

Spanish cycling and attitudes towards doping of different stakeholders involved

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Abstract

The aim of this study was to know and compare the attitudes towards doping among different groups involved in Spanish cycling: future physical trainers, elite cyclists, young cyclists, and cycling team managers. The sample was composed of 492 participants (23.48±7.5 years) from different cycling contexts: university students of Sport Sciences degree -SS- (n = 271; 22.04±3.3 years), Elite Cyclists -EC- (n = 65; 18.43±2.9 years), Young Cyclists -YC- (n = 44; 13.0±0.82 years), and Cycling Team Managers -CTM- (n = 112; 33.65±7.17 years). A cross-sectional descriptive design was carried out using the Spanish version of the Performance Enhancement Attitude Scale (PEAS) which is a 17-items six-point Likert-type scale ranging from 17 to 102 points (1= Strongly Disagree; 6= Strongly Agree). For the whole sample, the overall score was 36.12±10.09. Regarding different groups, data were as follows: SS: 34.69±9.31; EC: 35.14±8.63; YC: 37.62±11.30; CTM: 40.12±11.27. Significant differences were observed between SS and CTM (p=0.000) groups and between EC and CTM groups (p=0.006). Spanish cycling, in general, is not permissive in relation to doping. By the way, cycling team managers, the oldest group, are significantly more lenient towards doping than EC and future physical trainers (SS). It could be suggested that “something is changing positively” in relation to attitudes towards doping in Spanish cycling, being the youngest the most sensible group, so changes could be seen in the medium-long term, not immediately. Data from YC group, more permissive than SS and EC groups, support the idea that anti-doping education programmes are needed from early ages.

Keywords: banned substances, attitudes, cyclists, coaches, prevention

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Introduction

“Controlling doping only with tests is not sufficient; a profound change in the attitudes, which should be monitored repeatedly, is needed” (Alaranta et al., 2006); this statement synthesized the current situation in relation to doping in sport according to most of the studies reviewed (Morente-Sánchez & Zabala, 2013). One example is Lance Armstrong, the seven-time winner of the Tour de France, who was investigated, found guilty, and, consequently sanctioned, despite of not having ever been tested positive during his career. Following this line, Petróczy and Aidman (2009) stated that, in the absence of more objective information on performance enhancing drugs (PED) use, attitudes are often used as an alternative to predicting doping behaviour, assuming that doping users are more permissive towards doping than non-users (Morente-Sánchez, Freire, Ramírez-Lechuga, & Zabala, 2012; Uvacek et al., 2011).

A recent systematic review on attitudes towards doping in sport (Morente-Sánchez & Zabala, 2013) showed that there were no previous specific studies that

assessed and compared attitudes towards doping in different contexts involved in cycling by means of a validated tool. Furthermore, following Petróczy and Aidman (2009), proved reliability and validity were poor and inferences could not be made in the majority of the studies in this field. In a study which involved interviewing young elite cyclists (Lentillon-Kaestner, Hagger, & Hardcastle, 2012), it was suggested that, in top-performing cycling, the use of PED was endemic among the cycling teams to the extent that it became institutionalized (Bassons, 2000; Kimmage, 1998; Voet, 1999) and was quasi-tolerated by the professional cycling community (Schneider, 2006) before the “Festina scandal” in 1998. They stated that this date is considered like a turning point, since the use of banned substances is less widespread since then. In Spain, after so famous and unfortunate scandals like “Puerto” in 2006, it was suggested that this type of studies about doping in sport, and more concretely focused on cycling, were necessary (Morente-Sánchez & Zabala, 2013).

Taking into account the international view about the phenomenon of doping in Spanish cycling, we have focused our research on several contexts that now play and will play an important role in current Spanish cycling environment. Therefore, the aim of this study was to know and compare the attitudes towards doping in different groups involved in Spanish cycling: future physical trainers, elite cyclists, young cyclists, and cycling team managers.



Table 1. Descriptive statistics and comparison among different groups: university students of Sport Sciences degree (SS), Elite Cyclists (EC), young cyclists (YC) and Cycling Team Managers (CTM).

	Total sample (n=492)		SS (n=271)		EC (n=65)		YC (n=44)		CTM (n=112)		p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
PEAS											
Age	23.48	7.50	22.04	3.3	18.43	2.96	13.01	0.82	33.65	7.17	0.000 ^{1-4; 2-4; 3-4;}
Overall Score	36.27	10.09	34.69	9.31	35.14	8.63	37.82	11.30	41.59	10.85	0.0001 ^{1-4;} ; 0.026 ²⁻⁴

SD: Standard Deviation
 SS vs. CTM: 1-4;
 EC vs. CTM: 2-4;
 YC vs. CTM: 3-4

Materials and methods

Sample

The sample was composed of 492 participants (23.48±7.5 years) from different cycling contexts: university students of Sport Sciences degree -SS- (n = 271; 22.04±3.3 years), Elite Cyclists -EC- (n = 65; 18.43±2.9 years), Young Cyclists -YC- (n = 44; 13.0±0.82 years) and Cycling Team Managers -CTM- (n = 112; 33.65±7.17 years). Sport sciences group, potentially physical trainers in the near future, was composed of students of the Sport Sciences degree at the Faculty of Sport Sciences in University of Granada (Spain). Elite cyclists group and YC group were comprised, respectively, of Spanish national team riders and cyclists within the National Program of Cycling Schools of the Spanish Cycling Federation. The members of CTM group were subjects with the licence of cycling team director (Level III, the highest technical level recognized by the International Cycling Union). The study was approved by the Ethics Committee. The data used in this manuscript are part of a larger project composed of many samples from different sport modalities that will be published with complementary data but with different treatment and purposes.

Measures

A cross-sectional descriptive design was carried out by means of a validated questionnaire: Performance Enhancement Attitude Scale (PEAS) (Petróczi & Aidman, 2009). The PEAS is a 17-question 6-point Likert-type scale, with points ranging from strongly disagree (1) disagree (2), slightly disagree (3), slightly agree (4), agree (5) to strongly agree (6). No neutral response is offered, and all 17 items are scored in the same direction. The overall scores range from 17 to 102 points, with higher scores representing a more lenient attitude toward doping. This scale has been used in previous studies and has shown good psychometric properties (Petróczi & Aidman, 2009; Uvacsek et al., 2011; Morente-Sánchez, Mateo-March, & Zabala, 2013), in addition, its satisfactory validation in Spanish has been published (Morente-Sánchez, Femia-Marzo & Zabala, 2014). Cronbach's α values were calculated as a measure of internal consistency, considering the cut-off value of 0.7 to determine acceptable scale reliability (Nunnally, 2010). We found Cronbach Alpha values ranging from 0.71 to 0.76 among all the groups assessed. Participation was completely voluntary and,

in order to provide the participants with a sense of security, and thus to obtain reliable data, the principle of anonymity was secured.

Along the study, similar terms such as "doping", "drugs" or "banned substances" were considered those substances that are prohibited by the World Antidoping Agency (WADA) and ICU, and so it was explained to subjects before answering.

Data collection

Participants from different groups were recruited in different ways. The SS group completed voluntarily the PEAS by means of a personal online link after receiving a detailed explanation of the purpose and implications of the research. In the other three groups, after agreeing the written informed consent, the anonymous questionnaires were handed to each participant. Elite cyclists were engaged in their national team training camps before London 2012 Olympics Games took place. Young cyclists were assessed in a camp belonging to the program of Cycling Schools of the Spanish Cycling Federation and cycling team managers were suggested to complete the PEAS once they finished the last cycling team director course (the highest technical level) where they were involved. We obtained a written informed consent from parents, or guardians on the behalf of the minors/children participants, involved in the study. There was no time limit for completing the PEAS. A regular coding system was used and the data were submitted in Excel files format.

Analyses

Data characteristics are shown as mean and standard deviation (SD). The Kolmogorov-Smirnov test was applied to ensure a Gaussian distribution of the results. Noting that the results follow a non-normal distribution, a non-parametric analysis was conducted. The Mann Whitney-U test for PEAS variables, and Bonferroni post-hoc correction were carried out. Statistical analyses were performed with the Statistical Package for Social Sciences software version 19.0 for Windows (SPSS, Chicago, Illinois) and the level of significance was set to 0.008.

Results

PEAS - Performance Enhancement Attitude Scale

In general, the overall score (17-102) was 36.27±10.09. The lowest score was observed for the statement

“Doping is not cheating because everybody does it” with 1.20 ± 0.72 , and the highest for “Athletes are pressured to take performance-enhancing drugs” with 3.58 ± 1.44 (1= Strongly Disagree; 6= Strongly Agree). Regarding different groups, overall scores were, respectively: SS: 34.69 ± 9.31 ; EC: 35.14 ± 8.63 ; YC: 37.62 ± 11.30 ; CTM: 40.12 ± 11.27 . Significant differences were observed between SS and CTM groups ($p=0.000$) and between EC and CTM ($p=0.006$) groups. Results are shown in table I.

Discussion

The results of the present study show that Spanish cycling is not permissive in relation to doping. Cycling team managers, the oldest group, are significantly more lenient towards doping than EC and future physical trainers. It could be suggested that “something is changing positively” in relation to the attitudes towards doping in Spanish cycling. Therefore, the effect would be seen in the medium-long term, but not immediately. It would be interesting to analyse these groups more exhaustively and look for the causes of that certain permissiveness in order to operate consequently. Data from young cyclists, more permissive than SS and EC groups, support the idea that anti-doping education programmes are needed from early ages.

Regarding attitudes towards doping, one of the few studies that have used PEAS (the higher score you obtain, the more permissive attitude towards doping you show) was developed by Uvacsek et al. (2011). In this study, carried out with 82 Hungarian competitive athletes, confessed doping users (12%) scored, as expected, a significantly higher score ($p<0.05$) compared to those who reported no use of banned drugs (46.8 ± 13.32 and 34.43 ± 8.74 , respectively). Likewise, in another study (Morente-Sánchez, Freire, Ramírez-Lechuga, & Zabala, 2012), with 2022 amateur cyclists as sample (confessed users = 164; non users = 1858), overall scores were, respectively: 48.87 ± 15.98 and 40.98 ± 11.95 . Morente-Sánchez, Mateo-March, and Zabala (2013) assessed attitudes towards doping in Spanish National Cycling Teams taking into account the Olympic discipline; regarding the four different groups, data were: Mountain Bike: 30.28 ± 6.92 ; Bicycle Motocross: 42.46 ± 10.74 ; Track: 43.22 ± 12.00 ; Road: 34.91 ± 6.62 . Petróczi & Aidman (2009) analysed several samples, such as elite athletes from Hungary ($n=102$; confessed users = 5; non-user = 97), obtaining the following scores respectively: 39.20 ± 17.54 vs. 35.85 ± 10.12 . In the present study, overall scores of the cyclists were, respectively: elite cyclists (35.14 ± 8.63), and young cyclists (37.62 ± 11.30). Morente-Sánchez, Leruite, Mateo-March, and Zabala (2013) also assessed attitudes towards doping in Spanish female athletes by means of PEAS, concretely in 80 cyclists and 126 triathletes (36.63 ± 14.27 vs. 32.37 ± 11.41 , respectively; $p<0.05$). Hence, in general, Spanish cyclists of the national teams seem to be against doping. It is specially risky the case of the youngest cyclists who obtained a higher score, showing they are more lenient than elite athletes group, which means that a deep analysis and

monitoring of this sample may be necessary. If we educate athletes from early ages, they could be made more and more aware of doping, and although the effect is difficult to be seen immediately, it should appear sooner than later. In this sense, we suggest that it is important to instruct not only athletes, but their social environment (doctors, coaches, team-mates, friends, etc.), as they have a significant influence on their intention to use banned substances (Lentillon-Kaestner & Carstairs, 2010). We consider that people who induce and/or support the use of doping substances by athletes should also be punished, giving a clear example and message for all the stakeholders involved. Regarding future physical trainers, Spanish SS students showed a lower score (34.69 ± 9.31) than UK Sports Sciences students (36.23 ± 13.00 , age: 21.5 ± 5.5), Canadian Sports Sciences students (37.94 ± 11.25 , age: 20.9 ± 2.0), or USA Sports Sciences students (37.57 ± 12.60 , age: 20.1 ± 2.1) (Petróczi & Aidman, 2009). We consider that this study provides interesting information on attitudes towards doping from the point of view of future sport professionals, whose importance in relation to this topic is evident. Sport Science students are likely to become physical trainers, physical education teachers and, even, coaches or managers, so they will probably work closely with athletes and hopefully introduce an appropriate culture in relation to doping. Finally, CTM group showed a high, and consequently worrying PEAS score, being significantly more lenient towards doping than other groups, such as EC and SS. This could be associated to the fact that cycling team managers, the oldest group, belonged to an older cycling generation before the turning point related to doping in this sport in 1998 appeared: the “Festina scandal”. In words of Lentillon-Kaestner et al., (2012) it has been often made the distinction between two generations in cycling: the actual cyclists of “the new generation” and the cyclists of “the old school” or “the former generation” who had commenced their cycling career, before the so-called “Festina scandal” in 1998. According to them, doping use among cyclists from the professional peloton has declined since then. In this study, it is pointed out that today most cyclists decide not to use banned substances. In the past, those cyclists that chose not to take banned PED were marginalized (Lentillon-Kaestner et al., 2012). According to other studies (Lentillon-Kaestner et al., 2012; Peters, Schulz, Oberhoffer, & Michna, 2009), in the fight against doping, preventive measures are necessary to establish and fortify attitudes towards doping in different contexts. Therefore, we encourage institutions to invest more money by balancing the costs of controls and prevention programmes from early ages, as it was suggested by Morente-Sánchez and Zabala (2013). Better controls (planned and reinforced) are obviously needed, as well as more effective educational programmes that do not need big investments. Indeed, the Spanish Cycling Federation has been conducting an intervention project called “Preventing to Win” since 2009 with the aim of educating the future cyclists and

coaches (Zabala, Sanz, Durán, & Morente-Sánchez, 2009).

This study is not exempt from limitations; work based on questionnaires covering a banned practise has limits because answers may be deliberately false, as the subjects questioned may not wish to reveal if they or their team-mates use PED, even if the researchers guarantee anonymity and confidentiality.

Taking everything into account and particularly focusing on cycling, we consider that today is the ideal moment to work together against doping and win this battle. Sport science researchers should help to apply research methods in order to make a deep analysis of the current situation and design, consequently, specific programs and other activities for doping prevention. Besides, whereas medical and physiology researchers should keep on focusing on improving methods for detecting use and deterring athletes from engaging in doping activities (Gucciardi, Jalleh, & Donovan, 2011), social science researchers ought to strive to better understand psycho-social variables (e.g. attitudes, beliefs, knowledge...) that may be salient in educational programmes directed towards the prevention of such behavior (Vangrunderbeek & Tolleneer, 2011). Due to those "attitudes" as the strongest predictors of intention to use banned substances (Lucidi, Grano, Leone, Lombardo, and Pesce, 2004), PEAS could be used as a standard measurement instrument to assess attitudes towards doping so that data were more reliable and valid, and practical applications could be developed efficiently, but also being able to be complemented with other tools such as interviews (Lentillon-Kaestner, Hagger, & Hardcastle, 2012), implicit associations tests (James, Naughton, & Petroczi, 2010; Petroczi et al., 2010; Petroczi et al., 2011) or, ideally, biomedical tests (Morente-Sánchez & Zabala, 2013). In addition, following this line of research, different populations (sedentary, amateur, or professional) and different type of sports (single vs. team sport) should be investigated in the future to ascertain more trends in attitudes towards doping in sport, in relation to the specific sport practiced, frequency of practice or gender.

We suggest that this paper provides some interesting information from different perspectives. Mainly, it must be emphasized that this is the first study focused on knowing and comparing attitudes towards doping of different stakeholders involved in Spanish cycling, not only cyclists. In addition, the assessment was carried out by means of a validated instrument for all groups and, therefore, as data were more reliable, more permissive groups could be detected. Moreover, practical applications, such as design specific intervention programmes, could be developed efficiently for risky groups. Secondly, this study was necessary in this country, and specifically in this sport, because especially after the scandal of Puerto case (2006-2013), which involved an important number of cyclists, the image of Spanish cycling could have been damaged. Thirdly, the sample composed of high quality groups (elite athletes or coaches) should be taken into

account, since accessing the population is extremely difficult. Another reason is the difficulty of getting athletes or coaches to open up and discuss with researchers on such a taboo topic. Definitively, this study provides the reader with a general view of the phenomenon of doping in Spanish Cycling following the ideal "athlete 2.0" that rejects the improvement of performance despite the possible health damage emphasizing the "fair play" and the education (Zabala and Atkinson, 2012).

Conclusions

Spanish cycling, in general, is not permissive in relation to doping. Cycling team managers, the oldest group, are significantly more lenient towards doping than elite cyclists and future physical trainers. It could be suggested, "something is changing positively" in relation to attitudes towards doping in Spanish cycling, being the youngest ones the most sensible. It would be interesting to analyse these groups more exhaustively looking for the causes of that certain permissiveness in order to operate consequently. Data from young cyclists, more permissive than the SS and EC groups, support the idea that anti-doping education programmes are needed from early ages.

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