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Anti-doping and legitimacy: an international survey of elite athletes' perceptions

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Abstract

Anti-doping work is a comprehensive enterprise that entails control and governance of elite athletes' everyday lives. However, in policy-making regarding doping and anti-doping in elite sports, the athletes' perspective has not been considered adequately. Focusing on elite athletes' perceptions of anti-doping as both principle and praxis, the study aimed to analyse how these perceptions can be understood from a legitimacy perspective. A survey study involving 261 elite athletes from 51 different countries and four international sports federations was conducted. The results showed that the athletes did not question the legitimacy of the rules, but had concerns about the legitimacy of the way the rules and principles are enforced in practice, specifically with regard to matters of privacy, lack of efficiency and equal conditions as well as athletes' involvement in the anti-doping work. The article describes how athletes' perceptions of the legitimacy of anti-doping work constitute the basis for their willingness to follow regulations as well as a precondition for the work's functionality and stability. In light of this finding, the article calls for the empowerment of athletes in anti-doping work.

Keywords: anti-doping policy; anti-doping practice; doping in sports; performance enhancing drugs; legitimacy.

Introduction

Anti-doping work today is a comprehensive enterprise that has emerged in the wake of increasing use of performance-enhancing drugs and methods. Anti-doping involves rather extensive procedures, carried out by an array of organisations on both national and international arenas; it targets and affects athletes who are at the core of sports. Anti-doping practice ranges from doping testing carried out both within and outside competitions as well as the whereabouts information system to biological passports and intelligence operations that are under development. In preventing and controlling doping in sports, there are many activities that require efforts from both the controlled and the controlling parties.

Advancement of this work involves an ongoing process of developing new methods for deterrence and detection. The approach that stresses deterrent strategies is sometimes expressed in metaphorical terms within the “warfare genre” (Wagner & Pedersen 2014), where images such as “the war on doping” and “doping police” are used. This indicates a strong emphasis on instrumental legitimacy, which could be seen as an inefficient way of ensuring compliance with regulations. In the present article, we argue that understanding how athletes on a wide international arena perceive and view anti-doping work is of importance to sports authorities and policy-makers in managing legitimate regulations. At an overall level, the aim of the present study is to analyse whether there is a generalised perception among elite athletes that the actions are desirable, proper and appropriate, i.e. legitimate with regard to both anti-doping as a principle and anti-doping in practice.

The discussion on athletes’ perspective on anti-doping

Ethical and privacy issues, which can have implications for the legitimacy of anti-doping work, have been a subject for researchers discussing the fact that anti-doping measures are rather comprehensive and entail control and governance of elite athletes (see, e.g., Park 2005, Kreft 2009, Møller 2011, Pappa & Kennedy 2013). Concerning the issue of privacy,

doping controls and the whereabouts system are anti-doping measures that have been discussed. According to Waddington (2010), drug testing is a violation of athletes' privacy. He emphasises how important it is for governing bodies to take athletes' privacy into account in policy-making processes. Athletes' rights and lack of influence over anti-doping processes have also been discussed by researchers, who stress that athletes' voices are seldom heard in decisions concerning rules and regulations (Dimeo 2010, Waddington 2010, Krefth 2011). Houlihan (2004) suggests that athletes' influence over policy-making in sports, especially regarding doping policies, is minimal and that 'sport policy is generally made for, or on behalf of, athletes, rarely in consultation with athletes, and almost never in partnership with athletes' (p. 421). An example of athletes' call for empowerment is the formation of the European Elite Athletes Association in 2007. This organisation of various players' associations and athlete unions in different sports states that members 'support a fair and effective performance-enhancing drug testing regime that recognises, respects and protects athletes' legal rights as employees, workers and European citizens' (EU Athletes 2014). The key point for this association is apparently that the athletes' perspective needs to be taken into account and that their rights need to be protected.

The presented discussions suggest that, in order to gain legitimacy among athletes, future processes for developing anti-doping policies and practices should take into account the athletes' standpoints and arguments.

Research on athletes' perceptions of anti-doping

There is a limited amount of research empirically examining how anti-doping work is perceived by the very people who are the focus of it. The research that was carried out during the period 1990-2006, much of which lacks a theoretical foundation, shows that athletes generally have positive attitudes towards doping prevention, but that they also have concerns about their own integrity and testing methods (Backhouse et al. 2007). Subsequent studies on athletes' perceptions have primarily focused on separate aspects of the anti-doping

work, such as urine doping control, the whereabouts system or the therapeutic use exemption (TUE), and most of these studies have been carried out in a single country. Regarding *doping control*, athletes in Poland and Australia have been found to favour this measure as an efficient deterrent to use of prohibited substances in sports (Sas-Nowosielski & Świątkowska 2007, Dunn et al. 2010). This general support for doping testing is also shown in a Danish study (Elbe & Overbye 2013), though the participating Danish athletes experienced some degree of intrusion on personal integrity and privacy regarding the procedures for urine testing. Studies investigating athletes' perceptions concerning the *whereabouts system* have been conducted in Norway, The Netherlands and Denmark, and they indicate an acceptance of the whereabouts system as necessary for the work against doping in sports (Hanstad et al. 2009, de Hon et al. 2011, Overbye & Wagner 2013a, Valkenburg et al. 2014). Nevertheless, these studies also report that the athletes feel that their everyday life is negatively affected by this system. Furthermore, it has been suggested that the legitimacy of the whereabouts system could be jeopardised when athletes view it as problematic (Waddington 2010). The possibility for elite athletes to receive a *therapeutic use exemption* (TUE) for otherwise banned substances has been examined from the perspective of Danish athletes (Overbye & Wagner 2013b). These athletes generally supported the exemption, but were also found to distrust the efficacy of the regulation, which was pointed out as potentially risking the legitimacy of the anti-doping regime. A low level of trust in the *punishment system* has also been shown, in that athletes in a German study considered the sanctioning of doping offences to be inefficient (Pitsch et al. 2007). Thus it would seem that athletes' general attitude towards anti-doping policy is rather positive, but that anti-doping work in practice entails issues of integrity, negative effects on everyday life as well as mistrust in some of the regulations. This tension between policy and practice has also been shown among athlete support personnel in Australia (Mazanov et al. 2015).

Looking at the field of research on anti-doping we find that even if researchers have started to pay attention to the situation of elite athletes, there is a lack of empirical studies that take

an overall approach to athletes' perceptions of anti-doping regulations and practices, particularly studies that analyse perceptions of anti-doping based on solid theories of legitimacy. As we have seen, recent studies have focused on athletes' perception of individual aspects of anti-doping work, been carried out in a single country, and often lacked theoretical underpinnings. There is a need for research that provides a deeper understanding of athletes' perceptions of anti-doping work and what these perceptions mean for the legitimacy of anti-doping work. Our hope is that the present study will contribute to discussions on policy and provide grounds for legitimate anti-doping work by filling the gap regarding the international and cross-sport perspective on the legitimacy of anti-doping work.

Theoretical framework

The theoretical framing of the present study on athletes' views on anti-doping is based on theories of legitimacy. According to Donovan et al. (2002), athletes' perceptions of the legitimacy of anti-doping authorities and policy constitute one of the inputs to their attitudes and intentions concerning the use of doping substances. If athletes see anti-doping policy and practice as legitimate, it is more likely they will comply with the regulations (Donovan et al. 2002). Furthermore, Connor et al. (2013) stresses the importance of examining various actors', including athletes', perceptions of legitimacy for anti-doping regulation to better understand the translation process of the rules into practice. The concept of legitimacy can be understood as 'a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions' (Suchman 1995 p. 574). Relying only upon incentives and punishments for compliance, i.e. an instrumental approach, requires great resources for surveillance meant to discipline those who do not follow the rules (Tyler 2006a). This approach also entails a contraposition between the authority and the members (Sunshine & Tyler 2003). The more normative approach (Donovan et al. 2002), where members instead

see the authority and the regulations as reasonable and appropriate, would entail that they most likely agree and comply with the policies made and decisions taken.

The existence of legitimacy for a social order entails that followers, or members, *feel obliged to defer* to the authority (see, e.g., Zelditch 2001, Tyler 2006a). Weber (1978) points out that individuals can give legitimacy to a social order on the basis of tradition, for affective/emotional reasons, based on value-rational beliefs or due to positive enactments that are considered legal. The legality and regulations can, according to Weber, be considered legitimate because they are *voluntarily agreed upon* by the different actors and because the regulations are imposed by an authority that is regarded as legitimate; thus the regulations are met with compliance. Even if members do not have any personal benefit from a regulation, it may still be met with compliance if the authority and its regulations have legitimacy (Zelditch 2001). Regarding the specific sports and anti-doping context, Donovan et al. (2002) emphasises that an essential component of a policy's legitimacy is that the athletes perceive that the appropriate authority is enforcing the regulation. Thus, feelings of obligation to defer to the authority and the existence of voluntarily agreements can be seen as indicators of legitimacy for a social order, such as anti-doping policy.

For a social order to be perceived as legitimate, the processes and actions within it are imperative. In studies on perceived legitimacy and its antecedents and consequences, Tyler's process-based model of regulation is the most well known (Johnson et al. 2014). In this model, *procedural justice* is an antecedent of perceived legitimacy. Compliance with the regulations, in turn, is highly dependent on legitimacy and can be seen as its consequence (Tyler 2001, Sunshine & Tyler 2003, Tyler 2006b, Levi et al. 2009). Others have questioned the causal relationship between procedural justice as an antecedent of legitimacy and compliance as a consequence of legitimacy. It has been suggested that procedural justice is instead a component of legitimacy and that compliance is also a component of, more than a consequence of, legitimacy (Tankebe 2013). Nevertheless, we can conclude that procedural justice is an important element of perceived legitimacy and willingness to follow regulations,

regardless of whether it is an antecedent of, or a part of, legitimacy. Fair actions and procedures are important to members' evaluation of an authority's legitimacy, more important than the outcome of the regulations or the fear of punishment for non-adherence. Members' perceptions of legitimacy are more connected to judgements of different aspects of procedures that are of more non-instrumental concern. One of these aspects of procedural justice is that the members feel they are part of a decision-making processes – that they are being listened to, can present arguments and have their views considered by the authority. Another aspect is that members believe the decision-making procedures are neutral and independent. Interpersonal aspects of the procedures are also important for the perception of procedural justice, as well as that members experience fair and respectful treatment regarding their rights and themselves as individuals. Also of importance to how members judge procedural justice is their assessment of authorities' motives as well as whether the outcome of the procedure is considered fair (Tyler 2006b). In a sport-specific context, procedural justice could mean that procedures are just and equitably imposed across athletes and that they are scientifically accurate and effective (Donovan et al. 2002). Hence, how elite athletes view procedural justice in the context of anti-doping work praxis is an important element of the perceived legitimacy of anti-doping as a whole.

Theories on legitimacy provide a useful tool for analysis of perceptions about anti-doping as a phenomenon, which is an approach that has been largely neglected previously. One premise is to analyse how athletes view the legitimacy of anti-doping as a principle based on the indicators *obligation to defer* to the authority and the existence of *voluntarily agreement*. The other premise is to analyse how athletes view the legitimacy of anti-doping work praxis through the indicator *procedural justice*. Legitimacy is an important part of building stability in a system over time, because legitimacy entails voluntary acceptance and this, in turn, leads to stability (Tyler 2006a). This allows for discussions on the formation of anti-doping policy and practice that are stable in a long-term perspective.

Methodology

Employing a quantitative approach to elite athletes' perceptions of anti-doping work, we aimed at obtaining a broad set of findings by including a wide range of athletes, which would allow us to investigate variations as well as patterns of association (Bryman 2012). In order to get an international perspective and to study several sports, international sports federations were considered important collaborators. Our strategy was to survey elite athletes within participating federations using a questionnaire. In studies that examine elite athletes' perceptions about doping and anti-doping, survey response rates range from around 80% (Alaranta et al. 2006, Sas-Nowosielski & Świątkowska 2007, Hanstad et al. 2009, Dunn et al. 2010) to 25% or even lower (Huybers & Mazanov 2012, Bloodworth et al. 2012, Valkenburg et al. 2014). In general, surveys with high response rates are carried out within specific groups that are gathered at one time and in one place, for instance at a training camp. Surveys with lower response rates are frequently based on online questionnaires. Online surveys do run the risk of getting low response rates, among other reasons due to the increasing number of 'spam' e-mails, which may lead to decreased willingness on the part of respondents to open unknown letters (Gratton & Jones 2010). On the other hand, it has been shown that online questionnaires have the potential of getting higher response rates than traditional postal surveys, specifically when elite athletes are involved (Lonsdale et al. 2006). Furthermore, online surveys have the potential to give better access to a certain population, have no geographical limitations (Gratton & Jones 2010) and have fewer missing values compared to postal surveys (Lonsdale et al. 2006). We are, thus, aware of the complexity of surveying elite athletes' perceptions. However, after considering different dimensions of the issue – for instance that the target group was not situated in a specific country and did not belong to a certain sports team, but to a wider international context – we chose on-line survey as our data collection method for the present study.

Questionnaire construction

To identify aspects of anti-doping work relevant to the present study, we reviewed the previous research as well as WADA regulations. The design of part of the questionnaire was inspired by a study on elite athletes in Denmark (Overbye 2013). The questionnaire was organised in seven sections covering the following areas: athlete's background; doping controls; the whereabouts system; therapeutic use exemption (TUE); results management - storing and reanalysing of test samples; biological passports; and finally anti-doping work in general. The questionnaire is presented in Appendix 1. There were 47 questions with both multiple choice and Likert scale (Bryman 2012) response formats. The aim was to capture the respondents' experiences of the different areas and their views on both anti-doping as principle and as practice. The questions with a Likert response format had the four increments: Strongly agree, Agree to some extent, Disagree to some extent and Strongly disagree. There was also a response alternative Don't know/Can't answer. The Likert scale matrixes consisted of 2 to 8 items, including statements that were interrelated and phrased to imply both positive and negative views of the area. An example of a positively phrased statement regarding anti-doping as a principle is "I think that doping controls are an essential part of the work with keeping drugs out of my sport". Another example, here a negative phrasing about anti-doping in practice, is "I feel monitored knowing that the doping control personnel always know where I am".

Every section included an open-ended question where respondents could elaborate on their views in more detail (Patton 2002). The questionnaire was written in English and most respondents who answered the open-ended questions wrote in English. To test the relevance of the questionnaire, we conducted a pilot study with 36 elite athletes in the registered testing pool within one national sports federation in Sweden. The pilot study resulted in a few changes in the questionnaire, as did comments from the participating international sports federations.

Participants and Procedures

Federations

To obtain a sample that covered athletes from different parts of the world as well as various sports, nine international sports federations were contacted, informed about the study and invited to participate. These federations were chosen based on their accessibility, size and the extent of doping control activities. Another selection criterion was that they represented a mix of individual and team sports. Six federations consisted of individual sports and three of team sports. After reminders, four federations agreed to participate: the international federations of Athletics (IAAF), Basketball (FIBA), Skiing (FIS) and Volleyball (FIVB).

Athletes

The athletes were contacted by email through the federations' email databases. The inclusion criterion for the athletes was that they should belong to the federations' International Registered Testing Pool¹ (RTP). The invitation to participate was sent to all athletes in the RTPs within the participating federations during the period April to August 2014. A link to the online questionnaire was sent together with a cover letter with information about the study, assuring the voluntary nature of the study, participants' right to withdraw and secure handling of data². The athletes were reminded at three occasions to take the survey. The final sample consisted of 261 athletes from 51 different countries; see Figure 1.

Figure 1. Number of respondents from the respective regions and federations. Missing data: 11.

Forty-six per cent of the respondents were women and 54% were men. Fifty-one per cent of the athletes were 25 years or younger and 49% were over 25 years. Sixty-six per cent of the athletes had been competing at the senior top-national/international level for more than five years.

Nonresponse analysis

The four federations that chose to participate in the study reflect the diversity existing in the field, and can be considered similar in many respects to the nine initially approached federations. The final sample includes a mix of individual and team sports as well as federations that carry out both many and relatively few doping tests. The federations that declined to participate in the study had both less adverse and more adverse analytical findings than the final sample. Given the above, we assumed that the athletes from the participating four federations would have a wide range of perceptions. The shortcoming of the sample of federations is that two of them had rather few athletes in their respective RTPs; moreover these federations also proved to have low response rates, which entailed limitations in the analyses.

The survey was sent to a total of 933 elite athletes within the four federations; 261 of those contacted completed and sent in the questionnaire (response rate 28%). There was no significant difference in non-responses as a function of sex: the response rate was 28% for women and 27% for men. The response rates for the participating federations differed to some extent. FIS athletes were the most represented in number and had the highest response rate; FIBA athletes were the least represented in both number and response rate; see Table 1.

Table 1. Response rates for federations. Missing data: 1.

The relatively low response rate in the present study (28%) could originate from the potentially sensitive nature of the questions about doping and anti-doping matters. Surveys that investigate sensitive subjects have been shown to have lower response rates, partly due to respondents' concerns about confidentiality and information being available to third parties (Tourangeau & Yan 2007). Some answers to the open-ended questions indicate that a few athletes mistakenly thought an anti-doping authority was behind the survey. If several participants made the same assumption, this could have affected the response rate as well as

how the respondents chose to answer the questions. It has also been suggested that elite athletes and support personnel sometimes get signals from sports organisations that anti-doping is not a prioritised issue (Mazanov et al. 2014). If that is the case, it could have affected the athletes' willingness to respond. . However, the final sample in the present study, given its size and distribution, can provide valuable insights into how anti-doping work is perceived by a wide range of elite athletes worldwide. This is, to our knowledge, a rare sample in the research on athletes' perceptions of anti-doping work and its legitimacy.

Analysis

Completed questionnaires were maintained on a central database until the data were transferred for analysis to Statistical Package for the Social Sciences (SPSS), version 20. Background variables (age and length of experience as an elite athlete) were recoded into dichotomised scales. The cut-off for age was set at 25 years; at this point athletes can be considered to have some life experience and they will probably pursue elite sports for some years to come. The cut-off for length of experience was set at five years as athletes in many sports retire between the ages of 25-30 on average and have an elite sports career that lasts around 10 years (Wylleman and Reints 2010). We assumed that an athlete with fewer than five years' experience may not be completely used to the requirements at this level, while at the same time our assumption is that athletes with more than five years at the senior top level have more experience and are able to make comparisons over time. Likert scales with four increments have been recoded into a dichotomised scale, positive and negative, without counting the answers for the Don't know/Can't answer alternative. In the questionnaire, the respondents could choose to leave questions unanswered. If nothing else is specified, the results are presented with these missing values as not counted.

The analysis was primarily performed by identifying themes that clearly favoured or disfavoured anti-doping work. In the analysis, subjects also emerged that could be

considered interesting from a legitimacy perspective, even if they did not express a clear view in favour of or against anti-doping work. The answers that were given to the open-ended question for each section were evaluated and categorised (Patton 2002); we chose quotations that reflect the statements generally and illustrate the quantitative results. The analysis resulted in categories that capture the identified themes regarding both levels: anti-doping as a principle and anti-doping in practice. The second level, anti-doping in practice, consists of the sub-categories: practical procedures in everyday life; concerns about privacy; lack of efficiency and equal conditions; athletes' involvement. The themes at both levels provided a basis for our analysis of the legitimacy of anti-doping work at both levels. The athletes' answers regarding questions on anti-doping as a principle were interpreted on the basis of the two indicators: whether the athletes *feel obliged to defer* and their *voluntary agreement*. On the level of practice, different aspects of *procedural justice* were interpreted through the athletes' perceptions of the doping activities in practice.

Differences between different subgroups' perceptions were examined using cross tabulations and Chi-Square Test, supplemented with logistic regression to analyse relationships. Initially, a univariate logistic regression analysis was performed in which sex, age and length of experience at the elite level were independent variables, and the dependent variable was the answer to a specific question. This was followed by a multiple logistic regression analysis with the three independent variables included simultaneously. Findings from the multiple logistic regressions are presented in the results section as odds ratios (OR), 95% confidence intervals and p-values from the Wald test of the null hypothesis of OR equal to one. A table showing the regression analyses is presented in [Appendix 2](#). In the multiple logistic regression analysis, the odds ratio should be interpreted as the estimate of the odds ratio for one variable controlling for the other two. Two-tailed p-values < 0.05 were considered statistically significant.

Results

The overall picture that emerges from the survey is that elite athletes have positive attitudes towards anti-doping as a principle and towards policies in general. When these policies are put into practice, however, some elements of anti-doping work are met with some scepticism. The areas that stand out as problematic from a legitimacy perspective are practical procedures, privacy issues, a perceived lack of equal conditions, and indications that athletes are not sufficiently involved in the anti-doping work processes to which they are subject.

Anti-doping as a principle

The results indicate that the respondents are generally in favour of prohibiting performance-enhancing drugs and methods within sports, which can be considered a pre-condition for the legitimacy of anti-doping work. Almost four of five respondents (77%) stated that doping in sports should remain prohibited, while only 2% said it should be allowed. Eleven per cent could or would not take a stand and marked the option Don't know/Can't answer.

Furthermore, respondents did not experience anti-doping work as too extensive and troublesome, given that 75% responded that they had not thought about withdrawing from elite sports due to anti-doping work. Note that in relation to this question as well, many athletes do not seem to have reflected over the issue, in that as many as 19% responded that they did not know or could not answer.

Another area where respondents showed support for anti-doping as a principle was in regard to how anti-doping work should be developed in the future. Four of five respondents (80%) agreed that current levels should be maintained or that there should be more anti-doping activities in the future. Three of four athletes stated that current sanctions for violating doping rules are appropriate or too mild. Taken together, it appears that many of the respondents do not feel that the current situation entails 'too much' or 'too harsh' anti-doping activities and sanctions at a general level. One example from the open-ended

questions on supporting anti-doping as a principle is a comment from one athlete about biological passports:

It's another tool in the anti-doping people's/WADA's tool box. The more the better. I want to compete in a clean sport, if this is what it takes - then do it. Do everything you can to provide us, the athletes, with a clean and fair playing field (r 154)³.

Over 80% of respondents agreed that different anti-doping activities – from doping controls and the whereabouts system to storing test samples and biological passports – are essential parts of the work to fight doping in sports. Thus, many athletes seem to support anti-doping as a principle.

Nevertheless, athletes' attitudes towards anti-doping policy are not completely positive, especially when it comes to the TUE regulation. More than half of the respondents (53%) considered it unfair that some athletes are allowed to use otherwise banned substances. Doubts about the legitimacy of TUE could also be observed in the open-ended questions, where, for example, one athlete wrote:

Asthma and other disabilities never should give right to those athletes of using TUE and compete in same champs. There should be an interdiction of participation temporarily while treatment is being underway (r 31).

This comment illustrates how the TUE rule could be perceived as unfair and advantageous for athletes who are allowed to use otherwise prohibited medications. The TUE regulation is thus a part of the policy that athletes may find problematic. In sum, the respondents seem to be in favour of anti-doping as a principle and policy. Their attitudes towards prohibition of doping in sports are mainly positive, and very few would like to see fewer anti-doping activities or milder sanctions. The legitimacy of the TUE regulation is the part of anti-doping policy that is sometimes called into question regarding its fairness.

Anti-doping in practice

Practical procedures in everyday life

Within the framework of implementation of anti-doping policy, there are several procedures that most respondents consider unproblematic. For example, 82% agreed that it is acceptable to have a doping test in their home, and around the same proportion (80%) agreed that they are treated with respect by doping control officers. Nor did many anti-doping procedures seem to cause the athletes to feel singled out or distrusted. Most (84%) disagreed with the statement that selection for doping control gives them a feeling of being under suspicion for a doping violation. Also regarding selection for doping controls, 82% of respondents agreed that selection during competitions was carried out fairly, while 74% were of the same opinion regarding out-of-competition controls (OOC). In the analysis, we did find a difference between athletes 25 years or younger, 82% of whom agreed that the OOC selection process is fair, and those over 25 years, 67% of whom agreed ($p=0.009$) (univariate estimates; OR 2.233 [1.211 – 4.116] $p=0.010$). Likewise, respondents with fewer than five years' experience as elite athletes agreed to a larger extent (84%) than the more experienced athletes (70%) ($p=0.021$) (univariate estimates; OR 2.264 [1.118 – 4.585] $p=0.023$). However, when these differences were analysed using multiple logistic regression, the odds ratios were no longer significant (OR 1.806 [0.921 – 3.540] $p=0.085$ respectively OR 1.683 [0.773 – 3.664] $p=0.190$). This means that when the estimate of the OR for one variable is controlled for the other two, it is no longer significant.

The practical procedure that seems to cause most problems for athletes is the whereabouts system. One third of respondents found filing whereabouts information problematic.

Likewise, one third meant that the system reduces the joy of being an elite athlete.

Furthermore, as many as three of four agreed that they are worried that they will fail to be available for testing at the right place and right time in line with the whereabouts information they provided. Significant differences were observed between experienced and less experienced elite athletes regarding the extent of concern about not being available for OOC

testing. A larger proportion of respondents with longer experience were worried (80%) compared to the proportion of those with less experience (59%) ($p=0.002$). The odds that a more experienced athlete would have concerns were over three times higher (OR 3.501 [1.591 – 7.707] $p=0.002$). Concern about not being available for testing and ultimately being accused of violating the doping regulations was also evident in the open-ended questions, where one athlete described his/her fear of missing an OOC test in this way:

...not easy to always say where I will be during family weekends or holidays. Scared to not be back at home in time (r 177).

Another respondent addressed the anti-doping authorities in his/her response and wrote that the whereabouts system...:

doesn't reduce my joy of being an elite athlete but if I'm constantly on the move and forget to send you guys a text every single day when I change my plans last minute it just gets too much. Then I forget about it, then you guys show up and I get a warning⁴ (r 210).

The findings illustrated above show that the whereabouts system can affect athletes' everyday life and entail feelings of anxiety about receiving a doping violation for failing to follow procedures. From a legitimacy perspective, it is worth noting that although many anti-doping activities seem to be accepted by the respondents in general, the practical issues surrounding the whereabouts system in particular seem to be of great concern to many athletes, especially to those who are experienced and well-educated.

Concerns regarding privacy

The results show a high level of tolerance among the respondents when it comes to interference in their personal sphere, at least at a general policy level. A majority of the athletes, 70%, had positive attitudes towards agreeing to do whatever is necessary to prevent doping in their sport, even if it means restricting their private life. Around two of three respondents meant that neither the whereabouts system nor biological passports posed a threat to an athlete's privacy. Note that regarding the whereabouts system's potential risks as regards privacy, we found a significant difference, such that athletes with longer experience

at the elite level disagreed to a lesser extent (62%) compared to those with less experience (76%) ($p=0.045$) (OR 0.419 [0.197 – 0.892] $p=0.024$). The same pattern could be seen in athletes' opinions about biological passports in relation to controlling their bodies. Athletes with longer experience had less positive (56%) attitudes towards the passports in relation to the question on privacy compared to those with fewer than five years' experience (78%) ($p=0.008$) (OR 3.719 [1.554 – 8.905] $p=0.003$). It seems that more years as an elite athlete means more concerns about anti-doping and privacy matters.

Nevertheless, even if we can discern acceptance of anti-doping efforts at the policy level, the survey results reveal concerns about the legitimacy of anti-doping work with regard to privacy when the policies are executed at the athlete level. Regarding doping tests, four of ten athletes stated that they feel somewhat or very uncomfortable regarding their privacy when providing a urine sample. A notable subgroup difference was observed, as women reported feeling uncomfortable to a greater extent (54%) than men did (37%) ($p=0.001$) (OR 0.420 [0.246 – 0.716] $p=0.001$). Another aspect of the anti-doping work that can be seen as a threat to privacy is the whereabouts system. Forty-seven per cent of respondents stated that they feel monitored knowing that the doping control personnel know where they are. Furthermore regarding whereabouts, over half of the athletes agreed that the people around them, such as family and friends, think the system restricts their social life. Athletes over 25 years agreed with this to a greater extent (62%) than their younger counterparts did (46%) ($p=0.023$) (univariate estimates; OR 1.884 [1.090 – 3.257] $p=0.023$). Athletes with longer experience at the elite level also agreed to a greater degree (60%) than did the less experienced (42%) ($p=0.014$) with the statement that people around them are concerned about their social life (univariate estimates; OR 2.099 [1.160 – 3.800] $p=0.014$). These differences between older vs. younger and experienced vs. less experienced elite athletes cannot, however, be proven in the multiple regression analysis (OR 1.466 [0.774 – 2.776] $p=0.241$ resp. OR 1.772 [0.884-3.555] $p=0.170$). An answer to the open-ended questions that illustrates athletes' unease regarding their private life is the following:

I believe in fight against doping but believe also we should not ignore human rights against this which hurts me a lot! Imagine somebody at your door 6 in the morning and you go to a room with him and our little son to see you like a criminal under inspection (r 72).

The OOC urine sampling procedure apparently entails a great deal of stress for this athlete concerning his privacy. Taken together, questions around urine doping controls, the feeling of being monitored and other negative effects of the whereabouts system are issues that stand out as potentially problematic for the athletes' privacy and social life, ultimately, for the legitimacy of anti-doping work.

Lack of efficiency and equal conditions

One clear opinion among the respondents is that anti-doping efforts are not efficient in all respects and not executed equitably throughout the world and across different sports, which could have implications for their legitimacy. There seem to be doubts about the efficacy of the anti-doping system as regards revealing persons who break the rules. Fifty-eight per cent believed that individuals who use forbidden substances or methods escape detection. Significantly more male respondents (64%) than females (51%) distrusted the efficiency of the system ($p=0.038$) (OR 1.874 [1.091 – 3.220] $p=0.023$). The equity of anti-doping work was questioned by a substantial number of athletes, in that 44% did not believe that the whereabouts system works properly in all countries. Concern about equity at the organisational level was also visible in the open-ended questions, where one athlete stated:

...it seems as though the out-of-competition tests are done mostly by the national anti-doping organizations. There is too much discrepancy it seems between national anti-doping organizations (r 154).

The results show that a large number of athletes question whether anti-doping regulations are globally harmonised. This questioning, and possible distrust, of other nations and organisations can also be seen at the realization level. When the respondents were asked to estimate how many of their competitors have used prohibited substances or methods when competing nationally versus internationally, they generally reported higher proportions for international competitions. When the athletes were asked to estimate how many of their

contestants are doped when they compete nationally, most athletes answered 0-1%, while for international competitions, the corresponding figure was 2-10%.

The perception that rules are not enforced equitably can also be seen in the respondents' answers about doping controls. Four of ten disagreed with the statement that all athletes in their sport encounter the same extent and type of doping control in all countries. One illustration of the concerns about equal doping control conditions is found in a comment from an athlete who called for more openness:

I want to have a worldwide list of all athletes, when/how often they are tested, who tested them, and the location and method of test. I think this would increase accountability across the globe at all levels of sport and doping control (r 10).

This athlete emphasised that more transparency could increase the equity of anti-doping work, which would lead to greater confidence in it. Another aspect of the anti-doping work that many of the respondents experience as unjust is execution of the TUE regulation. As many as 70% of respondents did not believe that all athletes applying for a TUE are treated in the same way. The following quote is an example of what this critique can entail:

I believe that too many athletes have TUE, there should be more checks by certified international doctors (r 17).

Thus, the results show that many respondents perceive that anti-doping regulations are not efficiently executed in some respects and not put into practice equitably across different nations and sports. Earlier in the present article, we examined the TUE at the policy level and here, at the realization level, it is likewise questioned by the athletes. The perceived lack of equal conditions also seems to result in mistrust in relation to 'others'.

The athletes' involvement

Our results reveal another challenge that can affect athletes' perceptions of the legitimacy of anti-doping work: athletes' involvement in anti-doping contexts. When the athletes were asked about their participation in the policy work regarding anti-doping, 85% maintained

that athletes should be more involved. Another result that can be linked to the question of influence is the individual athlete's responsibility to keep him-/herself constantly informed about the prohibited list, which means keeping track of what substances and methods are currently forbidden. Almost one in two respondents (46%) believed that it is difficult to follow changes and keep oneself up to date on the list. It is thus reasonable to assume that many athletes feel they do not have complete command of all the rules governing the activities they participate in. Likewise, the regulation for storing test samples seems to be one part of the anti-doping work that athletes do not have under control, given that approximately one of two respondents (47%) answered that they are afraid unauthorised persons will be able to access their stored test samples. Similarly, many respondents seem to have limited command of the activities that constitute the anti-doping work as a whole, in that 41% of them did not know whether they had a biological passport. Moreover, of those who stated that they had a biological passport, half did not know how to gain access to it.

The unawareness of both the potential existence of one's own biological passport and how samples are stored can be seen as a sign of lack of control. The fact that a considerable number of athletes did not know or could not answer the questions about whether or not they thought doping should remain forbidden contributes to the overall picture of a lack of power. Thus, we suggest that athletes do not have control over their own situation with regard to anti-doping work and that they cannot influence policy-making to the extent they desire.

Discussion

The first issue we address in the discussion concerns how elite athletes perceive anti-doping as a principle. Our findings show that there is a general acceptance of, and sometimes strong support for, regulations against doping in sports, the exception being the TUE regulation.

The athletes in the study endorsed the prohibition of doping within sports and the enforcement of anti-doping policy. Further, our results indicate relatively strong support for the measures used and the sanctioning of violations at a general level. Previous research has shown support, among athletes from specific countries, for parts of the anti-doping policy, e.g., doping testing (Sas-Nowosielski & Świątkowska 2007, Dunn et al. 2010, Elbe & Overbye 2013) and the whereabouts system (Hanstad et al. 2009, de Hon et al. 2011, Overbye & Wagner 2013a, Valkenburg et al. 2014). The present study, which includes a considerable number of athletes from many different countries and sports, confirms this support and, furthermore, shows that athletes are generally in favour of anti-doping as a principle. This support for the principle could be an effect of athletes having been 'brought up' within the sport context, where the anti-doping norm is strong, and thus having been socialised into the prevailing norms and values. A 'clean' athlete's desire to compete with others on equal grounds could be one explanation for the acceptance of rather invasive procedures that would probably be strongly questioned in other social settings.

Concerning the legitimacy of the anti-doping system, our findings indicate that this social order – anti-doping as a principle – is justified by the athletes and that they give the anti-doping authorities the right to exercise power. To paraphrase Weber (1978), the enactments seem to be considered legal. Judging by the athletes' general support for the anti-doping policy, we can conclude that the authorities' actions are perceived as desirable and proper (Suchman 1995). Thus, this social order is viewed as appropriate and fair, causing the athlete to feel obliged to defer (Zelditch 2001, Tyler 2006a) to the anti-doping authority, which is proposed to be one of the indicators of legitimacy at the policy level. The other indicator, the voluntariness of the agreement (Weber 1978), can in one respect be considered present,

given that the athletes largely agree with the regulations. On the other hand, the voluntariness of the agreement can be discussed. There is no way to participate at the elite level in these sports other than through the sports movements in which the anti-doping regulations apply. If an athlete wishes to participate, he/she must abide by the rules. The other option would be to not take part in the game. Furthermore, athletes' doubts about the TUE regulation, and thus their questioning of the rules of the system, must be stressed as a possible threat to the legitimacy of some aspects of the anti-doping policy. Nevertheless, regarding the principle of anti-doping, we must conclude that there is a high degree of legitimacy and that this, following Zelditch (2001), entails compliance, even when athletes do not have any direct personal benefit from the regulation.

The second issue we address concerns how elite athletes perceive anti-doping in practice. Our results show that even if belief in the legitimacy of the anti-doping principle can be observed among our participants, another picture emerges when policies are put into effect.

The whereabouts system seems to negatively affect the *daily life* of many athletes as well as to entail concerns about being erroneously sentenced for doping because the system regulations are perceived as too stringent and far-reaching. The system is also connected to feelings of being monitored – a situation that must be considered rather severe. The whereabouts system itself and the extensive impact it has on elite athletes' everyday life have been discussed previously (Hanstad et al. 2009, de Hon et al. 2011, Overbye & Wagner 2013a, Valkenburg et al. 2014), and the present study confirms that this reporting system has to be seriously considered in the revision of regulations concerning OOC tests.

The procedures around doping control are also connected to *privacy issues*, in that many athletes, especially women, experience discomfort in relation to how testing is carried out. This confirms what Elbe and Overbye (2013) found among Danish athletes, and the present study also shows that athletes worldwide seem to share these concerns. As Waddington

(2010) points out, athletes' privacy ought to be an important issue for policy-makers working with anti-doping. When anti-doping policy is put into practice, there are evidently some unintended consequences that emerge at the level of the athletes. If an authority is to gain legitimacy, one central condition is that the members perceive procedural justice (Tyler 2006a, Levi et al. 2009). Interpersonal aspects of the procedures, such as fair and respectful treatment, are important factors underlying the perception of procedural justice (Tyler 2006a). When athletes experience feelings of being monitored or feelings of anxiety about making mistakes in the whereabouts system in their daily lives, this clearly undermines their perceptions of procedural justice. The interpersonal aspects of doping control procedures must also be taken into account, as these procedures cause discomfort, especially among female athletes.

Bloodworth et al. (2012) found that older and younger athletes have differing views on doping, such that older athletes were found to have more positive attitudes towards using supplements and to be more likely to have tolerant attitudes towards performance-enhancing substances. In our results, however, it was shown that age was not a predictive variable for the athletes' perceptions, but that length of experience as an elite athlete was. The fact that more experienced elite athletes are more critical of the anti-doping work in several respects, e.g. regarding fairness and privacy issues, indicates that athletes do not become accustomed to anti-doping procedures and policies or learn to accept them over time. On the contrary, it seems as though increased experience give athletes the opportunity to see the weaknesses in the system, thus making them more critical and more protective of their personal privacy. These findings can be interpreted as indicating that the legitimacy of anti-doping work is not something that increases when athletes become more familiar with the regulations. Rather, when more experienced athletes to a greater extent question whether the regulations are reasonable and appropriate, this implies a threat to the stability of legitimacy (Tyler 2006a). Our study shows a perceived lack of *equal conditions* regarding how anti-doping measures are put into practice in sports across the globe as well as doubts about the *efficacy* of the

work being done, especially among male athletes. Since the 1990s until today, athletes have questioned the efficacy and equity of anti-doping work (Backhouse et al. 2007, Christiansen & Møller 2007, Pitsch et al. 2007, Hanstad et al. 2009, Bloodworth & McNamee 2010, de Hon et al. 2011, Overbye & Wagner 2013b). There has been an ongoing endeavour among anti-doping authorities (which also led to the foundation of WADA in 1999) to harmonise anti-doping rules and their implementation in the sports world. Although there has been rapid acceptance of the governing documents among organisations, there are still substantial difficulties regarding compliance with the regulations (Hanstad et al. 2010, Dikic et al. 2011, Houlihan 2014). When athletes perceive that anti-doping regulations are inefficient and not equitably executed across nations and sports, the possible causes must be analysed and actions taken, regardless of whether these perceptions of shortcomings are based on the situation in the past or on actual deficiencies in the present. These perceptions reveal a weak point for legitimacy, as experienced fair actions and fair outcomes are components of procedural justice (Tyler 2006b).

Attention should also be paid to the fact that the athletes in our study do not feel they are sufficiently *involved* in the policy work. The picture that emerges is somewhat ambiguous, however. The athletes called for more power and at the same time did not seem to have reflected on central issues, given that many of them could not answer questions concerning whether doping should remain forbidden or whether they perceived that the anti-doping regulations were too extensive. Their unawareness of biological passports and of the list of prohibited substances adds to this picture. This could be a consequence of a tradition in which sport policy has often been developed with little influence on the part of the athletes (Houlihan 2004), which does not encourage them to empower themselves and act on essential matters concerning their own daily lives. Researchers have previously discussed, mainly without any empirical foundation, the issue of athletes' influence and control in anti-doping contexts (Park 2005, Kreft 2009, Dimeo 2010, Waddington 2010, Møller 2011). Athletes' involvement and processes of democratisation is part of a wider discussion in

research on governance of sport in general (see, e.g., Thibault et al. 2010, Geeraert et al. 2014, Donnelly 2015). Our study, which is based on empirical data on athletes' perceptions, supports and extends this depiction of a lack of influence and control. Tyler (2001) emphasises the importance of members feeling involved in decision-making processes for perceptions of procedural justice and, in turn, legitimacy. How the athletes view the fairness of the procedures used by the authorities and how they are treated ought to be of profound concern to policy-makers. Fair procedures communicate respect for the group and its members (Zelditch 2001). To manage the anti-doping sphere, and gain legitimacy, authorities must strive for decision-making processes that both *are* fair and *perceived* as fair, and that are sensitive to how athletes are treated.

Thus, how elite athletes view procedural justice within the practice of anti-doping work is an important element of the perceived legitimacy of anti-doping as a whole. Although there is legitimacy for anti-doping as a principle, enforcement of regulations is not smooth in all respects. Consequently, when policy is put into practice and athletes do not experience procedural justice in all aspects of anti-doping work, the legitimacy of this work is put at risk.

Concluding remarks

The present research contributes to the study of elite athletes' perceptions of anti-doping work. Although the response rate can be considered low and we hardly can claim that the results are generalizable, the findings do provide insights into perceptions of the legitimacy of anti-doping work among a wide range of elite athletes. The support shown for anti-doping policy in general is clear, but the problematic issues related to putting regulations into practice are important to stress. The athletes do not seem to question the legality of the rules, but we could discern a questioning of legitimacy regarding how the rules are executed. The legitimacy of a system is the basis for group members' willingness to follow regulations, even when this entails negative consequences for themselves (Zelditch 2001). This could be

discussed in light of the fact that the athletes in the present study seemed to legitimise a policy that entails rather harsh impacts on their privacy and everyday life. The obligation to follow and defer to the rules given by a legitimate authority – which is a central element of the concept of legitimacy – entails that the athletes largely agree with the policy.

Elite athletes are also private individuals with a life outside sporting arenas. Thus, it is reasonable to suggest that regulations and control within sports should infringe to a minimum extent on their privacy, whether this concerns the whereabouts information system or doping control situations. This argument can be made from both a human rights and a legitimacy perspective. Athletes' perception of legitimate anti-doping work is a precondition for the work's functionality and stability. Without support built on legitimacy from the people at the very core of sports, authorities would have to rely on incentives and punishment to achieve their objectives, which would be an impossible situation in the long run. Power without legitimacy is dependent on strong forces and sanctions (coercion) if goals are to be achieved (Zelditch 2001). A legitimacy perspective on anti-doping work challenges an approach that stresses deterrent strategies and demands for deference. A "bigger anti-doping army" will not solve the doping issue within sports if the authorities, rules and procedures have low legitimacy. A focus on the legitimacy of anti-doping work would also inevitably call for a focus on how regulations are perceived and thus entail the empowerment of athletes. Further research on the legitimacy of anti-doping policies and practices would benefit from gaining deeper insights into athletes' perceptions through the use of qualitative approaches.

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1. 'The pool of highest-priority Athletes established separately at the international level by International Federations and at the national level by National Anti-Doping Organizations, who are subject to focused In-Competition and Out-of-Competition Testing' (WADA 2014)
 2. The research was approved by the Regional Ethics Board in Uppsala, Sweden.
 3. r=respondent
 4. Apparently this athlete misunderstood who was behind the questionnaire, as discussed in the methods section.

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Appendix 1

Questionnaire

Appendix 2

Predictor variables associated with dichotomised answers to questions. Estimated odds ratios (OR), 95% confidence intervals (CI), and p-values from univariate and multivariate logistic regression. Bold p-values indicate significant OR at $\alpha=0.05$.

(logistic regression table)