preventing factors of violence. Finally, it would be important to study the different aspects of mental well-being and the protective factors that may arise from it. It is known that not everyone is traumatized by traumatic events and does not feel stress from stressful factors (e.g., Sarkar & Fletcher, 2014).

### **Implications for Clinical Practice**

The results of the present study offer insights into non-accidental violence existing among Finnish elite athletes. First, the study provided important information, above all, about the importance of the team's safe atmosphere and readiness to act in preventing non-accidental violence in sport. Coach's responsive behavior related also strongly to the team's behavior. Therefore, our present study suggests that the development of team atmosphere and readiness to act are among factors worth investing in when trying to enable and ensure appropriate behavior and prevent non-accidental violence among athletes. Consequently, coaches, sport psychologists, and sports administrators should be aware how athletes behave and cooperate with each other. Also, although the coach's role is important as he/she can influence the formation of the team's culture, our findings suggest that, when the question is about non-accidental violence, the wholeness of the team should be on the focus and not just the role of one person (i.e., coach). Thus, actively supporting athletes' mutual positive communication and cooperation with each other in everyday life increases their responsible actions and seems to also act as a buffer against non-accidental violence. This does not mean that early intervention and the readiness to intervene at a low threshold should not be emphasized, but

with responsible team action such early intervention practices can also be introduced as a part of daily sport life and culture.

Second, in line with prior study findings, especially young women have a risk of being subjected to violence. To address this concern, it would require a change in the cultural climate and a systematic approach, in which, in addition to athletes and coaches, sports management and health professionals working in sports should participate. The cultural climate of the entire sport system must be considered in order to influence prejudices, beliefs and behaviors. To change the culture requires first an awareness of the cultural norms (e.g., strength, toughness) embedded within the sport. Only after that developing programs or interventions are possible. A challenge may also be that help-seeking may be viewed as a weakness among elite athletes. Therefore, we need awareness-raising about non-accidental violence, for example, by campaigns for “safe sport”.

In Finland prevails a responsibility program that emphasizes, among other things, a safe operating environment and equality. According to this program, every sports club must have a designated contact person who can be contacted in connection with perceived/observed non-accidental violent activity. We have also "You are not alone" -service, which contains information about possible cases of non-accidental violence. In addition, FINCIS, of which objective is to guarantee that everyone has an equal opportunity to participate in ethically sustainable sports, has a so-called ILMO-service by which an athlete can report about perceived/observed non-accidental violence anonymously. Safety-related online training is also available for all coaches.

In Finland practitioners function as an interdisciplinary team (e.g., sport psychologist and physician) designed to deliver sport science services to athletes. Improving communication and integration between the support team may help enhance the precision and depth of case formulation, increase early recognition of non-accidental violence, and promote further referral to support services for athletes if required.

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Table 1. Prevalence of non-accidental violence

Type of non-accidental violence	Yes		No	
	<i>n</i>	%	<i>n</i>	%
Sexual harassment	107	5.5	1839	94.5
Gender-based harassment	256	13.3	1666	86.7
Bullying	284	14.7	1653	85.3
Psychological abuse	518	38.8	818	61.2

Table 2. Means (*M*), Standard Deviations (*SD*) and Pearson Correlations of the Study Variables (*N* = 1825-2045)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender <sup>1</sup>	-	-													
2. Age <sup>2</sup>	-	-	-.38***												
3. Minority <sup>3</sup>	-	-	.10***	-.09***											
4. Sexual harassment	-	-	.20***	-.08**	.06**										
5. Gender-based harassment	-	-	.39***	-.18***	.09***	.30***									
6. Bullying	-	-	.16***	-.10***	.06*	.20***	.26***								
7. Psychological abuse	-	-	.13***	-.20***	.04	.17***	.30***	.44***							
8. Team's safe atmosphere	4.30	0.86	-.11***	.03	-.10***	-.13***	-.17***	-.30***	-.28***						
9. Team's readiness to act	3.78	1.06	-.07**	.01	-.08**	-.15***	-.15***	-.27***	-.27***	.73***					
10. Coach's responsive behavior	3.98	1.01	-.13***	.06*	-.06*	-.10***	-.18***	-.24***	-.26***	.72***	.64***				
11. Subject. psychol. well-being	4.37	0.84	-.21***	.21***	-.14***	-.13***	-.21***	-.19***	-.26***	.28***	.23***	.29***			
12. Enjoyment	4.41	0.79	-.05*	.05*	-.04	-.08***	-.13***	-.15***	-.19***	.51***	.39***	.50***	.31***		
13. Anxiety/depression	1.81	0.73	.21***	-.23***	.14***	.15***	.26***	.26***	.30***	-.27***	-.18***	-.26***	-.68***	-.27***	
14. Stress	2.50	1.15	.30***	-.34***	.09***	.16***	.30***	.29***	.35***	-.29***	-.20***	-.28***	-.47***	-.27***	.55***

<sup>1</sup>Gender: 0 = male, 1 = female

<sup>2</sup>Age: 1 = 16-20, 2 = 21-24, 3 = 25-30, 4 = 31-35, 5 = 36-40, 6 = 41-45, 7 = 46-50, 8 = 51-55, 9 = 56-60, 10 = 61-65, 11 = 66-70, 12 = 70 years

<sup>3</sup>Minority: 0 = no, 1 = yes

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 3. The associations of background factors and sport conditions with non-accidental violence: Results of logistic regression analyses

Variables	Sexual harassment					Gender-based harassment					Bullying					Psychological abuse				
	B	SE	OR	95% CI	<i>p</i>	B	SE	OR	95% CI	<i>p</i>	B	SE	OR	95% CI	<i>p</i>	B	SE	OR	95% CI	<i>p</i>
Intercept	-2.13	0.59	0.12	0.04-0.38	<.001	-1.42	0.46	0.24	0.10-0.60	.002	1.50	0.36	4.47	2.19-9.11	<.001	3.44	0.43	31.10	13.51-71.62	<.001
Team's safe atmosphere	-0.17	0.19	0.84	0.58-1.22	.366	-0.28	0.15	0.75	0.57-1.00	.051	-0.59	0.13	0.56	0.43-0.62	<.001	-0.35	0.13	0.70	0.55-0.91	.008
Team's readiness to act	-0.51	0.15	0.60	0.45-0.81	<.001	-0.14	0.11	0.87	0.70-1.07	.188	-0.29	0.10	0.75	0.62-0.91	.004	-0.29	0.09	0.75	0.62-0.90	.002
Coach's responsive behavior	0.16	0.15	1.17	0.87-1.57	.300	-0.15	0.11	0.86	0.70-1.06	.145	0.02	0.10	1.02	0.84-1.25	.835	-0.17	0.10	0.84	0.69-1.03	.093
Gender female (vs. male)	1.78	0.32	5.95	3.17-11.14	<.001	2.86	0.28	17.47	1.02-30.48	<.001	0.77	0.17	2.16	1.55-3.01	<.001	0.18	0.14	1.20	0.91-1.58	0.202
Age	-0.04	0.05	0.96	0.87-1.07	.489	-0.08	0.04	0.92	0.85-1.00	.045	-0.09	0.03	0.91	0.86-0.97	.006	-0.15	0.03	0.86	0.81-0.90	<.001
Minority: yes (vs. no)	0.42	0.26	1.52	0.91-2.54	.091	0.32	0.19	1.37	0.94-2.00	.097	-0.07	0.19	0.94	0.64-1.37	.724	-0.20	0.19	0.82	0.57-1.18	.280

B = unstandardized regression coefficient, SE = standard error, OR = Odds ratio, CI = confidence interval

Table 4. The associations of non-accidental violence with mental well- and ill-being: Results of linear regression analyses

	Enjoying				Subjective psychological well-being				Stress				Anxiety/depression			
	$\beta$	SE	<i>t</i>	<i>p</i>	$\beta$	SE	<i>t</i>	<i>p</i>	$\beta$	SE	<i>t</i>	<i>p</i>	$\beta$	SE	<i>t</i>	<i>p</i>
Intercept	3.72	0.29	12.84	<.001	3.52	0.29	12.14	<.001	4.72	0.36	13.14	<.001	2.86	0.24	12.12	<.001
Gender <sup>1</sup>	0.09	0.05	1.68	.009	-0.10	0.05	-1.86	.063	0.17	0.07	2.58	.010	0.06	0.04	1.48	.138
Age <sup>2</sup>	-0.01	0.01	-0.72	.470	0.03	0.01	3.45	<.001	-0.07	0.01	-7.35	<.001	-0.02	0.01	-3.42	<.001
Minority <sup>3</sup>	-0.07	0.07	-1.06	.292	-0.25	0.07	-3.79	.001	0.06	0.08	0.70	.483	0.20	0.05	3.71	<.001
Sexual harassment	-0.05	0.12	-0.38	.701	-0.23	0.12	-1.90	.058	0.42	0.15	2.83	.005	0.14	0.10	1.43	.153
Gender-based harassment	-0.26	0.09	-3.00	.003	-0.14	0.09	-1.63	.104	0.47	0.11	4.37	<.001	0.20	0.07	2.76	.006
Bullying	-0.14	0.08	-1.71	.088	-0.18	0.08	-2.15	.032	0.36	0.10	3.53	<.001	0.30	0.07	4.56	<.001
Psychological abuse	-0.22	0.05	-4.02	<.001	-0.29	0.05	-5.45	<.001	0.45	0.07	6.72	<.001	0.23	0.04	5.26	<.001
R <sup>2</sup>	0.04				0.12				0.23				0.15			

<sup>1</sup> Gender: 0 = male, 1 = female

<sup>2</sup> Age: 1 = 16-20, 2 = 21-24, 3 = 25-30, 4 = 31-35, 5 = 36-40, 6 = 41-45, 7 = 46-50, 8 = 51-55, 9 = 56-60, 10 = 61-65, 11 = 66-70, 12 = over 70 years

<sup>3</sup> Minority: 0 = no, 1 = yes

$\beta$  = standardized regression coefficient, SE = standard error, *t* = *t*-test, R<sup>2</sup> = explanation rate