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Mapping ethical positions with regard to a coach's decision to select (or not) an injured athlete.

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Abstract

Background: The study's objective was to map ethical positions with regard to the way in which 219 participants (45 non-athletes, 91 amateur athletes, 28 professional athletes, 17 amateur coaches, 8 professional coaches, and 30 physiotherapists) used various informational cues (an athlete's indispensability for the team, the importance of the competition, the opinion given by sports medicine professionals, and the injured athlete's attitude) to judge the acceptability of a coach's decision to select (or not) an injured athlete just before a competition. **Methods:** The participants specified their judgment of acceptability in 16 scenarios created by combining these information cues under two conditions (selection and non-selection). The data were analyzed using cluster analyses, analyses of variance, and chi-squared tests. **Results:** We found four clusters. Not selecting an injured athlete was always judged to be acceptable. The four clusters differed in terms of the type of role in sport and the level of acceptability of selecting an injured athlete. **Conclusions:** A coach's decision with regard to an athlete's health may be judged differently, according to the rater's profile. Enabling athletes to compete while injured might violate ethical principles. Coaches and medical staff should also be aware of and understand their legal responsibilities.

Keywords: injury; judgment; coach; selection; ethics in sport.

Imagine that you are the coach of a sports team. The day before an important competition, one of your athletes - considered to be essential for the team - injures his/her ankle during a training session. After examining the athlete, your medical staff advises against selecting the injured athlete for the following day's competition. However, the athlete tells you that he feels able to participate. What is the "right" decision? Is it acceptable to select (or not) the athlete? The present study aimed to explore this ethical issue in sport.

As shown above, sporting competitions are multifaceted situations in which many factors come into play and are likely to contribute in a complex way to a final, ethically compliant or non-compliant judgment.¹ Ethics in sport is, amongst other things, a question of judgment; an act is not ethical or unethical *per se* but is judged to comply with (or not comply with) ethics.²

Research on ethical aspects of the health of athletes has looked at the relationship between various stakeholders: general management, coaches, healthcare professionals (e.g. physiotherapists), teammates (in team sports), and the athletes themselves.³ These stakeholders sometimes have conflicting interests, which influence a coach's decision to select or deselect an injured athlete. In the context of an injury, the athlete's health (the prime concern for the medical staff) and the team's success (the prime concern for the athlete's coach and teammates) are often conflicting.⁴ Coaches may be confronted with this ethical dilemma concerning the athlete's health.⁵

Swisher, Nyland, Klosser et al.⁶ reported that the pressure to return to play after an injury is one of most common ethical issues in sport. The literature on decision-making in health care refers to three type of approach: paternalistic, autonomous, and shared.⁵ Examples of these approaches in the sporting domain are as follows. In a paternalistic approach, medical professionals are considered to be in the best position to assess the risk of playing for an injured athlete and should make the decision on the coach's behalf. In an autonomous

approach, the athlete decides for him/herself; the medical staff's role is to explain the available options and then accept the athlete's decision. In a shared approach, the athlete and medical professionals share information and decide together.

However, the literature on sports ethics has focused mainly on decision-making by health professionals^{5,7} and not on decision-making by coaches. This is surprising, given that the decision to select an injured athlete or not ultimately rests with the coach.⁸ It is important to study ethical aspects of decisions taken by a coach's because he/she is viewed as a major influence on the development of the athlete's values.⁹ Testoni, Hornik, Klossner et al.⁵ emphasized the need for larger, quantitative studies of health ethics in sport, in order to better understand the decision-making processes for the various stakeholders in sport.

Health ethical issues in decision making involve the deliberation about ethical principles. In general, they are based on autonomy, justice, beneficence, and non-maleficence.¹⁰ Autonomy refers to the possibility of a person to take an informed or uncoerced decision. Justice guides us to fairness and respect for laws and one's rights. The principle of beneficence refers to "do good" and promotes the interest of the individual. The principle of non-maleficence guides us to "do no harm" when our actions can affect others.

To select (or not) an injured athlete reflects the conflict between beneficence and non-maleficence principles.¹⁰ Athletes make sacrifices for the team and for achieving the sporting objective, such as playing when in pain.¹¹ Some sportspeople are strongly influenced by comments from their teammates, medical staff and coach. Moreover, athletes often are very keen to play, and believe strongly that they are best placed to know whether or not they can - even if this goes against medical advice.¹² Injury depends on the context. In professional sport, the level of pressure to compete is very high. This competitive aspect might be what makes a coach's decision ethically questionable. A coach's ability to make difficult ethical decisions is often tested when he/she is faced with considerable pressure in the workplace.¹³

Furthermore, the decision-making process is likely to differ from one individual to another one as a function of personal and contextual variables.¹⁴ For example, Bredemeier and Shields¹⁵ emphasized the effect of direct involvement in sport on moral judgment.

From a cognitive perspective, moral judgment can be considered as a judgment on the acceptability or legitimacy (with reference to ethics) of a particular decision.¹⁶ However, the role of information integration in moral judgment has not been extensively studied¹⁷ – even though the integration of multiple determinants is known to have an impact.¹⁸ To address these issues, we sought to apply information integration theory in the field of ethics² to highlight the mental process of judgment, i.e., the manner in which the participants (amateur and professional athletes, amateur and professional coaches, physiotherapists, and non-athletes) integrate different information cues and then judge whether a coach's decision to select (or not) an injured athlete is acceptable. Anderson's framework² assumes that all ethical perceptions, thoughts and actions are goal-oriented and depend on the integration of different items of information. This framework adds value because it focuses on the processes through which information cues of various types may be integrated into a judgment.

Anderson's framework has been implemented in many aspects of moral psychology:² (i) parents' acceptance of their child's vaccination against malaria (a study in Togo),¹⁹ (ii) Colombian citizens' views on everyday corruption,²⁰ and (iii) people's views on the acceptability of surrogate pregnancy.²¹ The framework has also been applied to bioethical issues.²² In the context of sports, Anderson's framework has been used to map moral positions regarding violence on the field^{23,24} and to map ethical positions regarding how non-athletes, amateur athletes and professional athletes combined different informational cues when judging the acceptability of nutritional supplements in sport.²⁵ In these studies, the link between the participants' respective roles in sport and the ethical positions was not clear, and merits an in-depth assessment. We reasoned that just as information cues influenced the

judgment of the acceptability of nutritional supplement use, they might influence the judgment of whether it is acceptable to select (or not) an injured athlete. We considered four information cues that are frequently cited in the literature on competitive sport or ethical issues in sport.^{26,27} They are related to the ethical principles and values of the various stakeholders in the sports community (teammates, medical staff, coaches, and the athlete him/herself) within a particular context (an important competition).

The first information cue was the athlete's degree of indispensability, as judged by his/her teammates. Team sport players are influenced by their teammates. Indeed, teammates contribute to the enjoyment of sport through the recognition of accomplishments, companionship, and esteem. For instance, it is known that approval from teammates influences global self-worth, the appropriate expression of emotions, and motivation to perform pro-social behaviours.²⁸ The establishment of friendships appears to be a prime reason for participation in sports.²⁹ Competition between teammates for a key position in the team can prompt athletes to feel that they must compete at all costs. Ogien²⁶ has written of "submission in superior loyalties"; the athletes justify their decisions in terms of the responsibility they have in carrying out a mission that is valued socially by the coach and the team. Indeed, some athletes appear to be highly influenced by comments made by their teammates.

The second information cue was the competition's importance. One of the prime distinguishing factors within sport is competition. Sporting competition has generally been portrayed as being inherently stressful. To be competitive, individuals have to focus on doing their best relative to others in the same domain of achievement. Coaches are essential for the athlete's performance - especially in high-level sport.³⁰ As part of the coach-athlete relationship, coaches are responsible for producing successful sporting performances.³¹ Coaches may have to make decisions about the importance of injuries, particularly during

major competitions. Bramley, Kroft, Polk et al.'s³² study of a sample of hockey coaches found that even in substantially lower-stake sports, coaches would be more likely to allow an athlete who had sustained a concussion to continue playing if the game was considered to be important (e.g. a European cup match).

The third information cue was the sports medicine professional's opinion. The latter's decisions can directly affect sportspeople's lives.³³ Injuries are part of sport, and sports medicine professionals are often the first people to deal with the athlete immediately after an injury. Athletes should expect sports medicine professionals to (i) provide them with a correct diagnosis and appropriate treatment, and (ii) take the right decision in order to make sporting competitions as safe as possible for the athlete's health. The athlete assumes that the team's medical staff is knowledgeable about the injury and that it is the staff's job to suggest the right treatment. However, ethical conflict of interest among medical staff in the care of concussed athletes is an increasingly studied topic.²⁷ Sports medicine professionals may be pressured by coaches and athletes to allow injured athletes to return to competition before they are fit from a medical standpoint.³⁴

The fourth information cue was the injured athlete's attitude. Athletes invest a great deal of time in the achievement of optimal performance, and their self-worth is often linked to this performance. Hence, athletes often perceive an injury as an emotionally traumatic event³⁵ and may adopt perseverant attitudes when managing injuries (e.g. the idea of "playing through the pain" as part of the "fighting spirit").³⁶

The objectives of the present study were to map individuals' ethical positions regarding whether or not the selection of an injured athlete for a competition would judge to be acceptable. We wanted to discover how people cognitively combine information cues to form an overall ethical judgment.² Our primary hypothesis was that study participants would integrate the four information cues in different ways; an analysis of the integration process

would reveal inter-individual differences in ethical positions.²³⁻²⁵ The second hypothesis was based on Fruchart and Rulence-Pâques's findings²⁵; the participants' ethical positions would vary according to their role in sport. This role corresponds to the individual's type of participation in sport, i.e. as a function of the team's level of competition for the athlete or coach or the type of involvement for sports physiotherapists and non-athletes. We reasoned that the type of participation might affect an individual's moral judgment because professional athletes/coaches, amateur athletes/coaches, physiotherapists and non-athletes are likely to have different goals, values, and principles.³⁷ We hypothesized that non-athletes would consider that selecting an injured athlete is never acceptable, and that physiotherapists (i.e. medical professionals whose duty is to protect the athlete's health) would also consider that selecting an injured athlete is never acceptable. Given that professional athletes are highly involved in sport, we further hypothesized that they might be more likely than amateur athletes and non-athletes to consider that selecting an injured athlete is acceptable. Lastly, we hypothesized that because coaches are motivated by winning the match or competition, they would sometimes consider that selecting an injured athlete is acceptable.

Method

Participants

We included 219 male adult participants, including 28 professional handball players ($M_{\text{age}} = 24.64$; $SD = 8.04$), 91 amateur league handball players ($M_{\text{age}} = 23.83$; $SD = 9.00$), 45 non-athletes ($M_{\text{age}} = 33.82$; $SD = 8.85$), 17 amateur handball coaches ($M_{\text{age}} = 26.23$; $SD = 8.85$), 8 handball professional coaches, ($M_{\text{age}} = 39.38$; $SD = 9.70$), and 30 male physiotherapists working with sports teams ($M_{\text{age}} = 25.02$; $SD = 8.57$). The 28 professional handball players came from five national-level teams. They trained 10 times a week, and were contacted by one of the investigators (himself a professional athlete). The 91 amateur sportspersons were all male handball players from seven teams at different competitive levels.

They trained at least twice a week. The 45 male non-athletes played handball from time to time as a leisure activity, and so were nevertheless able to reply to the study questionnaire. Lastly, we enrolled 8 male professional handball coaches (coaching at a national level) and 17 male amateur handball coaches (coaching at district and league levels). We contacted potentially eligible participants at universities and sports centers, explained the study, and invited them to participate. If a participant agreed, we arranged where and when to administer the questionnaire. Similarly, the study's objectives and procedures were explained to 30 physiotherapists who agreed to participate and then filled out the study questionnaire. All the study participants were unpaid volunteers living in France.

Material

In accordance with Anderson's methodology³⁸, the material consisted of two sets of 16 cards. Each card contained a scenario, a question, and a rating scale. In the first set, the coach decided to select an injured athlete, and in the second set, the coach decided not to select an injured athlete. The stories were composed according to a four within-subject factor design: (a) the injured athlete's indispensability (indispensable or not), (b) the importance of the competition (important or not), (c) the medicine professionals' opinion (selection or non-selection), and (d) the athlete's opinion (willing to compete or not). There were 16 possible combinations ($2 \times 2 \times 2 \times 2$) of these factors, i.e. 16 stories. The scenarios were built in order to achieve ecological validity, i.e. each corresponded to a real sporting situation. A typical scenario was as follows: "*Mougloute is a professional cross-country skier. He competes in relay races with his teammates. Mougloute's teammates do not consider him to be indispensable for the team. The day before an important race, Mougloute hurts his ankle during a training session. After examining the ankle, the team's medical staff consider that Mougloute will be able to compete the next day. Mougloute tells his coach that he does not feel ready to compete. The coach selects Mougloute for the race*". The question was "*To what*

extent do you think that the coach's decision is acceptable?". Beneath each scenario was an 11-point response scale ranging from “*not at all acceptable*” on the left and “*completely acceptable*” on the right.

Procedure

The study procedure complied with French and European ethical standards, institutional rules, and the 1964 Declaration of Helsinki and its later amendments. The study was approved by the University of Perpignan's institutional review board (Perpignan, France) and the clubs' officials and managers. The participants were given information about the study's objectives and procedure, and gave their written consent. Participants were instructed to read the scenarios (presented one at a time in random order) and to mark their responses on the response scale immediately after reading the scenario. The participants filled out the study questionnaire alone. This part of the study comprised a familiarization phase and an experimental phase. In the familiarization phase, the experimenter explained what was expected of each participant. In particular, the experimenter told the participant that he was going to read a certain number of stories in which a coach decides whether to select an injured athlete or not, and that he would then indicate the extent to which the coach's decision was justified. The participant was instructed to identify with the athlete in each scenario and to express an opinion about the acceptability of the coach's decision. In the familiarization phase, each participant was presented with 4 of the 16 scenarios, so as to familiarize himself with the task, the procedure, and the test materials.³⁸ The four scenarios were chosen so that the participants were exposed to the full range of stimuli. Participants were given an opportunity to review their ratings and to modify them if they wished. Subsequently, participants provided their finalized ratings. During the following experimental phase, all 16 scenarios were administered. Participants provided the ratings at their own pace but – in contrast to the familiarization phase - were not allowed to review or modify their responses.

All evaluations (including those of the non-athletes who played for leisure) took place in sports clubs. The participants worked individually in a quiet room, and took about 30 minutes to complete the questionnaire. In each category of participant, half of the participants were presented first with scenarios in which the coach decides to select the injured athlete and then scenarios in which the coach decides not to select the injured athlete. The other half of the participants were presented with the same sets of scenarios but in the opposite order.

Data analysis

For each rating, the point checked by the participant on the response scale was converted into a numerical value from 0 to 10, where 0 was the left anchor. These numerical values were then fed into graphical and statistical analyses, using the same approach as in other studies of ethical positions in sport.²⁴⁻²⁵ Given that we expected to see marked inter-participant differences in the responses, we performed a cluster analysis on the whole set of raw data. To improve stability in the cluster solution; we performed a hierarchical cluster analysis and then a non-hierarchical cluster analysis (K-means) in a two-step process.³⁹ After the clusters had been defined, a separate repeated-measure analysis of variance (ANOVA) was conducted on the data from each cluster, with the information cues as the independent variables, and the judgment of acceptability as the dependent variable. Chi-squared tests were used to determine whether a cluster was associated with a particular participant role.

Results

The hierarchical cluster analysis produced a four-cluster solution ($K = 4$). In order to compare each cluster with the others, we performed an ANOVA with all four clusters simultaneously and then applied a post-hoc test. The four clusters differed significantly from each other with regard to all the factors: teammates, $F(3,215) = 7.63$, $p < .001$, $\eta^2_p = .10$; the importance of the competition, $F(3,215) = 13.41$, $p < .001$, $\eta^2_p = .16$; the medical staff's opinion, $F(3,215) = 23.85$, $p < .001$, $\eta^2_p = .25$; the athlete's opinion, $F(3,215) = 11.06$, $p =$

.013, $\eta^2_p = .05$; and the coach's decision, $F(3,215) = 160.28$, $p < .001$, $\eta^2_p = .69$. These findings confirmed the tenability of the four-cluster solution.

Tukey's test revealed a significant difference between cluster 3 ($M = 5.12$; $SD = 0.11$) and cluster 1 ($M = 5.61$; $SD = 0.05$), cluster 2 ($M = 5.63$; $SD = 0.07$), and cluster 4 ($M = 5.83$; $SD = 0.20$). There were no significant differences between clusters 1, 2 and 4. The overall estimated mean based on 16 scenarios for each cluster is shown in the top section in Table 1.

Table 1 shows the means for each factor for each cluster too. The ethical acceptability of deciding *not* to select an injured athlete was similar in all four clusters (cluster 1: $M = 8.05$; $SD = 0.07$; cluster 2: $M = 6.55$; $SD = 0.10$; cluster 3: $M = 5.83$; $SD = 0.14$; cluster 4: $M = 5.92$; $SD = 0.25$). In contrast, the four clusters differed with regard to the degree of acceptability of selecting an injured athlete. Tukey's test revealed a significant difference between cluster 1 ($M = 3.16$; $SD = 0.09$) and the three other clusters (cluster 2 ($M = 4.71$; $SD = 0.10$), cluster 3 ($M = 4.39$; $SD = 0.11$), and cluster 4 ($M = 5.74$; $SD = 0.20$)), and a significant difference between cluster 4 and the three other clusters. The difference between cluster 2 and cluster 3 was not significant.

Figure 1 shows the four clusters for when the coach decided to select an injury athlete. The mean ratings are given on the y-axis, and two levels of the medical staff's opinion are given on the x-axis. Each line corresponds to a level of the athlete's opinion, and each panel corresponds to a level of the teammates' opinion.

The first cluster ($N = 90$) could be described as "Selection is almost never acceptable" (top panels in Figure 1), since the mean response was always close to the lower hand of the scale ($M = 3.16$, $SD = 0.09$). The members of this cluster based their judgment principally on the medical staff's opinion and the athlete's opinion. Each line clearly rises from left to right, showing that the medical staff's opinion influenced the participants' judgments. The lines are separate, showing that the athlete's opinion also influenced the participants' judgments. An

ANOVA of the data from cluster 1 highlighted the large effect sizes of the medical staff's opinion and the athlete's opinion (Table 2).

The second cluster ($N = 60$) was termed "Selection is sometimes acceptable, depending on the medical staff's opinion" (upper middle panels in Figure 1). Overall, the judgments were close to the middle of the response scale ($M = 4.71$; $SD = 0.10$). The participants in this cluster based their judgment of acceptability principally on the medical staff's opinion. The lines rise from left to right, indicating a strong effect of the medical staff's opinion; the more favorable the medical staff's opinion, the more the selection of the injured athlete is judged to be acceptable. The lines are the same in the left and right graphs, indicating that the teammates' opinion had no effect. An ANOVA of the data from cluster 2 emphasized the large effect size of the medical staff's opinion (Table 2).

The third cluster ($N = 49$) was termed "Selection is sometimes acceptable, depending on the athlete's and medical staff's opinions" (lower middle panels in Figure 1). Overall, the judgment was close to the middle of the response scale ($M = 4.39$; $SD = 0.11$), and the members of this cluster considered principally the athlete's opinion and the medical staff's opinion when judging the acceptability of selecting an injured athlete. The fact that the lines are far apart indicates a strong effect of the athlete's opinion; the more he/she wants to compete, the more the selection is judged to be acceptable. Each line rises from left to right, showing that the medical staff's opinion influenced the judgments of acceptability. The lines are the same in the left and right graphs, indicating that the teammates' opinion had no effect. Hence, when the athlete was willing to play and the medical staff agreed, the participants considered that it was acceptable to select him. An ANOVA of the data from cluster 3 showed the large effect sizes of the athlete's opinion and the medical staff's opinion (Table 2).

The fourth cluster ($N = 20$) was termed "Selection is often acceptable, depending on the athlete's opinion" (bottom panels in Figure 1). Overall, the mean response ($M = 5.74$; SD

= 0.19) was above the middle of the 0-10 scale. The two lines are almost the same in the left and right graphs, indicating that the teammates' opinion had no effect. Furthermore, the lines do not rise from left to right, indicating that the medical staff's opinion had no effect. The lines are separate, indicating an effect of the athlete's opinion. The individuals in this cluster considered that the coach's decision is often acceptable if the athlete agrees. An ANOVA of the data from cluster 4 showed a significant effect of the athlete's opinion (Table 2).

Table 3 shows each cluster's composition with regard to the participants' status. The result of the 6 (Type of participant) \times 4 (Cluster) Pearson's chi-squared test was significant, $\chi^2(15) = 39.89, p < .001$.

Marascuilo's post-hoc multiple comparisons procedure was used to test the significance of differences between pairs of groups within the cluster and to determine where there were significant differences in the clusters' respective compositions (see Table 4). In comparison Cluster 1 vs Cluster 4, 54% of the professional athletes and 35% of amateur coaches were in cluster 1, and 32% of professional athletes and 0% of amateur coach were in cluster 4. In comparison Cluster 2 vs Cluster 4, Cluster 2 contained 41% of the amateur coaches, 32% of the amateur athletes, and 11% of the professional athletes; Cluster 4 contained 0% of the amateur coaches, 3% of the amateur athletes, and 32% of the professional athletes. In comparison Cluster 3 vs Cluster 4, Cluster 3 contained 34% of the non-athletes, 24% of the amateur athletes, 24% of the amateur coaches, 20% of the physiotherapists, and 3% of the professional athletes; Cluster 4 contained 11% of the non-athletes, 3% of amateur athletes, 0% of the amateur coaches, 7% of the physiotherapists, and 32% of professional athletes.

Discussion

The objective of the present study was to map ethical positions according to whether or not the selection of an injured athlete just before a competition was judged to be

acceptable.

Our first hypothesis was that the participants would differ in how they integrated several factors (the indispensability of an injured athlete, the importance of the competition, the medicine staff's opinion, and the athlete's opinion) when judging the acceptability of a decision to select (or not) an injured athlete. We expected an analysis of the integration process to highlight different individual ethical positions.²³⁻²⁵ This hypothesis was confirmed, since our overall analysis of the raw data on selecting (or not) an injured athlete identified two different moral positions (the first corresponding to cluster 3, and the second corresponding to clusters 1, 2 and 4). The members of cluster 3 were more likely than members of clusters 1, 2 and 4 to consider that the coach's decision to select an injured athlete was acceptable. Our second hypothesis was the ethical position would depend on the participant's role in sport. This hypothesis was confirmed because the four clusters differed in their composition. Our findings confirm that moral positions differ with regard to violence and doping in sport.²³⁻²⁵ Many factors are involved, and they are likely to contribute in a complex way to the final ethical judgment. Our results indicate that moral judgment depends on the person's level of involvement in sport.¹⁵ Views on various ethical issues can be characterized by the manner in which individuals with different roles in sport integrate various items of information when judging the acceptability of an act.

This first analysis showed that the participants in the four clusters differed very little in their ethical view of when a coach decides not to select an injured athlete; all the participants judged that this decision is always acceptable, underlining the "wisdom" of the coach's decision. All the participants endorsed a secure ethical position by considering that the athlete's health is primordial and that not selecting an injured athlete is always acceptable. This reflects efforts to promote a patient/athlete-centered approach in all aspects of sports medicine and athletic training. The non-selection of an injured athlete is unanimously

approved in the sports area. This is a classical approach to morality, referred to as deontology.⁴⁰ People comply with principles, codes, and policies committed as a single group. However, the members of the four clusters differed in their judgment of the acceptability of selecting an injured athlete; three different ethical positions were identified in this respect, corresponding to (i) cluster 1, (ii) clusters 2 and 3, and (iii) cluster 4.

Ethical position 1 (cluster 1)

In the first ethical position, the selection of an injured athlete was judged to be almost never acceptable. Selecting an injured athlete was only acceptable when the medical staff's opinion was favorable and the athlete wanted to play. The participants in cluster 1 considered that the medical staff's opinion was essential; the members of this cluster placed great trust in the medical staff.⁷ However, the participants also considered the athlete's opinion, which highlights their appreciation of the complexity of the coach's decision and the athlete's efforts to stay in the team. This finding confirms that the coaches must take account of an injured athlete's needs.^{41,42} The members of cluster 1 judged that the coach's decision may be acceptable when these two conditions (a favorable opinion from the medical staff, and the athlete's willingness) are met. In all other conditions, selecting an injured athlete was not acceptable. The ethical position adopted by the members of cluster 1 is in line with a shared decision-making approach,⁵ where the athlete and medical staff are at the heart of ethical decision-making; they share information and decide together. The athlete may give the medical staff information about his/her concerns, sporting objectives, feelings, and discomfort. In exchange, the medical staff may explain the risk and benefits of continued participation, and the available treatment options.⁴³

The professional athletes (54% of whom were in cluster 1) adopted this ethical position, and considered that the selection of an injured athlete is almost never acceptable. In various professional domains, professionals used a variety of tools to perform their work: for

example, a psychology researcher uses a computer, a radiologist uses an X-ray machine, etc. Professional athletes may consider that their body is their work tool – a tool that they must take care of. Consequently, they often considered that it is not acceptable to play when injured. Suffering an injury and being treated may be stressful – especially so for elite athletes, who have more to lose. By developing an ethical position in line with a shared decision-making approach, the professional athlete can seek to work with the medical staff and make a mutually valid decision.⁴⁴ In high-level sport, the legal responsibility for deciding to allow an injured athlete to play almost always lies with a sports medicine specialist. The latter will advise the coach on the rate at which an injured athlete can be progressively exposed to increasing levels of physical activity.⁴⁵

Ethical position 2 (clusters 2 and 3)

In the second ethical position, selecting an injured athlete was sometimes acceptable. Clusters 2 and 3 made up this position but differed somewhat. In cluster 2, selecting an injured athlete was sometimes acceptable but depended on the medical staff's opinion; the more favorable this opinion, the more the selection was judged to be acceptable. These participants considered that healthcare professionals were essential. Healthcare professionals work with athletes to promote optimal health for participation in sport. The medical staff have a key role in serving the athlete because the latter's health may be compromised for the good of the team and/or the pursuit of glory and fame through winning.⁴⁶ The members of cluster 2 developed an ethical position in line with a paternalistic decision-making approach,⁵ considering the medical staff is the main stakeholder considered when judging the acceptability of selecting an injured athlete. A favorable medical opinion is essential for ethical decision-making. The medical staff is best placed to assess the risks associated with selecting an injured player, and so should make the decision.⁴³

Cluster 2 contained 41% of the amateur coaches and 32% of the amateur athletes;

these individuals developed the ethical position 2 and thus primarily considered the medical staff's opinion - a factor centered on the athlete's health. Amateur athletes appear to be more sensitive to the athlete's health, and are not to be totally immersed in the performance issue⁴⁷ Alternatively, one can hypothesize that amateur athletes are less knowledgeable about sports injuries and their consequences than professional athletes are.⁴⁸ This might explain why amateur athletes consider that the medical staff's opinion is most important. Even though amateur coaches receive a substantial amount of formal education on human physiology, their judgments show that they considered the sports physician to be unambiguously responsible for the coach's decision.⁴⁹

In cluster 3, selecting an injured athlete was sometimes acceptable but depended on the opinions of the athlete and the medical staff; the more strongly an athlete wanted to compete, the more the selection was judged to be acceptable. Likewise, the more the medical staff's opinion was favorable, the more the selection was judged to be acceptable. The members of cluster 3 adopted an ethical position close to a shared decision-making approach.⁵ The athlete's and the medical staff's opinions were essential for ethical decision-making. Hence, the medical staff and the athlete should discuss the most appropriate decision for a given situation.⁴⁴

The participants in cluster 3 (containing 33% of the non-athletes, 24% of the amateur athletes, 24% of the amateur coaches and 20% of the physiotherapists) considered that the selection of an injured athlete depended on the athlete's and the medical staff's opinions – emphasizing the importance of collaboration between these two stakeholders on ethical issues. Sports medicine staff should communicate and respond to whatever an athlete's injury concerns, and can tell the athlete about the importance of managing an injury. The athlete might maintain a positive attitude toward the treatment program, as he/she is willing to learn and to do whatever is needed to recover as fully as possible.⁵⁰ The ethical decision-making

process would thus be improved.

According to this second ethical position (in clusters 2 and 3), the selection was judged to be more acceptable when the team needed the athlete. Team sports involve social support from other athletes. When injuries occur, athletes are afraid of being separated from the team group. For example, Gould, Udry and Bridges⁵¹ found that athletes prevented from participating in their activity are more stressed because they lose contact with their team, coach, and friends. Injured athletes report feeling isolated and lonely,⁴⁷ and are dissatisfied with the social support they received when injured. Udry, Gould and Bridges⁵² stated that teammates have a greater effect than coaches or medical professionals on an injured athlete's emotional state. Athletes who come back quickly after injury are more respected and more admired than those who do not.³

As mentioned above, this second ethical position encompasses clusters 2 and 3. This might be considered to be surprising from an ethical standpoint. The members of clusters 2 and the members of cluster 3 did not have the same approach to ethical decision-making, and respectively adopted positions in line with paternalistic decision-making and shared decision-making. Research on medical ethics has highlighted a move towards shared decision-making model at the expense of paternalistic decision-making.⁵³ The second ethical position described here shows that the shift from a shared decision-making model to a paternalistic model is not so clear; the two models can be grouped together within the same ethical approach – showing that a transition from the paternalistic model to the shared decision-making is now underway.

Ethical position 3 (cluster 4)

In the third ethical position, the coach's decision to select an injured athlete was generally acceptable if the athlete agreed. Injuries are commonplace for athletes engaging in competitive sport. Each competition must be won, and so the athletes follow their coach, who has a leadership role. The third ethical position was adopted by the participants in cluster 4.

They estimated that the athlete alone must decide whether or not he/she can perform when injured; in ethical terms, this is aligned with an autonomous decision-making approach.⁵ The decision-making is unilateral, and the athlete makes an independent choice.⁴⁴

Cluster 4 (containing 32% of the professional athletes) often agreed with the coach's decision and often considered that selecting an injured athlete is acceptable as long as he/she agrees. Participating in competitions is the athletes' job, although an ethical dilemma arises whenever an individual athlete's best medical interests conflicts with the performance expectations of authority figures (e.g., coaches).⁴⁵ Although there are various types of personal relationship in sport (athlete-athlete, athlete-team manager, athlete-team physician, etc.), the coach-athlete relationship is unique and is crucial for athlete development.⁵⁴ In the context of injury, in keeping with the principle of autonomy¹¹, the healthcare professional limits him/herself to explain diagnostic and treatment options and must approve the athlete's decision.⁵⁵ The question is to what extent an athlete agrees to compete or to try to compete after sustaining an acute or overuse injury. Athletes may adopt a flippant attitude towards pain and/or may hide their pain from significant others, such as teammates and coaches.¹² "Playing" is important in maintaining an athlete's identity and sense of professional pride and in avoiding the "injured role", which is negatively perceived within the sports environment.⁵⁶ Pain and frequent medical treatment are perceived to be normal in professional sport.¹² Athletes should be fully aware of the short- and long-term risks of playing when injured. That raises the dichotomy between the beneficence and non-maleficence and the conflicts between these two principles can lead athletes to risk situations.¹⁰ They should be aware that injuries may shorten their athletic career or may affect them after the end of their athletic career.⁵⁷

Practical Applications

A person's role in sport might explain the observed differences in ethical positions. Non-athletes or amateur participants may not have the same ethical position as high-level

athletes because competitive performance is not important for the former group.¹³ It is known that individuals with different roles (amateur athletes, professional athletes, coaches, physiologists, etc.) may have different objectives and principles.³⁷ Amateur athletes want to have fun playing a sport rather than playing to win a championship all season. They are less intensely engaged with the sport; their objectives are characterized by short-term goals, enjoyment, and health-related outcomes. Côté and Gilbert¹³ suggested that performance coaching entails a more intensive commitment to a preparation program for competition. To this end, the coaching program is highly specific.

It is undeniable that a coach's decision concerning an athlete's health can be judged in different ways. It is a complex decision. The injured athletes' participation in competition and the circumstances in which coaches make these decisions require a more nuanced appreciation.⁵⁸ What coaches consider may be affected by their experience. The decision-making process employed by coaches can be due to novice-expert differences and differences in amateur-professional context.⁵⁹ Professional coaches may have easy access to sport-specific medical advice, while amateur coaches may not. Consequently, the most relevant sources of information may be lacking and the priority may be to minimize lost training time.⁶⁰ Compared to novice coaches, expert coaches may have stored decision-making procedures from personal experience.⁶¹ In addition to learning from experience, what coaches consider is also affected by their education qualifications in injury care and management. Least experienced coaches may consider less informational parameters than experienced coaches whose decision-making may be regulated via a range of additional considerations.⁵⁸

Nevertheless, coaches have a major role in athletes' ethical development.⁹ As noted by Robbins and Rosenfeld⁴¹, sports coaches are often needed to provide basic support to injured athletes in variety of situations and circumstances. Coaches are responsible for preventing or minimize injuries to their athletes. The relationship is more than determinant of the athlete's

motivation, skills, and energy.⁶² Mohamadinejad and Mirsafian⁶³ classified a coach's duties into seven major categories, which cover different types and various levels of recreational and competitive sporting activities. If coaches want athletes to participate safely, they should be aware of their responsibilities because an accident that injures an athlete may trigger civil action against the coach.⁶⁴ Enabling athletes to compete when injured may violate ethical principles. Coaches must also be aware of and understand their legal responsibilities. It is also essential for coaches to have the skills and knowledge needed to meet their obligations. However, as long as athletes are informed of the risks and potential consequences of competing when injured and wish to compete without being pressured to do so, no ethical issues are raised.

We suggest that the coaches could be confronted with this type of ethical decision in their education and training. Our questionnaire or other sports simulations could be used to stimulate debate between coaches and prompt them to think about ethical dilemmas. We recommend having clear rules for each roles (athletes, medical staff, and teammates) when an athlete is injured because it is difficult to both protect the athlete's health and to seek to win the competition.

Before making a decision, the coach should communicate with medical staff and the injured athletes. It would be useful to establish a consensus between people who are directly involved in the case. This approach helps to compare potentially conflicting positions and to brainstorm possible alternatives. At this level, we suggest that all the involved individuals should think about the potential consequences (on the athlete's health, on the teammates' trust, on the team's performance, etc.) of selecting or not selecting an injured athlete. Therefore, effective respectful collaboration between stakeholders is required when faced with an ethical dilemma.⁷

Limitations and perspectives

The present study had some weaknesses, which should be considered in future research on sports ethics and health. Firstly, we did not take account of certain social factors (families, agents, managers, fans, the media, etc.) that could be incorporated the acceptability of a coach's decision.³ Other informational cues could have been considered, such as the uncertainty of the results, the impact on the sponsors, and so on. In our scientific approach, however, only a small number of factors might impact the judgment. Including too many factors in a questionnaire might lead to cognitive overload for the participants.³⁸

Secondly, we did not take account of the nature and severity of the injury.⁸ The acceptability of the coach's decision might differ as a function of these factors. Concussion or a slight ankle sprain will be associated with different risks for the athlete's health if he/she continues to compete.³⁴

A third (methodological) limitation relates to the fact that the ANOVA in each cluster had the same threshold for statistical significance, even though the sample size in each cluster differed. In fact, a different threshold should have been used in each cluster. However, we applied the statistical approach typically used in studies of Anderson's framework.¹⁹⁻²²

Fourthly, our study scenarios focused on a rapid return to play; the athlete injured him/herself on the day before the competition. However, the pain may last for longer. The acceptability of a coach's decision may depend on the time since the injury and the time since treatment was initiated (days, weeks, or months).⁶⁵

Fifthly, further ethical issues concerning the athlete's health could have been studied. For instance, we consider that confidentiality may be an important ethical issue.⁶⁶ Athletes rely on the medical staff's professionalism, and information about their health ought to remain confidential. However, sports medicine professionals may be agents or employees of a club, and may handle the information cues differently. Is violation of a professional duty of confidentiality acceptable?

Conclusion

The objective of the present study was to map individuals' ethical positions according to the acceptability of selecting or not an injured athlete. On one hand, the non-selection of an injured athlete was unanimously approved. On the other hand, the selection of an injured athlete led to three different ethical positions which differed in terms of the type of role in sport. This study emphasizes that coaches play an important role in athletes' life for their improvement. They need to be aware of the risks and consequences of their decision. For that, they must take care of the athlete's health which needs collaboration with medical staff. This study suggests to improve coach-medical staff-athlete communication.

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1 Table 1

2 *Means and SDs for each factor in the four clusters*

	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	5.12	0.11	5.61	0.05	5.63	0.07	5.83	0.20
<hr/>								
Factor								
TEAMMATE								
Not indispensable	5.75	0.67	5.55	0.84	5.10	0.11	5.84	0.20
Indispensable	5.45	0.54	5.70	0.78	5.11	0.11	5.81	0.20
IMPORTANCE OF COMPETITION								
Low	5.59	0.66	5.56	0.86	5.23	0.10	6.22	0.21
High	5.62	0.53	5.69	0.69	4.99	0.12	5.43	0.24
MEDICAL STAFF								
Not in favor of selection	5.21	0.05	5.51	0.07	5.04	0.11	6.19	0.22
In favor of selection	5.99	0.08	5.75	0.09	5.18	0.11	5.47	0.24
ATHLETE								
Wants to compete	5.46	0.05	5.52	0.08	4.82	0.11	5.49	0.21
Does not want to compete	5.75	0.07	5.74	0.07	5.39	0.12	6.17	0.20
COACH								
In favor of selection	3.16	0.09	4.71	0.10	4.39	0.11	5.74	0.19
Not in favor of selection	8.05	0.07	6.55	0.10	5.83	0.14	5.92	0.25

Table 2

Main results of the ANOVA on each cluster, when the coach selects an injured athlete.

Cluster and Factor	Effect		Error		<i>F</i>	<i>p</i>	η^2_p
	<i>df</i>	<i>MS</i>	<i>df</i>	<i>MS</i>			
Cluster 1							
Teammates (T)	1	2.75	89	4.06	0.67	.412	.00
Importance of the competition	1	34.53	89	1.67	20.65	.000	.19
Medical staff (M)	1	3747.45	89	9.65	387.99	.000	.81
Athlete (A)	1	1222.86	89	6.53	187.26	.000	.69
T x M x A	1	44.45	89	3.30	13.46	.000	.13
Cluster 2							
Teammates	1	84.60	59	4.76	17.76	.000	.23
Importance of the competition	1	156.00	59	3.45	45.19	.000	.43
Medical staff	1	4137.55	59	7.17	576.58	.000	.91
Athlete	1	609.60	59	7.62	79.96	.000	.58
T x M x A	1	4.40	59	4.03	1.09	.300	.02
Cluster 3							
Teammates	1	87.56	48	5.64	15.53	.000	.24
Importance of the competition	1	16.00	48	4.94	3.23	.078	.06
Medical staff	1	760.18	48	4.82	157.74	.000	.76
Athlete	1	2557.47	48	7.27	351.71	.000	.88
T x M x A	1	42.25	48	3.54	11.93	.001	.19
Cluster 4							
Teammates	1	2.11	19	2.98	0.70	.411	.04
Importance of the competition	1	18.05	19	3.21	5.61	.029	.23
Medical staff	1	20.00	19	11.46	1.74	.202	.08
Athlete	1	92.45	19	2.64	35.00	.000	.65
T x M x A	1	5.51	19	4.29	1.28	.271	.06

Threshold for statistical significance: $p < .001$

Table 3

Results of the Pearson's Chi-square test between the roles of participants and the four clusters.

Participants	Clusters				Total
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	
Non-athletes	14 (31%)	11 (24%)	15(34%)	5 (11%)	45
Amateur athletes	37 (41%)	29 (32%)	22 (24%)	3 (3%)	91
Amateur coaches	6 (35%)	7 (41%)	4 (24%)	0 (0%)	17
Professional athletes	15 (54%)	3 (11%)	1 (3%)	9 (32%)	28
Professional coaches	2 (25%)	4 (50%)	1 (12.5%)	1 (12.5%)	8
Physiotherapists	16 (53%)	6 (20%)	6 (20%)	2 (7%)	30
Total	90 (41%)	60 (27 %)	49 (23%)	20 (9%)	219

Legend: The 6 (Type of participants) x 4 (Clusters) Pearson's chi-square test was significant, $\chi^2 (15) = 39.89, p < .001$. Table 3 shows the cluster composition, in terms of the participants' role.

Table 4

Marascuilo's post hoc multiple proportion comparisons for the participants, between the four clusters.

Comparison	χ^2	p
Cluster 1 vs Cluster 2	8.98	.11
Cluster 1 vs Cluster 3	10.17	.07
Cluster 1 vs Cluster 4	12.34	.03*
Professional athletes vs amateur coaches	14.40	.01*
Cluster 2 vs Cluster 3	4.12	.53
Cluster 2 vs Cluster 4	22.90	<.001*
Professional athletes vs amateur athletes	23.56	<.001*
Professional athletes vs amateur coaches	36.00	<.001*
Cluster 3 vs Cluster 4	23.86	<.001*
Professional athletes vs amateur athletes	46.00	<.001*
Professional athletes vs non-athletes	22.99	<.001*
Professional athletes vs amateur coaches	90.00	<.001*
Professional athletes vs physiotherapists	13.05	.02*

Legend: We applied Marascuilo's *post hoc* procedure for multiple comparisons. This tested the significance ($p < .05$) of pairwise differences within the cluster of groups. When the comparison between two clusters was significant, the significant pairwise differences are shown in Table 4. * indicates significant differences in the clusters.

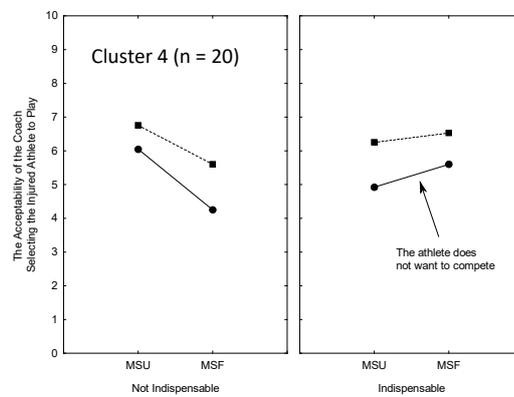
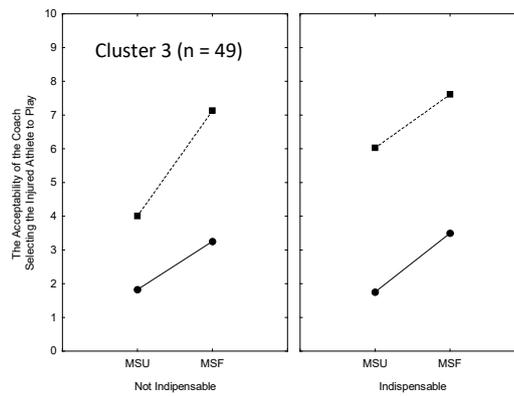
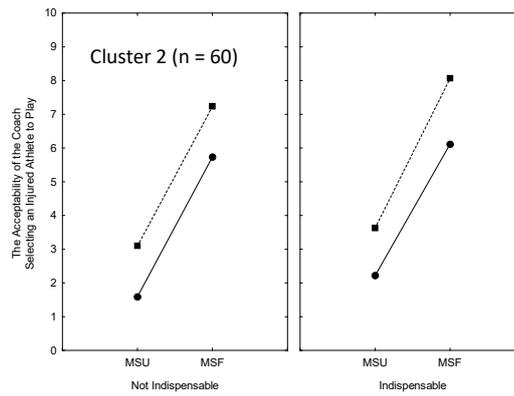
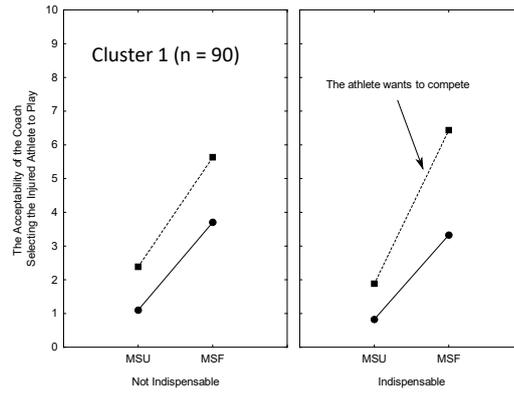


Figure 1. The combined effects of the teammates' opinion, the medical staff's opinion, the athlete's opinion and the coach's opinions on the acceptability of selecting an injured athlete, by cluster.

Note. The Figure shows the four clusters related to judgements of acceptability of selecting an injury athlete. The mean acceptability ratings are given on the y-axis. The two levels of the medical staff's advice are given on the x-axis. MSU means "medical staff is unfavorable", and MSF means "medical staff is favorable". Each line corresponds to one level of the athlete's opinion: the dotted line corresponds to agreement to compete, and the solid lines corresponds to refusal to compete. Each panel corresponds to one level of the teammates' opinion: in the left panels, the athlete is not indispensable for the team; in the right panels, the athlete is indispensable for the team.