



# **Psychological determinants of doping behaviour through the testimony of sanctioned athletes**

**Final report  
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# Final Report

## WADA's Social Science Research Grant Program

### Summary overview

Principle Investigator: Mattia Piffaretti, PhD

Project Title: **Psychological determinants of doping behaviour through the testimony of sanctioned athletes**

Organisation: AC&T Sport Consulting, Lausanne – CH  
With the cooperation of University of Lausanne, ISSUL, Lausanne - CH

Objectives: A) The main objective of the study is to gain knowledge about the psychological and psycho-social determinants of their doping behaviour, by interviewing sanctioned athletes.

B) Moreover, the investigation aims to assess how athletes experience the banning period, while identifying their specific needs. With such intelligence, the study aims to launch a new project encompassing:

- 1) PRIMARY PREVENTION: to enrich the prevention campaigns for young athletes with the testimonials of experienced athletes
- 2) SECONDARY PREVENTION: to improve detection of psychological attitudes and risky behaviours in young athletes
- 3) TERTIARY PREVENTION: to contribute to the set-up of a prevention programme to decrease sanctioned athletes' relapse risk and to improve their chances for a sport and/or professional relocation

Summary: Current research indicates motivational orientations (Kleinert and Jüngling, 2007; Donahue et al., 2006), perception of sport's culture and attitude towards substance abuse (Ohl et Buissonneau, 2009) and obsessive passion (Vallerand et al., 2003) as possible psychological determinants of deviant behaviour in sports, and more particularly of athletes' substance abuse. In this study, 11 athletes who were condemned for their substance abuse by their national or international Federation, and were willing to speak out about their deviant behaviour, were interviewed through a theory-based interview guide. In particular, questions focused on the motivational orientations of the athletes, the perception they have about their environment, and the the perception of the challenges like career transitions, injury or competitive pressure. Interview data were analysed sound qualitative research methods.

Main results: First of all, the study allowed to clarify the role of the athletes' awareness, sport transition, motivations, stress level and perception of anti-doping and ethical norms in their sporting environment, on the risk to violate the anti-doping code. Secundarily, it shed a light on the psychological and emotional reactions of the athletes who are banned from their sport for a long period, while throwing a light on their specific needs, to minimise risks of relapse or psychological distress.

### Effect of Research on Professional Development:

The grant allowed two students, Mrs. Giuanna Gartmann, and Mrs. Audrey Verpillot, of the University of Lausanne, to write their Master's thesis. Mrs. Verpillot was completed and defended in January 2011 with the title "Les motivations à la consommation de drogues récréatives au sein du sport de haut niveau : étude de cas".

An athlete participating to the study accepted to to speak about the program on the National TV and in other newspaper articles, contributing to prevention on a large public scale (cf. further dissemination)

Active negotiations are nowadays ongoing for the implementation of WINDOP, a prevention program based on the study conclusions, with several Sports Federations, among which the UCI, who recently issued a formal press release confirming the intention to strengthen anti-doping prevention (June 17<sup>th</sup>, 2011), who will be considered as one of their strategic priorities for the future.

SportAccord invited Mattia Piffaretti and an athlete to speak about the WADA funded project in their yearly seminar, on June 7<sup>th</sup>, 2011. The study and its practical implications were presented to 35 participants, representing several International Federations (a complete list of the seminar participants is available upon request). Head of WADA European headquarters in Lausanne, Mr. Frédéric Donzé, was also present.

The CIES (Centre International d'Etudes du Sport) of the University of Neuchâtel (CH) showed interest in the study and elaborated a notice on the possible legal implications of introducing WINDOP in the International Federation.

### Partnerships:

The project received the logistical and scientific support of the Institut des Sciences du Sport of the University of Lausanne (prof. Fabien Ohl), the scientific expertise of the Lausanne Laboratory for doping analysis (Dr. Martial Saugy). It also benefited from the cooperation of the Swiss Anti-doping Agency (Dr. Matthias Kamber, Mr. Marco Steiner) and of the UCI (Dr. Mario Zorzoli).

The negotiations with UCI are involving the current head of the Anti-doping department (Dr. Francesca Rossi) and the Directeur Général, Mr. Jean-Pierre Strebel.

### Publications:

A scientific article is currently being written and will be submitted to The Sport Psychologist by September 2011. It will focus on the first objective of the study.

A second article is planned for Fall 2011 and will focus on the second objective of the study.

### Seminars:

This grant will allow to produce a paper that will be presented at the next FEPSAC congress in Madeira 12-17 July 2011. It will be a poster presentation entitled: "Understanding and counselling athletes who have been sanctioned for violating anti-doping rules: three case studies".

Further Dissemination:

The study has received attention from the following local and international media:

La Regione Ticino 8.10.2010

Le Temps 9.10.2010

Swiss Info 29.10.2010 :

[http://www.swissinfo.ch/eng/sport/Doping\\_offenders\\_offered\\_a\\_second\\_chance.html?cid=28663262](http://www.swissinfo.ch/eng/sport/Doping_offenders_offered_a_second_chance.html?cid=28663262)

Fanhouse 11.11.2010: <http://www.fanhouse.com/2010/11/11/athlete-suicides-serve-to-refocus-efforts-of-doping-authorities/>

RSI 11.11.2010 : <http://la1.rsi.ch/home/networks/la1/telegiornale?po=3a7e53be-8742-48df-8212-efc907b51fcf&pos=b7416b03-fb9f-4a29-aa2a-4511eb972c62&date=08.11.2010&stream=low#tabEdition>

Tuttobici 17.11.2010 : <http://www.tuttobiciweb.it/index.php?page=news&cod=34201&tp=n>

France 3 20.11.2010:

[http://jt.france3.fr/regions/popup.php?id=grenoble\\_alpesexp&video\\_number=0](http://jt.france3.fr/regions/popup.php?id=grenoble_alpesexp&video_number=0)

RSI Sport Club 27.1.2011 :

<http://www.rsi.ch/it/home/networks/la2/sportclub.html?po=be709e7f-d5ee-49f8-9010-d7885a4dc2b2&date=27.01.2011>

Further steps for the implementation of the WINDOP project (before June 30th, 2011) :

Elaboration of a precise action-plan and program concerning the WINDOP project with the UCI, Mr. Jean-Pierre Strelbel, Directeur général

Presentation of the WINDOP project to the FIFA, Dr. Jiri Dvorak, member of the Medical Commission

Presentation of the WINDOP project to the FEI, Mr. Graeme Cook, director of veterinary department.

Additional Federations and National Olympic Committees will be contacted,

Further steps for the implementation of the WINDOP project (before July 17th, 2011) :

Submission to a 3-year grant to the WADA social sciences research grant programme.

Report written and signed in Lausanne on June 20th, 2011

Mattia Piffaretti



## 1. Introduction

When closely looking at the efforts to limit doping in competitive sports, it appears very clearly that the combat against doping behaviours has been prevalently based on repression and sanctions of athletes who are found guilty of prohibited substance abuse, without any follow-up programme being offered or suggested to these athletes. Thus, the current policy criminalises sanctioned athletes, putting them in a very difficult social and psychological situation without any kind of support. This state of things – which is practically unique when looking at how other forms of crime are being dealt with in society at large – hinders the athletes' self-disclosure about the doping issue, thereby limiting the value of scientific investigations on the motivational and behavioural determinants of substance abuse in sports.

By approaching athletes who have been condemned for doping or other violations of the anti-doping regulations, the study that I will present in this report aims precisely to provide an opportunity to gain knowledge on the doping behaviour determinants, while achieving important practical goals, as briefly explained in the next paragraphs.

In fact, the main objectives of the overall project are:

- 1) To interview sanctioned athletes with the primary goal to gain knowledge about the psychological and psycho-social determinants of their doping behaviour.
- 2) To have a better insight of what athletes experience during the sanction period, in order to construct a multi-disciplinary intervention program that promotes their clean and safe comeback in the sports world and their social-professional integration
- 3) To enrich anti-doping prevention campaigns by including sanctioned athletes, who are truly repente and have undergone a psychological change thanks to the intervention program.

Thus, the results of this applied investigation are destined for a practical purpose: with precise and realistic views on behavioural and motivational aspects of doping behaviour, it is indeed the final goal of this investigation to draw precise indications on how to construct effective and sports specific preventive approaches geared towards young athletes, and eventually to contribute to better information and protection of the future generations in competitive sports.

## 2. Theoretical background

In the world of sports and exercise, the use of performance-enhancing drugs is most commonly referred to as “doping”. Such performance-enhancing drugs include anabolic steroids, beta-blockers, as well as stimulants used by athletes for various reasons: to increase strength, calm nerves, or block pain (Weinberg & Gould, 2007). These performance-enhancing drugs (PEDs) are not to be mistaken with recreational drugs, otherwise referred to as street drugs, which are generally used to escape pressures, fit in with a certain group of friends or obtain a feeling of excitement in one’s daily life. These include alcohol, cocaine, marijuana, and tobacco to name a few (Weinberg & Gould, 2007). In particular, the term “doping” is used by the organizations that standardize competitions and ban the use of such drugs, which are often used to improve one’s own athletic performance.

Literature about determinants of doping is still not very abundant, because of the difficulty linked to obtain reliable and complete data. Moreover, one has to distinguish literature on the psychological antecedents of recreational drugs in sport and on the determinants of PEDs in sports. As far as the former category of substances is concerned, literature is particularly scarce. A few studies have been able to highlight that the prevalence of haschish consumption in team sports is higher than in individual sports and combat sports (Guagliardo, Peretti-Watel, Verger, Pruvost, Guibbert, Mignon & Aubadia, 2006). These results echo the results of a previous study by Pruvost & Jacomet (2005) which came to the conclusion that athletes in team sports represent a population who is at risk in terms of consumption of recreational drugs, in comparison to individual sports.

Other studies (Laure, Lecerf & LeScanff, 2001) have come to the conclusion that substance abuse in sports could be associated with a higher tendency to risk in sports. This French study showed a correlation between recreational drugs and a taste for risky behaviour, in an attempt to satisfy a personal craving for strong sensations. Authors go on to demonstrate that the more substances used by an individual, the more likely s/he will be drawn to increase sensation seeking, rather than use a substance out of curiosity. The authors also suggest that sporting behavior does not have a positive influence on substance use, as others had previously suggested (26 and 27 in Laure et al. 2001).

In addition, the use of PEDs in young athletes can be associated to the use of nutritional supplements or recreational drugs such as alcohol or tobacco, especially among females looking to lose weight (Spence & Gauvin, 1996). Another study conducted by Laure (1995) highlights the social factors that influence doping behaviours in sport. In this study, 80.6% of athletes provide social reasons for their use of PEDs, and 4.5% claim to have felt « pressured » by their sporting entourage or the media. This suggests that there is a tremendous social influence on doping.

In fact, Becker (1985) emphasizes that deviance, which describes actions or behaviours that violate cultural norms in a sociological context, is the result of a « collective act ». In other words, doping, considered as a deviant behaviour, can be considered as a social result. In this line of thought, Brissonneau, Defrance, Fincoeur, Lentillon-Kaestner, & Ohl (2009) conducted a research project on the secondary socialisation of young cyclists to doping behaviours in three different countries: Switzerland, Belgium and France. The purpose of this study was to determine, through semi-directive interviews on a sample of about 75 cyclists (ages 17-23), the role of the group on deviant behaviour, and the specific transitional moment where this influence might induce doping behaviour. The authors based their study on Ajzen and Fishbein’s Theory of planned behaviour (1980), who claim that behavior (in our case doping behaviour) is directly linked to the intention of adopting the same behaviour, which in

turn is influenced by three psychological factors: the individual's attitude towards the behaviour, the individual's perception of social support to adopt the behaviour, and the individual's perception of control on their behaviour. In particular, the study looks at how coaches, sport physicians, managers and peers influence the way these young cyclists learn not only the explicit competencies about their sports, but also the more implicit knowledge, such as social norms, tacit rules and values. These latter competencies are perceived by the authors as playing a major role in the forming intention to take illegal drugs to enhance performance. Doping is therefore categorised as a social phenomenon, a behavioural response to a certain group culture, to which individuals adhere through positive deviance (Brissonneau, Aubel, & Ohl, 2008).

Interestingly, not only elite athletes are prone to using PEDs, but also amateur athletes as well as "ordinary people" in gyms. In fact, in a study on doping behaviours run by Laure (1998), 9.8% of amateur adult athletes confirmed that they had engaged in doping, among which 10.8% of competitive athletes and 4.9% of leisurely athletes. The dominating doping agent in leisurely athletes in gyms is the Anabolic, Androgenic Steroids (AAS). Users of AAS can be divided into three categories: athletes, who use to improve their competitive results; aesthetes, who spend most of their time in gyms and use AAS to get the idealised muscular power and/or body appearance; and criminals, who use AAS to increase their aggressiveness (Ehrnborg & Rosén, 2009). The intensity to exercise is not related to the propensity to use doping substances in amateur athletes, although they do constitute a vulnerable and high-risk population (Nandrino, Escande, Faure, Doba, & Vandeweege, 2008).

Looking at the psychological and psychosocial determinants in the field of doping behaviour, one of the fundamental aspects that has been explored is the risk athletes perceive in taking illegal substances, whether in terms of a sanction or a health problem. Donovan, Egger, Kapernick and Mendoza (2002) illustrates that athletes will engage in an undesired or illegal behaviour (such as doping) when they perceive controls to be absent or ineffective. When the threat is persistent and daily, one can attain maximal efficiency. Because this scenario is extremely expensive in terms of energy and money, it does not prove to be an ideal model. In order to obtain good results, it is therefore argued that an effective tactic would be to couple frequent controls with the removal of the athlete's desire to use performance-enhancing drugs. Intense psychological work, initiated during the time athletes are suspended from competition, can contribute to such success. The result of such work, similar to that performed in addiction programs, implies voluntary compliance by the athlete on account of a moral obligation or an internalised motivation to practice sports in a spirit of fair-play.

As a matter of fact, motivation seems to be one of the principal underlying psychological processes susceptible to regulate such doping behaviours in sports. The self-determination theory (Deci & Ryan, 2002) provides a useful model to predict human behaviour in achievement-oriented environments such as competitive sports. The self-determination theory states that athletes who are intrinsically motivated will behave primarily in an attempt to satisfy their psychological needs of competence, autonomy and relatedness by trying to improve and do well in competition through appropriate means (Deci & Ryan, 2002). For these athletes, enjoyment and satisfaction will not derive from using means that would act against their sense of autonomy and true relatedness. On the other hand, extrinsically motivated athletes will seek to satisfy their need to gain fame and obtain extrinsic rewards. They will thus be principally concerned by the outcome of their performance and engage in a "winning at all costs" mentality, as only a positive outcome can nourish their self-esteem.

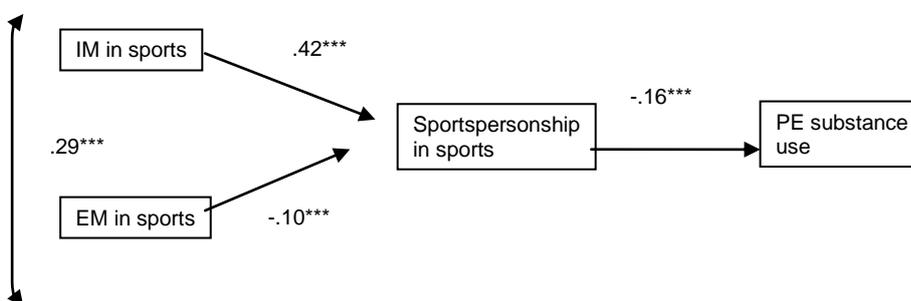
According to Vallerand and Losier (1994), internal versus external motivational orientations have a link with the athletes' sportsmanship orientation. Sportsmanship can be defined as the way athletes include their sense of self and internalized values to achieve their goals, and how

they also include the respect for others and for the rules. These authors state that intrinsically motivated athletes will be less likely to engage in unsporting behaviours, while extrinsically motivated athletes will be keen to use any means to reach success. Some research has actually revealed that extrinsic motivation is correlated with forms of unsporting behaviours such as cheating, rough play and reactive aggression (Boixados et al., 2004; Chantal, Robin, Vernat, & Bernache-Assolant, 2005).

In fact, the urge to win is one of the main reasons for doping behaviour in elite sports. According to Ehrnborg and Rosén (2009) elite athletes have a tremendous desire to win at all costs, as major physical, social and psychological pressures influence them. In a 1995 survey carried out on 198 Olympian or aspiring Olympian athletes, 98% of athletes said they would use a banned performance enhancing drug (PED) if they would not get caught and win. In addition, 50% still said they would take a PED if they could win every competition for the five following years and then die from the side effects (Bamberger & Yaeger, 1997).

To date, only one study has tested whether motivational orientation may also predict a specific form of cheating behaviour, namely the use of PEDs to achieve success. To do so, Donahue, Miquelon, Valois, Goulet, Buist, & Vallerand (2006) created a model in which intrinsic/extrinsic motivation is associated to the use of PEDs through the mediating effect of sportpersonship. Sportpersonship may be defined as the systematic and consistent show of fair play in various circumstances, namely of particular behaviours (among which one can situate the domain of legal and illegal substance intake) characterized by the principle of justice for everyone, in which the attempt of gaining an unfair advantage over the opponent does not exist, neither intentionally nor by chance. This motivational model designs a path analysis in their study conducted on a sample of 1290 competitive athletes. Participants completed a questionnaire assessing intrinsic and extrinsic motivation toward sport (SMS, by Brière *et al.*, 1995), sportpersonship orientations, and PED use in the previous 12 months. As shown in figure 1 below, results support the motivational model: intrinsic motivation and sportpersonship orientations may prevent athletes from engaging in PED abuse.

**Figure 1:** Results of path analysis of the motivational model on the use of PEDs (Donahue *et al.*, 2006).

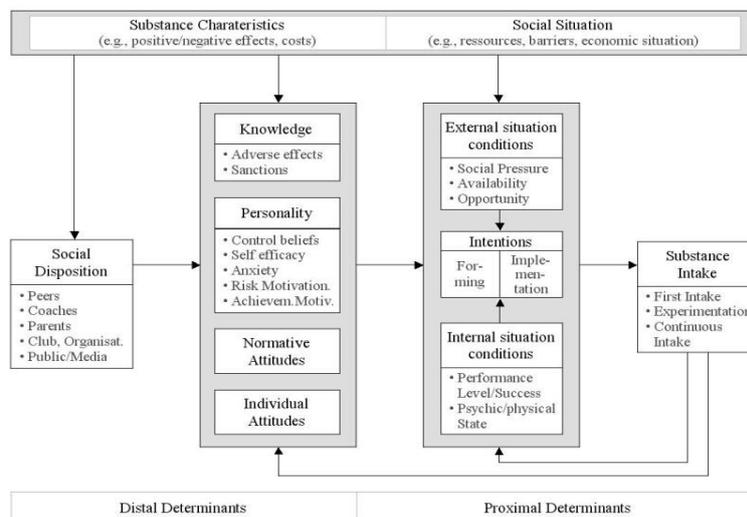


Donahue *et al.*'s study (2006) opens an interesting perspective on the role of motivational orientations in a sample of national-level athletes, but these authors recommend that such a model be further tested with professional and Olympic athletes.

A more complex motivational model (figure 2 below) has also been designed to try and identify the psychological determinants of doping behaviour. In Kleinert and Jüngling's model (2007), the influence on doping behaviour ("Substance intake") is differentiated according to distal determinants (underlying factors such as social disposition, characteristics of substance, personality – achievement motivation, self-efficacy, stress, etc.) and proximal determinants (triggering factors such as a particular social situation, the opportunity of taking a specific drug, and the athlete's mental skills and coping resources in relation with the

current challenge). Accordingly, the intention to use PEDs is the consequence of this interaction between distal and proximal conditions. The distinction between distal and proximal determinants is reminiscent of an earlier model based on the causal factors of doping behaviour (Laure, 2000), which distinguished influencing factors (such as gender, personality, body weight, etc.), urging factors (goals of athletes: e.g. improving sports performance, preventing injuries, etc.) and triggering factors (such as opportunity, social environment, and delicate situation in sporting career).

Figure 2: Motivational model of doping behaviour (Kleinert and Jüngling, 2007)



Kleinert and Jüngling (2007) tested this model in a study conducted on a sample of 147 active athletes from both national and international levels. The results suggest that athletes who tend to avoid failure (instead of seeking success) estimate potential situational doping determinants higher than athletes who score low in this subscale. According to the researchers, athletes feel more threatened in conditions where they perceive a risk of failure (e.g. external pressure, injuries). Thus, these athletes anticipate failure in such situations and tend to do everything to avoid it, which includes taking PEDs. Interestingly, contrarily to common opinion, doping in this case is not a kind of strategy used to reach success, but rather a non-adaptive coping response to avoid failure. In the conclusion of their study, the authors specify that their findings regard the athletes' *intentions* for doping, and not the actual use of PEDs. In order to study the determinants of actual doping behaviour, authors suggest that future studies be conducted on athletes who have been in actual contact with illegal drug consumption. Only under such a methodological condition would a thorough verification of these first interesting results be possible. Nonetheless, Kleinert & Jungling (2007) provide a globally comprehensive model, which can be used to encompass myriad factors and theories explored in other studies, in order to accurately demonstrate how an athlete can get involved in doping.

A novel approach consists in considering passion, and more specifically type of passion, as being potentially related to doping behaviour in elite sports. Recently, Vallerand and his colleagues (Vallerand *et al.*, 2003; Vallerand & Houffort, 2003; Vallerand & Miquelon, 2007) formulated the Dualistic Model in which passion is defined as a strong inclination or desire toward a self-defining activity that one likes (or even loves), finds important (high valuation), and in which one invests time and energy. This theoretical model suggests that there exist two types of passion. Harmonious passion (HP), which results from the internalization of the activity within the athlete's identity. In this psychological condition, the activity occupies a significant, yet not an overpowering position in the person's identity, thereby allowing the athlete to remain in control of the activity. The second is obsessive passion (OP), in which the activity is not under the person's control, as it comes to occupy an overwhelming space in

one's identity. It is proposed that with OP, individuals develop ego-invested structures (Hodgins & Knee, 2002), as the person's self-worth comes to be dependent upon engaging in and doing well on the activity. Because OP has been found to be associated with ill-advised persistence in activity engagement such as winter cycling over icy roads in Quebec (Vallerand et al., 2003, Study 3), persisting in dancing while injured (Rip, Fortin, & Vallerand, 2006), or heavy involvement in gambling activities (Rousseau et al., 2002) that may be conducive to pathological gambling (Philippe & Vallerand, 2007; Ratelle et al., 2004; Vallerand et al., 2003, Study 4), it is not unlikely that a relationship may be found with doping behaviour in sports.

### 3. Methods

The primary aim of this study is to clarify the role of psychological and psycho-social determinants on the intake of illegal substances in a population of top athletes who have been sanctioned for violating anti-doping regulations. In addition, the study considers the way athletes experience the ban period, while identifying their specific needs during their suspension.

Athletes were thus interviewed and asked to fill in a series of questionnaires.

#### 3.1. Description of the theory-based interview guide

An in-depth semi-directive interview (cf. attached document) was constructed in line with the theoretical background (cf. Donahue *et al.*, 2006; Kleinert and Jüngling, 2007) and structured according to the 4 following sections:

##### *Section 1: Personal data and facts about the sanction*

The following factors were assessed related to the time of the sanction:

- Type of sport
- Years of sporting career
- Professional activity at the time of the sanction
- Marital status:
- Highest sporting level achieved
- Current level of sporting achievement
- History in substance abuse: 1-first consumption; 2- ongoing occasional consumption; 3- ongoing systematic consumption)
- Socio-economic situation of the athlete
- Type of substance intake: 1- recreational drug; 2- performance-enhancing drug
- Frequency of substance intake: 1- irregular consumption; 2-recurring consumption over a short period (under 6 months); 3-recurring consumption over a long period (6 months and over)
- Circumstances of the substance intake
- Duration of sanction
- Stage of sanction at the time of the interview
- Reason for the sanction

##### *Section 2: Psychological reactions to the sanction*

In this section, the questions are focused on how the athletes experienced the ban psychologically:

- Personal perception of sanction
- Dominant emotion upon finding out about the sanction
- Emotional stages in the ban period
- Coping resources during the sanction
- Significant sources of support during the ban period
- Personal benefits and learning points derived from experiencing the sanction

##### *Section 3: Factors influencing substance intake*

In this section factors related to heightened risks of substance abuse were explored, immediately prior to sanction:

- Awareness about substance intake or prohibited behaviour
- Knowledge of adverse health effects
- Awareness of rules and sanction associated with substance intake
- Perception of transitional phase
- Perception of threat on sporting career
- Motivations in sport
- Expected effects of substance intake on performance
- Experienced effects of substance intake on performance
- Perceived importance of sporting results in individual life
- Perception of norms in the sporting environment about substance abuse
- Personal attitude towards doping
- Potential obstacles to the first substance intake
- Substance availability
- Perception of people's expectations and pressure to use substances
- Perception of fair-play

#### ***Section 4: Need expectancies of athletes***

In this section, athletes could pinpoint the major needs they perceived during the ban period and the learning points of their experience

- Life plans after the sanction
- Sporting goals after the sanction
- Special needs during the sanction period
- Desired support providers
- Interest in psychological intervention during the sanction period
- Interest in following a physical preparation program during the sanction period
- Interest in occupational intervention during the sanction period
- Interest in participating in a prevention campaign during the sanction period
- Tips for younger athletes concerning the intake of a banned substance
- Tips for younger athletes about efficiently managing a sanction period

The interviews were transcribed verbatim and analysed either to calculate the frequency of the athletes replies or to qualify the content of the interviews through a double-coding methodology (Huberman et Miles, 1991), whereby segments of data (sentences or paragraphs of the transcribed interviews) are summarised through a code according to their common meanings. These codes were subsequently categorised under the more global thematic codes, as related to the principal theoretical topics and research questions. Analyses were performed simultaneously by two independent researchers and then compared.

### **3.2. Description of the questionnaires**

The qualitative interview questions were complemented by questionnaires measuring *intrinsic vs extrinsic motivation* (SMS, by Bière *et al.*, 1995), *harmonious vs obsessive passion* (Vallerand *et al.*, 2003) and *athletic identity* (through a shortened version of the Athletic identity questionnaire, by Brewer *et al.* (1993) resulting in two principal values).

In terms of the construct validity of these inventories, the SMS has been found to represent a valid and reliable measure of motivation in sport (details in Brière *et al.*, 1995). Concerning the dualistic model of passion as assessed by the Passion scale (Vallerand *et al.*, 2003), results of exploratory and confirmatory factor analyses have supported the validity and reliability of its two-factor structure corresponding to harmonious and obsessive passion (Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand *et al.*, 2003). Finally, the

shortened version of the AMS was successfully used by Kleinert and Jüngling (2007), but still needs complete factorial validation.

### 3.3. Study recruitment procedure

To reach the above mentioned goals, the following procedure was designed: athletes were informed by the Swiss Anti-doping agency and the International Cycling Union about the existence of the WINDOP program. If interested, athletes had the opportunity to respond to the invitation by contacting the WINDOP main investigator, on a free-will basis. After signing a consent form, which contained all the necessary information about their rights and duties as research participants, athletes were contacted to schedule a face-to-face meeting with the researcher for a 50 min interview (based upon the above mentioned interview guide, and to fill in the questionnaires).

### 3.4. Population

The sample consists of 11 athletes, all of which are male, for an overall participation rate of 34.4% (11 out of 32). To reach that rate, 3 recruitment measures were followed:

- 1) Following the coordination with the Swiss Anti-doping Agency, 20 athletes (100% male) who were currently suspended for violating anti-doping rules were informed about the possibility to participate in the pilot-study. 8 out of 20 athletes responded positively by contacting the WINDOP main investigator.
- 2) In parallel, 11 additional athletes (27.3% female, 82.7 % male) were informed of the project through the Union Cycliste Internationale (UCI). 2 cyclists responded positively and joined the study.
- 3) Finally, one additional athlete got in touch with the main investigator after having read a newspaper article about it.

Of the athletes who did not participate, 13 could not be reached (40.6%) and 8 were not interested and/or did not have the time (25%). Athletes came from 4 different linguistic regions in Europe: Italy, German Switzerland, French Switzerland and Spain. They were all interviewed in their mother tongue, except for the Spanish-speaking interviewee who could express himself fluently in French.

The mean age of the sample at the time of the sanction is 27.6 ys +/- 3.95. Athletes practiced team sports (6 out of 11, 54.4%: 1 soccer, 1 American football, 1 basketball, 3 bobsleigh) and individual sports (5 out of 11, 45.6%: 3 cyclists, 1 taekwondo and 1 artistic gymnastics). All of them were athletes who were competing at a high international level.

Their professional status was professional athletes (45.6%), amateurs with a part-time job (27.2%) and amateurs with educational or vocational training (36.4%)

The majority of the athletes interviewed were single at the time of the sanction (72.7% ), while the rest were married with children (18.2% ) or in a relationship (9.1%).

### 3.5. Ethics safeguards

The respect of ethical safeguards in conducting this study was a fundamental aspect. The ethical standards to be respected were manifold, starting from the recruitment procedure. The Swiss Anti-doping Agency and the UCI regularly publish the names of athletes who are sanctioned for violating the Anti-doping regulation on their website. An agreement was

therefore established that the Swiss Anti-doping Agency and the UCI would send to those sanctioned athletes – by letter and e-mail - information about the WINDOP program and an invitation for them to take part in it on a free will basis. Athletes who showed interest in the project were given the opportunity to fill in a consent form, before any scientific procedure could begin. Only when receiving the forms back with the athlete's consent, the main investigator could proceed with the interviews. Interviews were recorded and transcribed verbatim, and finally submitted back to the athlete to give him the opportunity to check and modify any place or name that could betray his/her personal identity, before the data could be analysed further.

More specifically, in the study information sheet (see appendixes), athletes were informed about the goals and objectives of the study, the risks they incurred by participating in it, and the possibility they had:

1. to interrupt their involvement at any time, without any prejudice whatsoever.
2. to refuse to answer any questions they felt were offensive to their privacy.
3. to stop the voice recorder at any time
5. to withdraw his / her authorisation to publish, or request that some elements be changed to avoid to be recognised in the period between the interviews and the report
6. to expect that the data be treated anonymously (only the principal investigator is in possession of the codes associated with each athletes' identity)

### 3.6. Data analysis plan

The present study aims to explore some hypotheses based on the link between Self-determination theory and sportpersonship (Donahue *et al.*, 2006) and on the Motivation model of doping behaviour (Kleinert and Jüngling, 2007):

The hypotheses were explored in the questions of section 3 of the interview, based on the current literature regarding substance abuse in sports:

Question	Related hypothesis	Theoretical background
Professional activity	Focusing on sport as a profession is positively correlated with doping risk	Overfocus on athletic identity (Hodgins & Knee, 2002)
Level of sporting achievement	Decrease of sporting level is positively correlated with performance-enhancing substance abuse	Sport transition and failure avoidance motivation (Brissoneau, Aubel, & Ohl, 2009; Kleinert & Jüngling, 2007)
Socio-economic situation	Socio-economic situation is negatively correlated with substance abuse	Overfocus on athletic identity (Hodgins & Knee, 2002) and perception of risk (stress theory, Lazarus & Folkman, 1984)
Awareness about substance intake	Awareness about banned substance intake is positively correlated with doping motivation	
Knowledge of adverse effects of substances	Awareness about negative health effects is negatively correlated with doping motivation	
Awareness of rules and sanctions linked	Awareness about rules and regulations is negatively	

to substance intake	correlated with doping motivation	
Perception of sport transition prior to substance intake	A transitional phase can have a positive effect on doping motivation	Sport transition and failure avoidance motivation (Brissonneau, Aubel, & Ohl, 2009 ; Kleinert & Jüngling, 2007)
Perception of risk/vulnerability for your sports career immediately prior to substance intake/achievement motivation	Perception of performance threat is positively correlated with doping motivation	Sport transition and failure avoidance motivation (Brissonneau, Aubel, & Ohl, 2009; Kleinert & Jüngling, 2003)
Motivations in sports	Extrinsic motivations are positively correlated with doping motivation	Self-determination theory (Deci & Ryan, 1985) and unsportsmanship (Donahue <i>et al.</i> , 2006)
Expected effects of substance intake	Expected positive effects on personal performance level is positively correlated with doping motivation	Kleinert & Jüngling (2007) – achievement motivation
Perception of doping effects after first intake /experimentation	Observed positive effects on personal performance level is positively correlated with pursued doping motivation	Kleinert & Jüngling (2007) – achievement motivation
Perception of self-induced performance pressure / stress prior to substance intake	Stress levels / anxiety is positively correlated with doping motivation	Kleinert & Jüngling (2007) - anxiety
Perception of coping resources prior to substance intake	Perceived lack of coping resources to deal with stress are positively correlated with doping motivation	Kleinert & Jüngling (2007) – perception of coping resources
Perception of physical health conditions prior to substance intake	A negatively perceived physical health state is correlated with doping motivation	Failure avoidance motivation (Kleinert & Jüngling, 2007)
Perception of mental health conditions prior to substance intake	A negatively perceived mental health state is correlated with doping motivation	Failure avoidance motivation (Kleinert & Jüngling, 2007)
Perceived importance of sports achievement in the individual's life	Importance of sports achievement in life is positively correlated with doping motivation	Kleinert & Jüngling (2007)
Perception of norms towards doping before substance intake	Perception of strict norms is negatively correlated with doping motivation	Role of sports culture (Ohl & Brissonneau, 2009)
Personal attitude towards doping before substance intake	Personal attitude towards doping is correlated with doping motivation	Theory of planned behaviour (Ajzen & Fishbein, 1980)
Morality stage at the time of substance	The degree of internalisation of rules is negatively correlated with	

intake	doping behaviour	
Substance availability	Availability is correlated with doping behaviour	
Perception of people's expectations immediately prior to substance intake / pressure	Encouragement from significant others within the sports environment to take banned substances is positively correlated with doping motivation	Social learning and role of sports culture (Brissoneau, Aubeil, & Ohl, 2009 )
Perception of fair-play respect in the world of competitive sports	Perception of lack of fair-play in the general sports environment is positively correlated with doping motivation	Social learning and role of sports culture (Brissoneau, Aubeil, & Ohl, 2009)

The analysis plan consists in pinpointing raw data that can be gathered in the pre-planned categories, while forming subcategories of responses according to their thematic similarity. Raw data is presented in the original language used by the interviewee. To illustrate the analysis procedure, here is a simulated example of the content categorisation:

Quotations from the raw data	Subcategories	Topic
<ol style="list-style-type: none"> <li>1. I knew what I was doing but I saw everyone was doing the same and just accepted it</li> <li>2. I played with the time of controls and took care the substance could not be detected for the beginning of the competition period</li> <li>3. I knew it was against the rules but I did not realise the gravity of my actions</li> </ol>	Awareness	Cognitive awareness in code violation
<ol style="list-style-type: none"> <li>1. My medical staff was offering the whole team a treatment , with vitamins and other products that enhanced my physical recovery and I just trusted them, while hoping everything was ok</li> <li>2. I was just enjoying myself and decided to try the substance when they offered it to me, without realising the consequences.</li> <li>3. I realised later, after chemical expertise, that the nutritional supplement I had been taking was contaminated with a banned substance.</li> </ol>	Partial awareness / lack of vigilance	
<ol style="list-style-type: none"> <li>1. I really have no clue how the substance came into my body, and still today, after having asked to the chemist, I do not know.</li> <li>2. The circumstances of the presence of the substance in my body are unclear; it must have something to do with intoxication by a foreign team.</li> </ol>	Unawareness	

Data gathered through the questionnaire was used to complete the qualitative information, but could not be the object of a sound statistical analysis due to the small size of the sample.

## 4. Results

This section focuses on the data gathered in sections 1 (*Personal data and facts about the sanction*) and 3 (*Factors influencing substance intake*) of the interview. Data derived from sections 2 (*Psychological reactions to the sanction*) and 4 (*Need expectancies of athletes*) of the interview will be reported separately in chapter 6 of this report, as they do not relate directly to the central scope of the present study.

Moreover, data gathered in the questionnaire will not be presented, as the small size of the sample did not allow for statistical tests.

### 4.1. Descriptive analysis of data

Data related to the facts surrounding substance intake and its circumstances will be described in this section. Table 1 below summarises the main descriptive data about the sample.

Athlete	Type of sport	Substance	Type PE / REC	Sanction duration	Age at sanction	Number of years in sport	Type of consumption ACC / REG	Number of sanctions
A1	Bobsleigh	Testosterone	PE	24	35	11	ACC	1
A2	Basketball	Haschish	REC	12*	25	10	REG	2
A3	Bobsleigh	Testosterone	PE	24	32	10	ACC	1
A4	Football	Cocaine	REC	24	25	12	ACC	1
A5	Taekwondo	Chetamine	REC	24	26	18	ACC	1
A6	Bobsleigh	Boldenone	PE	24	28	5	ACC	1
A7	Am. Football	Oxylophrine	PE	24	25	10	REG	1
A8	Art. Gym.	Haschish	REC	24	25	15	REG	1
A9	Cycling	Growth hormone	PE	48*	22	16	ATTEMPTED USE	1
A10	Cycling	EPO	PE	24	29	19	REG	1
A11	Cycling	Testosterone	PE	18*	32	7	REG	1
<b>Mean</b>		--	--	<b>24.54</b>	<b>27.63</b>	<b>12.09</b>		
<b>SD (+/-)</b>		--	--	<b>8.67</b>	<b>3.95</b>	<b>4.43</b>		

\*reduced after TAS deliberation; PE = performance-enhancing drug; REC=recreational drug; ACC= accidental consumption; REG= regular consumption

Athletes who participated in the study can be split into two typologies of code violation according to the type of substance they were taking: 4 athletes (i.e. 36.4% of the entire sample) were caught for taking recreational drugs (either hashish or cocaine; 2 cases were reported for each drug), while 7 were caught in relation with performance enhancement (PE) drugs (63.6%).

The 90.9% of the athletes were sanctioned for having consumed a banned. 36.4% stated this was a non-recurring consumption, 36.4% admitted it was a recurring consumption over a short period of time, whereas 18.2% said it was a recurring consumption over a long period of time. 1 athlete (i.e. 9.1%) never actually consumed a substance, but was sanctioned for attempted use and trafficking of the substance.

Mean duration of the sanction was 24.54 months (+/- 8.67), with a majority of cases (72.7%) lasting 24 months. However, one ban lasted 12 months, and another one lasted 18 months after reduction following an appeal to the CAS<sup>1</sup>. The longest sanction lasted 48 months (originally 20 years, reduced to 4 after reduction following an appeal to the CAS).

90.1% athletes (%) were sanctioned for the first time, and 1 was a recidivist.

<sup>1</sup> CAS stands for « Court of Arbitration in Sport » (Tribunal arbitral du Sport)

## 4.2. Psychological determinants of doping behaviour

This results section about the psychological determinants of doping behaviour will present the main issues that were reported for each of the question of the interview guide. In the main text, a summary of the data will be presented according to the analysis chart or by simple content analysis. To maintain total transparency of the scientific procedure, the raw data (in the athletes' original language) are reported in the footnotes. However, I recommend that the reader focuses on the main text to maintain a fluent reading, while referring to the footnotes only as a means of scientific verification or to satisfy his/her personal curiosity.

To maintain the anonymous status of the data, athletes have been labelled as A1 to A11.

### 4.2.1. Circumstances of substance intake

The following table describes the perception that the athletes have about their level of sporting performance at the time that immediately preceded their sanction:

Perceived performance level	Number of mentions	%	Performance enhancement	Recreational
Higher level	2	18.2	1	1
Lower level	3	27.2	2	1
Same level	4	36.4	2	2
No competition / training period	2	18.2	2	0

Additionally, 8 athletes considered themselves to be in a stable socio-economic situation (72.7%), 2 in a precarious situation due to their sport (18.2%) and 1 athlete was in a transition between work and study (9.1%). Athletes in the precarious and transition situations were all caught for consuming recreational drugs.

Athletes who perceived themselves as being in a good socio-economic situation emphasised the lack of economic pressure on their sporting involvement, while stressing on a balanced social situation.<sup>2</sup>

Concerning athletes in a precarious socio-economic situation, the emphasis is put on the frustration associated with the lack of recognition about their status as elite athletes, which reflects on the financial conditions and, indirectly, on their motivation to continue their athletic commitment. A2, for instance, underlines his doubts to dropout and invest more time in his academic and professional development.<sup>3</sup> Likewise, A4 states that his financial situation was ludicrous at the time prior to being sanctioned, as he felt totally abandoned by his sport federation.<sup>4</sup>

<sup>2</sup> A3: "Ich hatte hier einen guten Job, ich hatte Familie. (23) Und habe eigentlich alles, ich wohnte hier. (24) Ja vor allem der Job"

A6: (21) Sehr gut. (22) Also ich war beruflich erfolgreich. (23) Also ich bin beruflich erfolgreich. (24) Ich habe sehr ausgewogene soziale Strukturen. (25) Also ich bin äh dort voll eingebettet. (26) Nichts Negatives, was dies angeht. (27) Ich hatte weder Sorgen noch hatte ich sozialen Druck noch sonst irgendwas in dieser Art. (p. 2)

<sup>3</sup> A2: "aussi au niveau financier on est pas vraiment très bien reconnu ... exactement la saison passée, j'ai commencé à me poser des questions... parce qu'au final, en s'entraînant huit fois par semaine, ça laisse pas le temps d'étudier vraiment, ça laisse pas le temps de trouver un vrai travail et d'un autre côté on est pas payé ce qu'on devrait être payé pour pouvoir en vivre donc au bout d'un moment on est obligé de faire un choix" (p.7)

<sup>4</sup> A8: "(10) Alors, au moment de ma sanction, j'avais une situation euh...économique...euh...plutôt ridicule puisque ça faisait un an que je m'entraînais tout seul par mes propres moyens et que...je devais m'entraîner pour

## 4.2.2. Awareness about substance intake

Following the data analysis plan, degree of awareness of substance intake was split into 4 categories:

Quotations from the raw data	Subcategories (%)	Topic
<p>A1: (63) Zum Zeitpunkt war mir überhaupt nichts bewusst.</p> <p>A3: (143) Das war mir gar nicht bewusst. (144) Weil ich ja bis heute nicht weiss, was es war, warum und wie.</p> <p>A4 (83) Also mir war es eigentlich nicht bewusst. (84) Ich habe nicht damit gerechnet, also, dass ich äh, ja irgendwas in meinem, ja irgendeine Substanz hätte, die verboten ist.</p> <p>A6 /A7: (158) Gar nicht.</p>	Total lack of awareness	Total lack of awareness (45.4 %)
<p>A5: (57) Ero cosciente ma in quel momento non ci ho pensato. (58) Ci ho pensato la mattina dopo quando sono andato a fare l'allenamento, stavo già riflettendo su quello che avevo fatto.</p> <p>A9: non vedevo la violazione in sé perché comunque non ho mai percepito...c'è gente che viola il regolamento costantemente e non è mai...tutto è concesso e poi... ti ritrovi di fronte al fatto che certe cose che non si possono fare e ti rendi conto veramente che sì, in effetti:: (118) hai sbagliato tanto, nel senso, ma ho preso coscienza dopo del fatto e non mentre lo facevo non sentivo il peso di ciò che stavo facendo, perché mi sembrava tutto normale.</p> <p>A10: (59) Mai nessuno mi ha messo davanti a questa scelta netta, ci sono state però diverse occasioni e esperienze poco chiare,(...) (66) Ero consapevole che l'assunzione di quei medicinali non era giustificata da nessuna patologia e che non avrebbe potuto portare ad una positività</p> <p>A11: (62) J'étais pas au courant (...)(63) Effectivement c'était quelque chose que je ne savais pas que le produit était dedans, j'étais mal informé quoi, j'étais pas informé et maintenant je le suis un peu, un petit peu j'ai lu dans quelque site internet que ce n'est pas très très bon</p>	<p>Partial awareness due to modified mental state</p> <p>Normalisation</p> <p>Denial / De-responsibilization</p> <p>Lack of vigilance</p>	Partial awareness (36.4 %)
<p>A2: j'étais au courant que c'était interdit...j'étais clairement au courant</p> <p>A8: (23). Enfin, j'étais au courant quoi (rires) déjà depuis la première consommation que c'était interdit, après je savais qu'il y avait des substances qui étaient contrôlées à l'entraînement, des substances qui étaient contrôlées en compétition donc je vais pas vous cacher que je jouais aussi sur ça, puisque j'ai commencé à fumer à l'âge de 14 ans</p>	Total awareness	Total awareness (18.2 %)

pouvoir garder un niveau qui me permette de me confronter aux autres athlètes et c'était pas facile (...) Enfin, je me suis trouvé un logis, j'ai dû me trouver une salle d'entraînement, j'ai dû me trouver des heures pour pouvoir m'entraîner, j'ai dû me trouver un petit travail pour pouvoir manger ... j'ai essayé de pas lâcher le sport"

With respect to the knowledge that the athlete claims to have about the adverse effects of the substance, 27.3% admit knowing very little about the substance, while 54.5 % recognise having general knowledge about it and 18.2% report very good knowledge of the adverse effects. One athlete (A9) gave up the ideal of taking substances upon learning about the adverse effects on his health: “learning about the effects of GH on my health probably stopped me from consuming. I said to myself ‘risking my life is not worth it: maybe I will lose some weight with time, through training and sacrifice”.

As for the athletes’ knowledge about the regulation and sanction linked to their actions, 63.6% stated they knew, while the remaining 27.3% had no knowledge about the sanction corresponding to their offence.

### 4.2.3. Perception of transitional issue

The following table represents the analysis plan about the transition athletes were going through.

Quotations from the raw data	Subcategories	Topic
A1: (76) Ich war äh im Sommertraining, also ein gutes halbes Jahr vor der Saison, vor Olympia und ich sage auch, zu dem Zeitpunkt, hätte es mir auch nichts gebracht (...)	Training camp to prepare for major international competition	Competitive preparation (27.3 %)
A3: (166) Ja, ich war Vorwettkampfphase, so. (167) Aufbau und Sommertraining, einfach Sommertraining, Aufbauphase.	Customary summer preparation	
A6: (162) Ich war im im Training, Trainingsmodus, ja.	Training for competition after injury	
A2: J’étais en Ligue Nationale A et...je jouais pour l’équipe nationale.  A10: (68) avevo avuto quelle vittorie importanti però avevo avuto dei buoni risultati e:: per esempio dal punto di vista proprio prettamente sportivo magari era stata un po' meno brillante ma per esempio dal punto di vista: ..cioè della carriera dovevo andare a stipulare un contratto: era un periodo molto buono.	Maintenance of high career level	Maintenance of high career level (18.2%)
A4: (98) Äh ja, Karriere beenden, die Sportkarriere zu beenden.	Career termination	Transition out of sport (9.1%)
A5: (72) Loro avevano in testa che in due anni eravamo in Serie A. (73) Quindi ero venuto perché con buonissime intenzioni, anche perché stavamo andando benissimo, eravamo primi.  A7: (78) Ja, diese Saison ist mit Abstand meine beste Saison gewesen. (79) Ich habe mir auch während der Saison viele Türe geöffnet. (80) Ich hätte diese Saison, also diese Saison jetzt die Chance gehabt im Ausland zu spielen und ein bisschen Geld damit zu verdienen.  A8: C’est drôle parce que je crois que j’étais au meilleure de ma phase juste avant...j’étais vraiment, je crois, au plus haut...au plus haut de mes capacités sportives...et peut-être au plus bas de ma vie	Career enhancement  Highest level of career achievement	Transition to higher level (45.5%)

privée... en même temps...		
A9: (126) Allora, nel punto più alto della carriera sportiva... sì sicuramente.		
A11: (65) Je pense que j'étais dans la maturité je m'amusais comme un fou dans la course et je pense que j'étais très fort c'était une bonne phase. C'était peut-être la phase où tous les sportifs veulent arriver ça veut dire que c'était assez amusant pas très traumatique mais effectivement c'était pas dur		

Simultaneously, 72.7% of the athletes did not feel their career was threatened, while 27.3% athletes perceived a threat to their career. The main motive for perceived threat was financial in nature.

A10 reports going through a difficult period because of the former team leader having been sanctioned for doping four months prior to his sanction. This case had a negative effect as it halted any possibility to pursue his negotiations with other professional teams to improve his contractual situation<sup>5</sup>.

A2 also felt threatened financially as he perceived an unbalance between his commitment to his sport and a lack of financial recognition that, despite his high level status, obliged him to rely on his family to pursue his sport<sup>6</sup>.

#### 4.2.4. Motivations in sport

As far as the motivations for sports are concerned, 69.2% of the motivations are outcome-oriented. Each athlete could give more than one motivation (13 types of motivations altogether were cited). Here are the main answers and the corresponding categories:

Quotations from the raw data	Subcategories	Topic
A1: (82) Also eben im Sport meine Motivation war immer, dass ich für mich das beste mache, professionell betreibe, und, dass ich das auch äh...mit ruhigen Gewissen, wie sage ich äh...alles unternehme, für mich persönlich, also im Umfeld und so, dass ich erfolgreich sein kann.	Success in sport	Outcome oriented motivation (69.2%)
A10: ma io sarei stato l'uomo più importante e avrei probabilmente potuto correre il giro d'Italia da leader piuttosto che da spalla.		
A11: (69) Le sport (soupir) à courte terme je voulais le faire.. un bon tour du Pays Basque et après je veux faire un bon giro d'Italia c'était ça.		
A2: j'étais prêt à continuer dans le basket à condition d'avoir la situation qui suit derrière...	Financial reward	

<sup>5</sup> A10: (69) “dopo la sua la sua positività 4 mesi prima avevo dei contatti con altre squadre: dal punto di vista appunto del contratto è successo che sì almeno un paio di squadre.. a causa di questa positività che non riguardava me, hanno smesso la trattativa”.

<sup>6</sup> A2: Menacée...enfin pas vraiment menacée...enfin menacée par moi-même en fait...dans le sens que je me posais beaucoup de questions...c'était, comme je vous ai dit avant, c'était pas une très bonne saison et...et pis aussi au niveau financier on est pas vraiment très bien reconnu en Suisse en tant que basketteur...

<p>A7: (88) Und ja und mein Ziel war es, der beste Spieler zu sein. (89) Und irgendwann einmal Geld verdienen zu können.</p> <p>A3: (170) War Vancouver, das war mein Ziel. (171) Und das war dann ein Jahr später. (172) Ja und gute Saison zu haben.</p> <p>A5: (83) Sì, sì di risultato. (84) Cioè prima cosa magari personale per far bene, quello come sempre. (85) Però dopo anche di riuscire a sfruttare l'occasione di salire in Serie A</p> <p>A7: (90) Wenn ich nach Österreich oder Deutschland gehen würde, wäre das schon möglich.</p>	<p>Qualification to major competition</p> <p>Transition to higher league or foreign league</p>	
<p>A1: (90) Ich habe mich nie als Spitzensportler gefühlt. (91) Also für mich ist Bobfahren auch Leidenschaft und ich musste immer arbeiten finanziell. (92) Es war eigentlich ein teures Hobby.</p> <p>A3: (169) Dasselbe wie jeder, ich wollte mein bestes geben.</p> <p>A4: (103) Das war eigentlich nur, ich mache meinen letzten Kampf. (105) Nein, einfach, das war wirklich nur als Spass. (106) Mein letzter Kampf und fertig.</p>	<p>Passion and life balance</p> <p>Give one's best</p> <p>Have fun and finish my career</p>	<p>Task oriented motivation (30.7%)</p>

#### 4.2.5. Expected and experienced effects of substance intake

6 athletes reported not having any expectations about substance intake, either because they consumed accidentally or involuntarily. 4 athletes admitted they had had expectations about positive effects: “to enhance performance through nutritional supplement” (A6); “to have better results” (A10); “to lose weight” (A9); or to “have a better recovery because training was hard” (A11).

Perceived effects were in general inexistent or negative. Here are some examples of reported effects:

About use of hashish, A2 reports negative effects in sports, but positive ones in his general life, such as being calmer and reflecting on certain aspects<sup>7</sup>. As for A8, he admits that hashish may have had a positive influence on his capacity to achieve calmness and concentration for his sporting performance<sup>8</sup>.

Regarding the use of testosterone, A3 claims he suffered from headaches and did not perceive any positive changes in his performance. He also investigated the potential positive effects and concluded that any consumption of such substances would be counterproductive in the training

<sup>7</sup> A2: Bah...par rapport à ma performance, j'ai une fois fait un match sous l'effet du cannabis, c'était en junior...et franchement (rires) je le recommande à personne et autrement en dehors du basket ça me permet de souvent de me poser, de réfléchir à certaines choses et tout ça...et autrement c'est vraiment récréatif

<sup>8</sup> A8 : (30) Sur ma performance, rien du tout, au contraire parce que, il y avait un problème d'hydratation aussi ...En phase d'entraînement, (...) peut-être que c'est le cannabis m'a permis à me poser un petit peu et à m'aider à me concentrer

phase he was undergoing.<sup>9</sup>

A6 felt generally good after he consumed unconsciously, but did not experience a significant performance enhancement, nor was he able to say whether it was related to the substance intake<sup>10</sup>.

As for A10 and A11, they both reported positive effects. A10 states that the substance intake helped him overcome lapses of blood pressure and fatigue in the intensive summer months<sup>11</sup>, while A11 blindly trusted medical advice to take substances that helped him to recuperate muscle mass.<sup>12</sup>

#### 4.2.6. Self-induced competitive pressure and coping resources

Stress is another variable that was evaluated in the interview. Here are the main responses and the over-arching categories, which show that athletes tend to report a lack of stress, and only 3 admitted turmoil in the phase that immediately preceded a substance intake.

Quotations from the raw data	Subcategories	Topic
A1(103) Ja ich hatte eigentlich nie gewaltig Stress, weil eben das Bobfahren war für mich immer ein Hobby. (104) Es war Spass, es war nicht meine Existenz, es war nur meine Leidenschaft und es ist meine persönliche Anerkennung für mich, erfolgreich zu sein und ich habe nie, ich musste nie gewinnen für die Medien, weil wir sind eine Randsportart und ich musste auch nie gewinnen für Geld oder so, ja.	No pressure because sport practiced as a leisure activity	Absence of particular stress prior to substance intake (72.7%)
A3: (176) Vorher, ich war nicht gestresst, es ging ja gut.	No stress	
A4: (120) Gar nicht, also. (121) Ich bin da ganz normal heran, wie ich jedes Turnier da, wo ich bestritten habe. (122) Kein Hintergedanke oder sonst irgendwas.		
A6: (181) Gar nicht, gar nicht.		
A8: Non, du tout, moi c'était vraiment de la consommation pour consommer .... c'était pas vraiment pour rechercher quelque chose,		
A7: (100) Nein, also das ist ganz normal, vor dem Spiel ist man sehr nervös.	Normal competitive stress	

<sup>9</sup> A3: Bei der Urinabgabe, hatte ich in dieser Woche zweimal über Kopfschmerzen geklagt. (...) ich hatte auch Leistungstests und ich hatte die Leistungstests der letzten Jahre aufbewahrt, keine Leistungssteigerung. (175) Und ich hab dann auch weiterrecherchiert und der Zeitpunkt für Testosteron wäre absolut falsch.

<sup>10</sup> A6: in welchem Ausmass das auf dieses Produkt zurückzuführen ist, kann ich nicht erläutern (...) Ich habe mich gut gefühlt, aber ich habe jetzt nicht eine markante oder bemerkenswerte Steigerung erfahren während der Einnahme dieses Produktes.

<sup>11</sup> A10 : soprattutto quando l'attività era molto intensa poi d'estate ... c'erano momenti in cui, non posso dire che stavo male, però insomma per esempio con dei cali di pressione, questi questi cali per esempio, venivano comunque evitati

<sup>12</sup> A11 : Je les prends parce qu'il y a des médecins derrière qui font leur travail et qui disent de prendre les aminoacides pour récupérer la musculature, mais je la prends et je ne sais rien.

<p>A5: (104) No stavo benissimo. (105) Era un periodo che andava tutto bene. (106) Il problema è quello, che mi andava tutto bene, qualsiasi cosa mi riusciva. (107) Era un momento bellissimo.</p> <p>A11: (74) c'est bizarre mais peut-être j'étais dans le moment plus tranquille de ma carrière parce que comme je vous ai dit j'étais vachement bien dans moi,</p>	<p>Too much tranquillity</p>	
<p>A2: c'est-à-dire que je me posais vraiment beaucoup de questions, je pesais un peu le pour et le contre de chaque option</p> <p>A9: Non c'era più niente di mio, mi sentivo soffocato da tutti, la sensazione di un peso allo stomaco e non riuscivo a fare niente se non con il controllo di tutti cioè, (141) era una situazione veramente di soffocamento, di una pressione involontaria da parte di amici, sul riuscire a sfondare nel mondo del ciclismo, comunque vedevano in me un bel corridore, con la possibilità di andare forte e (142) da parte dei genitori, tendevano a controllarmi “ma allenati e fai questo”, cioè tendevano..magari una volta che non volevo allenarmi mi stavano sotto, mi mettevano pressione perché mi allenassi</p> <p>A10: soprattutto con in rapporto alle persone coinvolte in questa cosa, al mio procuratore, al team manager della mia squadra e team manager che ho incontrato di altre squadre. (79) penso che non ero capace a gestire questo tipo di rapp di rapporti.</p>	<p>Worries and questions about career choice</p> <p>Feeling of existential suffocation in the relationships with friends and family expectations</p> <p>Pressure from team manager and personal agent</p>	<p>Presence of stress prior to substance intake (27.3%)</p>

To cope with stress, athletes did not show many coping resources. A2 had the feeling the situation did not depend on him, but was linked to a lack of certainties about his future both in sports and in his professional life.<sup>13</sup> A10 also totally relied on the decisions of others, in particular his team manager. Only A9 had benefited from the collaboration with a sport psychologist, with whom he was developing his coping resources (leave his parents' house and find another training group).<sup>14</sup>

#### 4.2.7. Perception of physical and mental health

The majority of the interviewed athletes reported having a positive perception (81.8%) of their physical health, while the other 2 (18.2%) reported physical complaints. A8 for instance reported physical difficulties linked to injury rehabilitation,<sup>15</sup> whereas A9 described very bad physical

<sup>13</sup> ben le problème c'est que ça dépendait pas vraiment que de moi. Moi ce qu'il aurait fallu (...) que l'année prochaine j'avais un truc qui m'attendait. (...) pareil aussi pour le niveau professionnel, ce qu'il aurait fallu pour que je sois sûr que l'année prochaine... enfin que cette année je joue pas au basket c'est que je sois sûr vraiment d'avoir un bon travail aussi donc j'avais pas vraiment de certitudes...

<sup>14</sup> A9 (146) La situazione era che per cercare soluzioni mi ero affidato ad una psicologa dello sport che mi aveva consigliato di andare a vivere via da casa(...) Abbiamo comunque avuto delle terapie, degli incontri per riuscire comunque a superare le mie insicurezze e tentavo di affrontare questo

<sup>15</sup> A8 : (33) Mes conditions physiques, elles étaient pas bonnes du tout quoi, parce que je crois que je sortais d'opération, en fait, je sortais d'opération et j'étais convalescent... pendant six mois..., c'était à cette époque-là quoi, enfin, j'ai repris de l'opération, j'ai repris l'entraînement et puis ça jouait pas super, super, super...

conditions with constant fatigue and frequent infections<sup>16</sup>. Most importantly, many athletes report the following mental states prior to substance intake:

Quotations from the raw data	Subcategories	Topic
A1 Aber ich fühlte mich gesund und fit. A4 Topfit A7 (109) Auch gut, gesund, ja. A3 Gut A5 (120) Sì, era proprio un periodo bello. A11 j'étais plus tranquille peut-être dans l'après midi je restais toujours chez moi tranquille à lire ou à regarder la télévision (...), je me ressentais bien et me permettais des choses que normalement je ne me permettais pas.	Feeling fit and healthy  Feeling good  Feeling relaxed	Positive mental state (54.5%)
A2 Au niveau mental, je pense que le fait de me poser beaucoup de questions ça influe un peu sur euh...sur le reste A8: je pense j'avais plutôt un souci c'était la communication: j'avais quelque chose à dire mais j'arrivais pas à le dire : je le disais mais je le disais pas assez bien pour qu'elles puissent le comprendre A9: (151) A livello mentale ero un disastro. A livello mentale avevo una confusione, affaticato, con ventimila pensieri eh, cioè, ero fuori di me. A10: Ero un po' in tensione, sotto stress	Uncertainty  Communication problems  Confused and fatigued  Under stress	Negative mental state (36.4%)
A6 (187) Ich habe mir persönlich Druck auferlegt, woraus ich eigentlich meine Motivation gezogen habe. (188) Ansonsten keine negativen Aspekte oder ein spezielles äh psychisches Gebrechen.	Normal competitive pressure	Normal mental state (9.1%)

#### 4.2.8. Perceived importance of sporting results

Almost all athletes deemed their sports results to either be important (A1, A3, A5, A8, A11), or very important (A2, A4, A6, A7, A9, A10).

On the one hand, A1 recognised the high value that sporting results had in his life, while expressing full awareness about the fleeting character of sporting success and admitting he was not ready to reach them at all costs<sup>17</sup>. A similar attitude is reported by A3, who stated that results were still important, but not at all costs<sup>18</sup>.

<sup>16</sup>A9 : (150) Forse uno dei più bassi nella mia vita, continuavo ad ammalarmi prendevo le infezioni più impossibili, anche se facevo delle cure per rinforzarmi ero sempre debole, quindi stavo, dal punto di vista della salute stavo malissimo anche se magari non si vedeva.

<sup>17</sup> A1: (115) Sie hatten einen höheren Stellenwert vielleicht als aktiver Bobpilot, als sie jetzt haben. (116) Aber eigentlich war ich nie so ein ehrgeiziger Mensch, dass ich jetzt alles für den Erfolg gemacht hätte. (117) Und das ist so kurzlebig. (118) Man wird Schweizermeister, man wird Vizeeuropameister, man fährt gute Rennen an Weltmeisterschaften. (119) Äh, das steht in der Zeitung vielleicht und nachher ist das sowieso wieder vergessen.

<sup>18</sup> A3: (184) Es war mir sicher wichtig, sonst hätte ich die Motivation nicht gehabt, aber nicht mehr um jeden Preis.

On the other hand, A2 acknowledges the great importance that he attributed to results to achieve success<sup>19</sup>. Similarly, A6 underlines the pride that he obtains from his sporting results and the associated social recognition in his environment, which he recognises as a potential source of pressure<sup>20</sup>.

A9 goes even further in the importance of sporting results as part of his identity, because he perceived his sporting identity to be the only aspect that people recognised and reinforced<sup>21</sup>.

As for A10, the perceived importance of results is associated with the emotion of pride, derived from the comparison with other competitors, from which the athlete can nourish his own self-esteem<sup>22</sup>.

#### 4.2.9. Perception of norms towards doping behaviours

The way athletes perceive norms about doping behaviours or more generally substance abuse in their sports is an important component of their own attitude and behaviours in this specific domain.

The following chart describes the content analysis performed on the interviews of our sample:

Quotations from the raw data	Subcategories	Topic
<p>A1: (124) Welche Einstellung? (125) Dass es ein absolutes Tabuthema ist. (126) Und weder Funktionäre, noch Sportler, irgendwelche...niemand diskutiert darüber, niemand redet über das Ganze öffentlich.</p> <p>A10: in generale (pausa) ci sono delle contraddizioni e penso dell'ipocrisia, poi adesso che sto vivendo questa esperienza lo penso ancora di più. (89) Da una parte vengono fatte queste pratiche....per quella che è stata la mia esperienza: dall'altra il manager della mia squadra mi ha richiamato dicendo ma in fondo ti credo: è sei anni che siamo insieme: so che tipo di persona sei e, invece pochi giorni dopo sui giornali è uscita la notizia che dopo la mia (positività) lui non aveva più lo stimolo di fare una squadra ciclistica, era un mondo dove non ci si poteva più fidare degli atleti</p>	<p>Taboo topic</p> <p>Hypocrisy</p>	<p>Hypocrisy about doping</p>
<p>A2: Est-ce que fumer un joint toujours avant un match c'est se doper ? (...) je pense qu'il faudrait avoir un système pour différencier ce genre de dopage du, entre guillemets, vrai dopage des sportifs qui prennent des produits pour la croissance du muscle ou quoi que ce soit ...</p>	<p>Lack of distinction between recreational and performance enhancement substance abuse</p>	<p>Ambiguity of doping behaviours</p>

<sup>19</sup> A2 : une grande importance quand même, par rapport à moi-même en fait ; j'aime la compétition donc j'aime gagner forcément j'apportais quand même une grande importance aux résultats

<sup>20</sup> A6: ich war natürlich äh, ich war stolz auf das, was ich erreicht habe. (190) Ich habe sehr viel Ansehen bekommen in meinem persönlichen und sozialen Umfeld. (191) Und das war dann auch die belastende Komponente dann.

<sup>21</sup> A9 : (152) Era l'unica cosa che riuscivo a far bene e per me era importante, a livello sportivo perché comunque, mi riconoscevano solo per la bici ma non per la persona che ero(...) e un corridore deve portar risultati, deve scendere forte.

<sup>22</sup> A10: una grande importanza, avevo la consapevolezza di essere arrivato a dei grandi risultati: diversi atleti che avevano fatto attività 10-15 anni e non erano mai riusciti a raggiungere gli obiettivi o le soddisfazioni che avevo raggiunto io.

<p>A4 (156) Und da hat mir dieser Mann, mit dem ich eigentlich Kontakt gehabt habe, hat mir so gesagt: (...): (159) Ja mit grösster Wahrscheinlichkeit werden diese Substanzen sowieso einmal abgeschafft von der Dopingliste. (160) Und dann, das hat mich ein bisschen aufgeregt, oder.</p> <p>A6: ich ja bin nach wie vor davon überzeugt, dass sich sehr viel Leute dort in diesem Graubereich bewegen und äh dass im Spitzensport ähm weit verbreitetes äh Mittel ist. (205) Aber eben, da ist wieder eine Definitionsfrage, was ist Doping, was sind äh erlaubte Substanzen. (206) Und dort in diesem Graubereich, in diesem Übergang zwischen legal und illegal äh gibt es ein gewisses Betätigungsfeld, wo sich die Spitzensportler bewegen müssen</p>	<p>“Grey zone” between doping and legal performance-enhancing behaviours</p>	
<p>A3: (185) Ja, dieselbe, wie ich hatte. (186) Also es ist absolut äh, es bringt nichts (...) dann müsste das ganze Team gedopt sein, dass es irgendetwas bringt.</p> <p>A4: (145) Ja weil, ich weiss nicht, ich weiss nicht was das Ganze sowieso bringen soll, also. (146) Eben, ich weiss nicht, das ist ja, meine Sportart ist in der Schweiz ja wirklich eine Randsportart. (147) Es ist nicht wie Tennis oder Fussball, wo es um Geld geht. (148) Also das meiste investiert man ja sowieso selber.</p> <p>A5: (123) Ma io di doping, cioè nel senso, magari leggendo la Gazzetta può essere che ne trovano uno positivo nel ciclismo, però per sostanze diverse</p>	<p>Doping is not useful to performance in sport, unless accepted by a whole team</p> <p>Doping does not make sense in a secondary sport</p> <p>Doping is primarily associated with sports like cycling</p>	<p>Unclear usefulness of doping behaviours</p>
<p>A7: Es gibt viele die dopen, oder dopen. (117) Ja man hört immer wieder, ich kenne eins, zwei Leute vielleicht, die machen das auch. (118) Und das, was das Schlimmste ist, ist natürlich das Marihuana. (...) Und was halt in meinem Sport halt ist, macht gerne die also Muskeln grösser und ja.</p> <p>A8: c'est vrai que y'en avait passablement qui fumaient dans l'équipe : on est pas là à se piquer tous les jours, nous on s'entraîne et puis voilà, on a pas besoin d'autre chose quoi...</p> <p>A9: (154) C'è molta omertà, da un lato tutti ne parlano e tutti ne sanno, perciò, si sa di molte cose ma nessuno fa niente, c'erano cose che, cioè, che, tra i tanti vedevo cose che giravano tra le squadre ma nessuno faceva niente. (...) sentivi moltissime cose, vedevo dei corridori che un giorno non riuscivano nemmeno a finire le gare e dopo vincevano</p> <p>A11: Bon en 2001 je pense que de dopage dans le cyclisme il y en avait pas mal cet an là --- personne ne m'avais dit jamais tu dois faire ça ou tu dois faire comme ça, bon dans le monde de la de mon équipe quand j'ai été trouvé positif c'était pas seulement moi (...) (80) j'ai quelques doutes sur quelqu'un devant vous je ne peux rien dire mais</p>	<p>Doping is common practice</p> <p>Recreational drugs is more common than performance-enhancing drugs</p> <p>Many positive examples without taking action</p>	<p>Substance abuse modelling</p>

c'était une ambiance tolérant quoi.		
A9: "(159) ci son veramente dei personaggi che te ne parlano sempre e diventa una cosa normale parlarne, non è una cosa.. cioè, se sentivo parlar di droga, o cocaina o roba varia me ne discostavo perché mi sembrava una cosa brutta e pericolosa, se sentivo parlare di doping mi sembrava una cosa talmente normale, come parlare di un articolo letto sul giornale".	Normalisation	Normalisation

A9 underlines the fact that a clearly-stated opposition to doping behaviour by a team director within his team had an efficient dissuasive effect on his own intentions to shift from a mere intention to use to an actual substance intake<sup>23</sup>.

#### 4.2.10. Personal attitude towards doping

In general, athletes declared the following personal attitudes towards doping:

Quotations from the raw data	Subcategories	Topic
<p>A3: (200) Ich sage nicht, ich verurteile das. (201) Es kommt auf den Umstand an. (202) Man muss alles anschauen. (203) Es wird immer gefordert, du musst, du musst, du musst. (203) Und ähm wenn Sie das vergleichen mit der Arbeit, mit der Wirtschaft, ich vergleiche immer denn Mann als Spitzensportler und den Test, den Leistungstest, als Leistung, Leistung, Leistung.</p> <p>A4: (187) Ich hatte auch selber, war in der Leichtathletik eigentlich sehr aktiv und ich habe mich jedes Mal bestätigt, ohne ein Kraftmittel oder ohne Mittel, das auf der Liste steht, kommt man weltweit da nicht weiter, oder. (188) Aber dort geht es halt um Geld, Leichtathletik allgemein, Turnen allgemein, oder. (189) Und ja, solche die wirklich Spitzensport betreiben, ich bin überzeugt, ich bin wirklich überzeugt, sind alle gedopt. (...) (192) Genau das gleiche wie im Radsport.</p> <p>A11: Mon avis c'est que ... peut-être dans des circonstances concrètes je peux comprendre l'athlète, j'ai compris l'athlète parce que en effet si le sport est notre boulot et quand on a une femme chez toi, tu travailles pas, par 300 francs et tu n'as pas de boulot là je peux comprendre quoi ; je ne le divulgue pas, je ne suis pas d'accord mais la personne je la comprends.</p> <p>A11: (81) Moi-même c'était que peut-être pour comprendre le dopage il faut au moins comprendre l'histoire du sport et je pense qu'il y en avait pas de sport c'est c'est dans dans tu sais on a commencé en</p>	<p>Doping is a question of money and pressure in sports where you make a living</p> <p>Doping is part of competitive sports since the beginning</p>	<p>Pragmatic attitude towards doping</p>

<sup>23</sup> A9 : « (155) Nell'ambiente dove sono stato io, eh, non hanno mai fatto pressioni dal punto di vista del doping, anzi è stato il contrario. (156) Questo probabilmente è anche quello che mi ha aiutato a non cadere nella rete e ho avuto un tecnico che ne ha fatto uso che ha parlato degli effetti sul corpo che potevi avere e diceva mai e poi mai nella vita per il bisogno di vincere prendete delle cose, non rovinatevi la vita”

<p>Grèce il y a 2000 ans à parler de dopage quoi on ne peut pas croire que qu'il ne va pas y en avoir quoi. (82)</p> <p>A6: (211) Also dort muss eine Vergleichbarkeit möglich sein, damit die Leistung auch richtig beurteilt werden kann. (212) Das heisst, die Einnahme des äh der Substanz muss für alle zulässig sein oder für niemanden.</p>	<p>Doping addresses the fairness issue in sports: it's either no doping or doping for all</p>	
<p>A2: je pense qu'il faudrait avoir un système pour différencier ce genre de dopage du, entre guillemets, vrai dopage des sportifs qui prennent des produits pour la croissance du muscle ou quoi que ce soit quoi...</p>	<p>Need to distinguish recreational drugs from "real" performance-enhancing doping</p>	<p>Positive attitude towards doping</p>
<p>A1: ich bin persönlich selber gegen Doping. (129) Ich würde jetzt nie Doping konsumieren, weil für mich ist der Sport, hat nicht den Stellenwert.</p> <p>A5: (126) Che non c'è bisogno.(127) Secondo me il fisico può dare un tot, più di quello non può andare. (128) Quindi non è neanche bello raggiungere degli obiettivi con aiuti che non sono dati dal tuo corpo ma presi da cose estranee.</p> <p>A6: (210) Ich finde das nicht gut, wenn unterschiedliche Verhalten miteinander gleichgestellt werden, das heisst, wenn ein Athlet sich unerlaubt verbessert, ist es nicht fair gegenüber dem Athlet, der sich 100% korrekt verhält. (...) (213) Und das ist eigentlich dieser Fairnessgedanke und diese Objektivität der Leistung sollte wirklich gewährleistet sein, ja.</p> <p>A7: (126) Ja weil ich äh, nur schon wenn es geht um Muskelaufbau. (127) Dann habe ich viel mehr davon wenn ich ins Fitnessstudio gehe und richtig dafür kämpfe und am Schluss sagen kann, das habe ich gemacht.</p> <p>A8: (37) Alors mon avis sur les produits dopants, enfin, si ça peut apporter quelque chose...dans certains sports mais c'est pas ce que je recommanderai (...) et donc les drogues encore moins quoi donc c'est vraiment quelque chose de pas bon pendant la pratique d'un...d'un sport à haut niveau, que je bannirai de tout sport, ou l'un ou l'autre.</p>	<p>Against doping because sports is not the only central aspect of the athlete's life</p> <p>Against doping because it represents a lack of respect of the body limitations in seeking sports achievements</p> <p>Against doping because it introduces unfairness in competition</p> <p>Against doping because it alienates the athlete from his/her own resources</p> <p>Against doping because it is are no good for health</p>	<p>Negative attitude towards doping</p>

#### 4.2.11 Substance availability

Most of the athletes recognised that banned substances are very easy to get. In fact 72.7% of the athletes stated substances are very available for athletes. 27.3% of the athletes were not able to express their opinion, as they stated they did not consume intentionally.

According to A1, some mouse-clicks on the computer while browsing on the Internet are

sufficient to obtain any desired substance<sup>24</sup>. For A5, cocaine is a very popular substance for teenagers, even in their schoolyards<sup>25</sup>, and A8 corroborates its high availability<sup>26</sup>. Speaking of an allegedly contaminated nutritional supplement, A6 states it is available in many shops around the world<sup>27</sup>. Concerning a growth hormone, A9 admits it is not so easy to find, but once you become interested in it and get the right contact in the sports environment, it becomes very easy to obtain the substance<sup>28</sup>.

#### 4.2.12 Influence of the social environment of sports on substance intake

Data suggest that there are differences in the way athletes perceive the social environment of sports on the influence of their first substance intake. Below is the data analysis according to the different categories of answers:

Quotations from the raw data	Subcategories	Topic
A1: (144) Nein, gar nicht, nein. A6: (230) Gar nicht, nein. A8: (40) Zéro c'était pas mon entourage...c'était...c'était vraiment, c'est ma tête	No influence	No influence from sports environment (full personal responsibility)
A4: ich denke, in diesem Umfeld, wo ich bin, glaube ich sehr wenig. A7: (136) Ja, ich weiss es nicht. (137) (...) Aber generell zu Doping zu kommen, ist nicht so einfach, nein. (139) Also man muss da schon die richtigen Leute kennen und auch dann ist es nicht so einfach.	Social environment has little influence on substance abuse behaviours  Individual must know the right people to have access to doping	Minor influence from the sports environment
A2: influencé peut-être (...) dans le sens que, (...) 90% de mes amis consomment du cannabis...alors peut-être une influence pas voulue A5: (137) Cioè era una festa quindi era una cosa «normale» per loro. A11: (24)Et bon, c'est arrivé comme ça, je me suis renseigné au médecin de l'équipe et il m'a dit de prendre ces aminoacides et j'ai pris en Espagne (...) et c'était une mauvaise décision quoi.	Influence by social modelling of substance abuse behaviours that are considered as normal  Indirect influence	Partial influence from sports environment
A9: (167) Ah sicuramente in maniera forte perché sai io di mio, di principio non mi sarei avvicinato a certe sostanze perché dal punto di vista etico non la trovo una cosa giusta da fare però (...)...vedi gli effetti, passano degli atleti che vincono e sai bene	Positive social modelling: winners turn out to be dopers	Major influence from sports environment

<sup>24</sup> A1 (140) Für verbotene Substanz, fünf bis sechs Mausklicks per Internet und dann hat man sie im Haus, wenn man das haben möchte.

<sup>25</sup> A5 : (134) Ormai all'ordine del giorno, (...) cominciano i ragazzi di 14 anni e poi per non parlare degli altri.(135) Però è una sostanza che si trova ormai da tutte le parti, a scuola, in qualsiasi posto.

<sup>26</sup> A8 (39) Ouais, c'est tristetu trouves plus facilement ça que...que...que...qu'une plaque de si ça se trouve faut marcher bien cinq minutes, franchement ces trucs t'en trouves à tous les coins de rues quoi

<sup>27</sup> A6: (224) Das ist ein Produkt, dass für jedermann gleich äh käuflich ist, in einem offiziellen Shop, in einem weltweit tätigen Unternehmen, das Filialen auf der ganzen Welt betreibt.

<sup>28</sup> A9 (163) Io non credo sia poi così facile; ho conosciuto questo amatore un giorno in allenamento, (...) con lui è stato facilissimo avere certe informazioni.

<p>che sono dopati o comunque han fatto uso di sostanze.</p> <p>A9: (169) E comunque con tutte queste pressioni,</p> <p>A9: Quindi c'erano intorno poche persone che mi dicevano lascia stare che tanto con il tempo vedrai che non è un problema tuo. (171) Però per il resto tutte le persone incontrate mi hanno portato a questo punto.</p> <p>A10: (98) Eh, è stato determinante. Sì, nell'ambiente in cui ero sì perché: anche un'iniezione endovenosa voglio dire sono pratiche anche non consuete o facili come quello che potrebbe essere quello di prendere qualcosa per vie orali. (99) che al di là del gesto fisico comunque anche di quali sostanze, per cui l'ambiente è così, è fondamentale.</p>	<p>Performance pressure within the sports environment</p> <p>Sports environment does not foster patience to obtain results</p> <p>Sports environment is a decisive influence because of the complex medical practices involved in substance intake</p>	
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#### 4.2.13 Perception of fair play in the sports world

All of the athletes admit, at various degrees, that fair play is no longer present in the world of sports. The shift has taken place in very recent times, according to A11, who is very sceptical about the survival of the notion of fair play in competitive sports<sup>29</sup>. Moreover, A2 illustrates the lack of fair play in today's competitive sports by recalling the notorious episode of Thierry Henri's hand in the football World cup qualifier between France and Northern Ireland in 2010<sup>30</sup>. The most frequently mentioned reason for the perceived lack of fair play is the growing competitive pressure<sup>31</sup>. Likewise, A4 states that fair play exists in sports until the pressure to win overpowers it<sup>32</sup>.

In addition, fair play depends on the type of sport being played. One athlete, A7, admits that in his own sport (American Football) the notion of honour still exists<sup>33</sup>. In fact, data suggests that fair play tends to disappear in sports where money is at stake<sup>34</sup>. A1 also believes fair play depends very much on the athlete's nation: he claims that in some nations doping controls are not as strict as in his own country (Switzerland)<sup>35</sup>. Finally, A9 throws an interesting perspective on the negative effects of the current lack of fair play in major televised sports (i.e. football) on an athlete's sportspersonship and willingness to adopt pro-social behaviours<sup>36</sup>.

<sup>29</sup> A11: (92) Je suis maintenant je suis assez sceptique je pense que généralement dans le cyclisme pour moi les choses sont changés beaucoup en peu de temps

<sup>30</sup> A2 : si je suis Thierry Henry et que je joue contre l'Irlande ...je mets doucement la main ouais (rires) l'arbitre il est là et s'il le voit tant pis pour moi et s'il le voit pas tant mieux pour moi, enfin... voilà quoi...

<sup>31</sup> A8 : (41) Je dirai que y en a plus tellement de fair-play au jour d'aujourd'hui... j'ai de la peine à voir du fair-play à la télé maintenant ou même dans les salles de gym ça devient très très très compétitif le niveau.

<sup>32</sup> A3: (216) Eigentlich will jeder fair sein, bis zu dem Zeitpunkt, wo der Druck zu hoch wird

<sup>33</sup> A7: (141) Ja kommt immer darauf an in welcher Sportart. (..) (143) In meiner Sportart ist es noch ziemlich ehrlich, ja, das glaube ich.

<sup>34</sup> A7 : (147) Ja im allgemeinen Sport gibt es sicher Sportarten, die ziemlich, ja also mit Geld, wo Vieles gekauft und getürkt ist.

<sup>35</sup> A1 (146) Also es gibt ein Fair Play in der Schweiz mit den Anti-Doping-Regeln. (147) Und was ich einfach auch sehe, ist, dass Schweizer Athleten sehr stark kontrolliert werden auch und sobald man in der gleichen Sportart in eine andere Nation geht, ist alles anders, ja, und dann fragt man sich schon wo das Fair-Play ist.

<sup>36</sup> A9 (176) Specialmente, cioè io mi sono sempre sacrificato per gli altri anche quando potevo ottenere dei risultati per me, quindi nella vita personale, per lei sì ci starebbe, però quando vedi in giro che non viene applicato da nessuna parte anche lì lasci perdere, non insisti.

## 5. Discussion about the main results

In this chapter of the report, I will comment and discuss the data pertaining to the psychological determinants of doping behaviours, by reviewing the topics discussed in light of the literature.

First of all, concerning the *circumstances of substance intake*, I had formulated the hypothesis that a focus on sport as a profession would be associated with an increased risk of performance enhancing drug (PED) intake, in accordance with Kleinert and Jüngling's doping model (2007). Interestingly, the data does not fully support this assumption, although it does shed an interesting light on some individual circumstances.

In fact, most of the athletes benefited from a comfortable socio-economic situation at the time they received the sanction, either as full professional athletes (cyclists, footballer) or because they had another professional activity that complemented a rather limited sports-related income (bobsleigh racers, American footballer, tae kwon do). Among the professional athletes, most of them were sanctioned for taking PED as an attempt to increase their performance potential, and thus their socio-economic status was indirectly improved. These aforementioned results corroborate the theoretical models. Nevertheless, this is not the case for those athletes who did not undergo economic pressure and who were involved in sports for other reasons than financial income (e.g. personal challenge, passion for competitive sports), and still consumed PEDs. It is not surprising that these same athletes claim their consumption was accidental and involuntary, which, in theoretical terms, looks like a credible answer.

Moreover, it is worth noticing that the two athletes (A2 and A8) who complained about a low income and socio-economic status while being involved in elite sports both intentionally consumed recreational drugs (basketballer and artistic gymnast). That can be interpreted as follows: deviant behaviour is embedded in a perception that the athlete's socio-economic situation could partly be accounted for by his/her involvement in competitive sports – a world from which they received insufficient personal recognition and stimulation. Thus, deviant behaviour becomes, in both cases, an attempt to seek sensations through risk-taking (cf. Weinberg & Gould, 2007; Laure, Lecerf & Le Scuff, 2001) or, at a deeper level, a mission to reinforce one's personal identity up against an "alienating" sports world. In fact, in both cases, the sanction is experienced with a sort of personal relief (cf. ch. 6 "Additional aspects" p.39 ).

The data about the *awareness to violate anti-doping* regulations allows for the differentiation of substance abuse typologies. As previously mentioned, the two athletes, - who both took illegal recreational drugs in the framework of an uncertain socio-economic situation, are the only ones who admit their total awareness and personal responsibility for violating the anti-doping rules. Interestingly, athletes who claim complete lack of awareness for breaking the anti-doping code are those who also practiced a sport that did not allow them to fully be professional athletes and therefore forced them to work and/or study while competing. Moreover, all of the athletes who were full-time sport professionals claimed partial awareness for taking drugs, which took many forms. These range from lack of vigilance due to a modified mental state (the case of cocaine), to superficially checking the contents of nutritional supplements.

Concerning the athletes' partial awareness of their deviant behaviour, the data reflects the existence of a tendency not to question certain frequent behaviours that athletes witness in the world of sports competition and that they consider as "normal" (cf. Brissonneau, Aubel, & Ohl, 2008). In the case of WIN10, a cyclist who took part in systematic doping as part of the normalised team preparation, it is interesting to highlight that PED intake awareness was possible only after the sanction. As a matter of fact, he did not feel the moral "weight" of his mistakes while he was actively taking part in this kind of behaviour, because "there are people

who violated the rule all the time and (...) everything seemed normal to me". This implies that deviant behaviour in certain sports may be perceived as normal and acceptable because it is widespread in a specific sports environment. This phenomenon reinforces the theory of doping as "positive deviance" (Brissonneau, Aubel, & Ohl, 2009).

Our data also pinpoints that some athletes do not have sufficient *awareness about the adverse effects of substance abuse* on their health. As far as hashish is concerned, although A2 acknowledges the negative effect of this substance on his performances, he seems to have a rather apologetic approach. His arguments consist in questioning why hashish is banned while other drugs, such as alcohol and tobacco, are tolerated in sports. This attitude certainly contributes to undermining the athletes' capacity to question the deviating behaviour and is without a doubt linked to a higher risk of relapse in substance abuse.

As far as PE substances, it is interesting to pinpoint that both A10 and A11 perceive these drugs as a valid aid to recuperate from their massive physical efforts, thus ultimately contributing to their health. There again, the athletes' perception of health risk is masked. The only athlete who openly recognises the health risks for consuming PE drugs (i.e. Growth hormone) is A9: interestingly enough, such an opinion is not derived from other people's good advice or any medical information, but from his own personal efforts to obtain this kind of knowledge from the Internet.

The literature has underlined *the role of sport transitions in putting athletes at risk for their first substance intake* (Ohl & Lentillon, 2009). Our data corroborates this claim assumption. Most of the athletes of our sample undergo transitions, which are associated with special emotional states and a higher risk of breaking anti-doping rules.

While undergoing a transition on a professional level, A4 was planning to end his sporting career. He was working as a barman, while also terminating his professional training. This transition, linked with the possible emotion of indifference, may have played a role in his lack of vigilance about what he accepted to drink during his work at night.

Similarly, A5, A7, and A10 were facing new sports career opportunities and nourishing ambitions for the future; for A5 the elation linked to a positive prospect in his career is to blame for his lack of vigilance regarding his first cocaine intake. A7 enthusiastically decides to assume nutritional complements (which, as he later learned, were contaminated) precisely in the year where he felt he had the opportunity to fulfil his dream, namely to play American football on a foreign team and make a living out of his sport. A10, in a general moment of uncertainty about his future, was about to be offered an interesting contract and was planning on playing a major role in one of the most important races in his sport when he succumbed.

A2, A8, and A9 all felt that they were at their highest sporting level, but were still unsatisfied with the lack of recognition they received on a personal level: A2 therefore hoped to find a team that would give him a better contract, in order to release pressure on his daily life, while showing signs of discouragement; A8 felt stifled by his own sporting success that was causing his personal identity to disappear; A9 suffered from a negative self-image, which triggered feelings of existential anxiety.

As for A1, A3 and A6 (all bobsleigh racers), they were all in the training phase preceding an Olympic season, in which they wished to participate. The motivating prospect of taking part in the Olympic Games, as well as the anticipated implications on the athlete's own identity and social recognition, might be associated with involuntary risk-taking (mainly through nutritional supplements that turned out to be contaminated) in an attempt to achieve success (cf. Ehrnborg & Rosen, 1997).

A11 seems like an isolated case, as he states he was undergoing a very positive phase with a lot of pleasure to race and a lower perception of the effort linked to his sport. Interestingly, he admits to looking for any legal means to optimise his performance and, more particularly, sustain efficient recovery from hard training. In this sense, A11 case can also be accounted for by

Ehrnborg & Rosen's predictive model (1997) as it eventually relates to an urge to win.

All the cases of our sample illustrate the emotional impact of transitions and their possible contribution to a higher risk for substance abuse. This trend is even more exacerbated, when associated with the athlete's more salient *perception of threat*. A10 felt threatened for his contract at the very time the negotiations with a new team were interrupted because of a doping case in his team, while he was also feeling financially pressured for having bought a new house. The transitions on both athletic and personal levels increased the athlete's perception of being threatened in his athletic identity, and ultimately affected his vulnerability towards recovery practices that he admitted to perceive as suspicious. This corroborates Kleinert and Jüngling's (2007) research on the role of failure avoidance motivation on doping behaviours.

As for A2 and A8, the other two athletes who shared the same circumstantial feelings of threat, one has to underline that the threat feeling affects the non-athletic identity more so than the athletic identity of these sportsmen. The use of recreational drugs may therefore be interpreted as a maladaptive coping response to the stressful situation, in the attempt to reinforce a stronger non-athletic identity.

*Stress as an antecedent of doping behaviour* (Kleinert & Jungling, 2007) can only account for the deviant behaviour of some of our sample. In fact, just 3 out of 11 cases admit having experienced abnormal levels of stress prior to substance intake. Worries about career choice, and feeling pressured by family members or team managers appear to be the major stressors in their testimonies. By undergoing such internally and externally induced pressures, those same athletes report a *precarious state of mental health*: athletes refer to uncertainty, confusion, and fatigue, (while describing their mental state) prior to substance intake. Prohibited drug intake appears as a coping behaviour to get rid of feelings of pressure. For A2, smoking hashish is an easy way to escape his worries; for A9 and A10, PEDs represent a short cut to avoid feeling inadequate in their performance capacity (A10) or with their looks (A9). As such, substance abuse, be it in the form of recreational drugs or PEDs, can be triggered by a common need for athletes to find strategies to restore mental balance.

In parallel, athletes tend to perceive that they *do not have full control on the coping strategies to deal with that stress*, thus diminishing their resources to deal with it in a constructive way. For instance, A8 reports his difficulties to communicate his internal conflict to people who were close to him and supported him. For A8, substance consumption indeed corresponds to a self-destructive attempt to free himself from an overly restrictive athletic identity. This confirms the validity of the model of stress based on the double-evaluation of threatening situations and lack of coping strategies, embedded in Kleinert and Jungling (2007) comprehensive model.

Our study however reveals the existence of another tendency, according to which *the absence of stress* may account for as many cases of anti-doping rule violation as the excess of stress does. The testimonies of our sample in fact seem to suggest that athletes consumed substances because they were not under enough pressure, a psychological state that is associated with lower levels of control and vigilance of risky behaviours such as taking nutritional supplementation (A1, A3, A6, A7, A11) or being involved in social / recreational activities (A4, A5, A8).

*Motivations for sport* have also been identified as possible influencing factors on doping behaviour (see Donahue *et al.*, 2006). Intrinsic motivations, such as life balance, maximal personal effort and fun are present, but represent minor motivational aspects. Interestingly, they are expressed by athletes who state their doping was accidental, which indirectly confirms the self-determination theory (Deci & Ryan, 1985). As a matter of fact, most of the motivations that are expressed in our sample are extrinsic in nature: success in sport, qualification and recognition in major competitions and financial rewards through sports. Due to the small size of the sample,

it is not possible to conclude whether extrinsic motivations are more prominent in athletes who were then caught for doping, than in a “clean” sample of elite athletes.

Yet, there is good reason to believe that the prominence of such external reasons for doing sports represents a significant influencing factor for the athletes in our sample, corroborating Donahue *et al.*'s (2007) assumptions. In fact, on the one hand, as underlined by the *expected effects of substance intake*, athletes caught with PE substances were for the most part striving to enhance their performance, regardless of their level of awareness (for consuming illegal substances). Interestingly, A6 speaks about a “grey zone” in which athletes must remain to enhance their performance. This refers to the very thin line between legal and illegal means as well as the presence of a generalised pressure of elite athletes to indulge in risk-taking behaviours to improve their chances of winning, thus allowing doping to be a much more easily dissimulated behaviour in elite sports.

Moreover, the results of our study suggest that almost all athletes maintain *sporting results as an important component* of their life and self-esteem. That is particularly the case for A9 and A10, who felt their cycling results were the only means for them to succeed in life. This confirms the validity of the overfocus on athletic identity hypothesis (Hodgins & Knee, 2002), which explains why the individuals' perception of obligation to win may act as an antecedent for PED behaviours.

This pressure to win is certainly linked with another potential antecedent of doping behaviours, namely *the athletes' individual attitude towards doping*. Although not being outspokenly in favour of doping behaviours in elite sports, some athletes express their understanding of the conditions that may push athletes to dope: in situations of professional pressure, where important sums of money are involved and the athlete is responsible for his family's welfare, the athletes' temptation to look for outcome at all costs is greater. Besides, doping is recognised as being part of competitive sports since its very beginning, and as such, is accepted to be an inevitable phenomenon. More specifically regarding the use of recreational drugs in sports, one athlete in particular (A2) expresses his favour towards the liberalisation of hashish and thus calls into question the insufficient differentiation in current anti-doping policies between recreational and PEDs (which he perceives as “the real doping”). It is not surprising that this attitude is associated with repeated substance abuse and sanctions for breaking anti-doping rules. According to the Theory of planned behaviour, this kind of attitude is bound to maintain one's doping behaviour (Ajzen and Fishbein, 1980).

Nevertheless, close to half of the athletes in our sample express their clear refusal of doping as acceptable in sports. In particular, three athletes (A1, A5 and A7) perceive doping as an act of self-alienation, as it deprives the athlete from the awareness of his own real capacities and limitations, while threatening other personal dimensions of his own life (A3: “sports is not the only central aspect of the athlete's life”). A6 goes on to say that doping breaks central principles in sports, such as fairness, while A8 stresses the risks for the athletes' health. Interestingly, all athletes but one consumed banned substances unwittingly, which, according to the Theory of planned behaviour, seems like a plausible answer (Ajzen and Fishbein, 1980).

The hypotheses associated with *social and relational factors of substance abuse in sports* receive interesting validation in our data. Still, according to Ajzen and Fishbein's Theory of planned behaviour (1980), the third influencing factor on the intention to behave in a certain way is the normative attitude, in other words *the athlete's perception of the existing social and cultural norms related to doping*. Most of the reported perceptions betray the presence of silence, ambiguity, confusion, contradictory discourse and even hypocrisy in the world of competitive sports, as they relate to doping. Lack of clarity about the existing social norms with regards to this phenomenon offers fertile ground for the intention to consume, especially when other conditions are present.

One of those triggering conditions is certainly the fact that doping behaviours can be observed as common in competitive sports. In fact, when peers or, even worse, winners in your own sports are associated with substance abuse and continue to dope without being caught or punished, there is a fair chance that an athlete will be tempted to consume as well. In fact, according to the social learning theory (Bandura, 1986), when athletes who are perceived as references (because of their status, positive results, etc.) commit certain prohibited acts that the system or the group fails to reprimand, other individuals, through vicarious learning, will learn to replicate the same behaviours. The *very easy access to substances* through the Internet or personal contacts and the frequency of those behaviours, lowers emotional reactions against doping through a process of habituation, and normalises even those prohibited actions. Rules and norms are blurred and introduce the risk of personal interpretations in defining what is right or wrong. Interestingly, when one person in the athlete's sports environment takes a clear stance against doping, this can have a strong and decisive effect on the athlete's decision to give up trying banned substances, such as reported by A9.

We had expressed the hypothesis that the encouragement from significant others within the sports environment to consume prohibited substances would be positively correlated with doping motivation. Whether *doping is a socially determined behaviour* (Laure, 1995) appears to be plausible, but it is not clearly verified by our data. Certainly some athletes agree that social influence on doping occurs in many different ways: performance pressure, lack of support about alternative ways to train, need for specialised support concerning complex medical practices, social modelling of frequently observed behaviours. But not all athletes are aware of this influence and prefer to see doping as an individual action, unrelated to external influences. This misinterpretation seems to be particularly clear in the case of A2 who denies the existence of a direct link between the influence of his reference group on his habit to consume recreational drugs, when in fact this very behaviour is assumed as a means to integrate the same group, as suggested by Laure (1995).

Also, some of them suggest there is a social influence. For instance, athletes do not simply receive information about illegal means to enhance their performance, but need to actively look for people in the sports environment to provide the proper information (A1). Moreover, according to A11, it is the individual's responsibility to buy the products that have been recommended by their team physician, though the risk of contaminated by-products is still very high.

A final word should be devoted on *the perception of fair play* reported by the athletes of our sample. As defined in the introduction, fair play should be considered as acts belonging to a more general value of sportspersonship, namely the respect for the idea of justice for everyone in sports. The athletes of our sample express a generally sceptical idea about the persistence of this value in contemporary sports. This dominating vision about the general sports environment undermines the athlete's belief that defeat is acceptable in today's competitive sports, and thus indirectly contributes to the increased risk of PED abuse (as a means to maximise chances to win in the world of sports) or of recreational drugs abuse (as a means to restore personal identity in relation with a stressful world of sports). Donahue et al.'s (2006) link between lack of sportspersonship and risk of PEDs intake is therefore corroborated.

## 6. Additional aspects about the anti-doping rule violation

In this section, I will present and directly comment the main results about the investigation that was conducted on the athletes' experiences during their ban period (6.1.) and the needs they were confronted with during their exclusion from training and competition (6.2.). This additional section allows for the evaluation of the secondary objective of this study, while gaining more knowledge for the future applications of the results on anti-doping prevention policies.

### 6.1. The athletes' experiences during the sanction period

To date, no scientific literature has focused on the personal experiences of athletes at the moment they received a sanction and during the whole period that they are banned, which, in our sample, lasted from 1 to 4 years. Understanding how athletes perceive their sanction, how they feel during the ban and the strategies they develop (or not) to cope with it is of interest, as it can provide clues on how to strengthen anti-doping prevention by:

- Protecting and fostering the athletes' mental health during the ban period
- Maximising strategies of self-rehabilitation, allowing athletes to diminish their risk of relapse with doping behaviours
- Integrating sanctioned athletes as positive examples in prevention campaigns for young people involved in sports

#### 6.1.1. Personal perception of justification of sanction

As expected, the way athletes perceive the sanction heavily depends on the personal circumstances of the substance intake. Most of the athletes tend to perceive that when the sanction is communicated, *the sanctioning on the specific circumstances of the substance intake makes no consideration*, whether it was accidental or voluntary, punctual or recurrent. Athletes remark that what seems to count, at least at the first stage of the condemnation, is the level of the substance in their bodies: that is to say, the presence of a higher value of substance. Athletes therefore regret that no consideration is made, in this first step of the procedure, about the specific context of a particular substance intake.

In some cases, the lack of consideration is perceived as a sign of *fundamental mistrust of the sports governing bodies about the athlete's intentions*: "if you are an elite athlete, you are automatically under suspicion" (A2). Therefore, sanctions are not perceived as a sign of justice, but as a sign of malicious intention, especially in those cases where athletes may have indeed consumed a substance, yet with no explicit intention to break the anti-doping code. A1, for instance, argues that having consumed testosterone would not have made him a better bobsleigh racer and therefore perceives the 2-year sanction he received as ridiculous.<sup>37</sup>

In other cases, like A4, the sanction was perceived as an irritating provocation: "I had gained almost no money in all my career and I was ready to fight the last combat, and there came this sanction: I was just very upset!" (A4).<sup>38</sup> Other athletes, such as A2 or A6, perceived the sanction as *drastic and exaggerated*. A11 goes on to say that the sanction he got was *unfair*: The thought that he was punished with the same kind of sanction than other athletes who had admitted an intention to break the anti-doping regulations frustrated him very much.

<sup>37</sup> A1: (77) Testosteron hätte mich schwächer gemacht und nicht stärker, weil Testosteron macht aggressiv und als Bob-Pilot muss man alles andere sein als aggressiv. (78) Es ist nicht logisch gewesen (...)

<sup>38</sup>A4: (50) Ja, für mich war das schon äh, wie soll ich sagen, kam mir ein bisschen schon verarscht vor. (51) Weil ja ich, ich hatte, erst einmal hatte ich mit dieser Sportart kein Geld verdient,

However, some athletes responded differently to the sanction upon being informed. At the moment he received the letter, A8 already “knew what was inside” because he had expected such an ending. Because of an intentional risk-taking, the sanction somehow came as no surprise. Interestingly, he perceived a *sense of relief* when thinking his career was finally over, because he thought this sanction meant that the Federation would finally leave him alone.<sup>39</sup> Finally, it is interesting to point out that only one athlete (A5) in the whole sample said *he accepted the sanction because he perceived it as the right consequence for his own mistakes*.

### 6.1.2. Existing emotions during the sanction period

Quite logically, the athletes’ dominant emotional reaction depended very much on their interpretation of the sanction and had consequences on the quality of their psychological recovery in the aftermath. In general, athletes reported mixed emotions, for an overall total of 31 emotional states, among which the most frequently mentioned were anger (reported by 72.7% of the sample), sadness (36.4%), and disappointment (27.3%). Other emotions that were mentioned were hope, denial, confusion, existential fear, regret, incomprehension, guilt for the athletes’ environment, loss of self-esteem, and frustration (perception of injustice).

As far as anger is concerned, athletes express it:

a) against themselves: “I was angry with myself from what I did, especially knowing that precisely at that time a real professional contract was ready for me. I only I had known before” (A2)<sup>40</sup>

b) against the situation: “all my 12 years of commitment and stress for my sport were for nothing”(A4)<sup>41</sup>

c) against the anti-doping authorities and the media : “when the sanction comes, there is just anger! Anger and incomprehension (...) especially against the way the Anti-doping Agency handled the situation and the media reported my case. Now I have an indelible stamp which is still a problem today to get a new job” (A3)<sup>42</sup>

As far as sadness is concerned, it is associated with phenomena like the loss of a career opportunity, the loss of an important social network of friends and colleagues, and the realisation of the gravity of the personal situation. A5 underlines the sadness and regret that he felt, especially considering the risk that his deviant behaviour meant not only for his own career, but mainly for his family (wife and child).<sup>43</sup> For A7, the sadness is associated to the fact of watching his team’s matches without the opportunity to play.<sup>44</sup> For A8, the sense of relief is accompanied

<sup>39</sup> A8 : quand j’ai ouvert ça, c’est je me suis dit « oups », maintenant, « ma carrière sportive qu’est-ce que je vais en faire ? ». Et puis d’un côté, je me suis dit « ouf »...c’est fini.

<sup>40</sup> A2 : j’étais surtout assez énervé contre moi-même d’avoir pris le risque, (...) il s’est avéré qu’à la fin de la saison j’ai eu ce contrat-là et ça c’était n vrai contrat pro...et là, bien évidemment, j’aurais pas pris le risque si...si j’avais pu...»

<sup>41</sup> A4: (53) Also in Hinsicht auf Wut, oder? (54) Ja, das ist eigentlich meine 12 Jahre, die ich das intensiv betrieben habe, dass sie eigentlich verloren gegangen sind. (55) Das Ganze eigentlich für nichts war.

<sup>42</sup> A3: (101) Aber irgendwann, wenn dann die Sanktion ausgesprochen wird, da ist einfach Wut, Unverständnis. (...) (104) Und ich verstehe auch ein Stück weit diese ADS, aber die Art wie (...) (105) Es wurde im Fernsehen gesagt, vorsätzliches Doping, ich konnte das widerlegen, schriftlich. (106) Es wurde nie ein Gegenbericht gegeben. (107) So, in den in den Köpfen der Leute gibt es keinen Gegenbericht, es gibt ein vorsätzliches Doping. (...). (112) Und jeder sagt, ich würde gerne mit dir zusammenarbeiten aber wir können nicht. (113) Wegen der Öffentlichkeit, den Sponsoren und das verstehe ich. (114) Aber du hast, ein Stempel und das ist das Problem, heute noch.

<sup>43</sup> A5 : (42) Però adesso magari avendo una famiglia, cioè avendo costruito ultimamente una famiglia ci pensi di più. (43) Quindi il rammarico diventa tanto.

<sup>44</sup> A7 : (42) Ich bin sehr traurig. (43) Wenn ich gehe Spiele schauen, jetzt läuft gerade die Saison, und ich kann nur zuschauen. (44) Das macht mich schon traurig, ja.

by a deep sadness, associated with the awareness that his career is over.<sup>45</sup>

### 6.1.3. Emotional stages during the sanction period

Athletes generally reported an evolution in their emotional reactions during the ban period. Here is an attempt to sum up the typical stages that have been reported by some of the athletes in the interviewed sample:

	Early emotional stages (acute phase)	Subsequent stages (realisation stage)	Later stage (acceptance stage)	Timing for rehabilitation from emotional distress
A1	Denial (not realising what happens)	Huge disappointment Sadness Existential fears	Reduction of acute emotional response	2-3 months before the athlete is able to get a hold of his emotions
A2	Initial anger	--	Re-organisation (studies)	A few months
A3	Hope Anger Incomprehension	Despair Psychological breakdown	--	More than 18 months
A4	Anger	Inner disappointment	Reduction of acute emotional response	The emotional consequences are present well beyond the ban period
A5	Anger	Regret Bitterness	Reorganisation (job) Growing bitterness with new family situation	More than 18 months
A6	Hard with the negative coverage of the media	Feeling of being isolated from official structures (club, Federation, etc.)	Reduction of acute emotional response	2-3 months before it gets better
A7	Denial	Growing negative feeling (realising you cannot play)	Reduction of acute emotional response	You can never really get used to this condition
A8	Relief	Sadness to having to disappoint and cut out with people who did not know me beyond my athletic role (family, friends, girlfriend)	New life	Ongoing process
A9	Anger (feeling of injustice) Disappointment (not to be able to continue doing sports)	Fear Shame Isolation	Uncertainty about comeback to sports Hope Reorganisation (job, studies)	After 18 months, athlete begins to see some hope but still suffering
A10	Denial (not believing what is happening)	Discomfort Sadness Loss of self-esteem	--	Feelings that can last several months, up to 18 months
A11	Hope Trust in justice	Discouragement Sadness	Progressive cooling down of emotion associated with professional reorganisation (starting a job)	

In these different reports, athletes are in general able to identify 3 stages, the duration of which depends on their own personalities and the context of their code violation. The first “acute”

<sup>45</sup>A8 : pour moi c'était d'un côté très très triste parce que ma carrière allait s'arrêter...

phase is often characterised by confusion and a great difficulty of coming to terms with the reality of the ban. Athletes often report they cannot believe what is happening, and that the emotional experience is particularly distressing because they may be entertaining some hopes or rather are in denial of their situation. It is interesting to notice that many of them report anger as the dominant emotion, probably in an unconscious attempt to get rid of any responsibility and to perceive that the problems come from the external realm.

The second phase corresponds to the period that usually takes place from a couple weeks to 3 months after the sanction, which is characterised by the athlete's confrontation with the bleak reality of the ban. This is when athletes display the strongest emotional reactions and seem to be more vulnerable in relation to any possible act of self-harm. When reading their testimonies, it is not too far-fetched to suppose that the association of anger, sadness and other negative internal states might lead to fatal consequences for some athletes in the acute emotional phases of their sanction. The recent suicide cases of sanctioned athletes that have been reported in the media unfortunately corroborate this possibility.

For A3, after the initial anger and incomprehension came a feeling of emptiness, followed by despair, which was linked to the negative consequences of the sanction on potential new opportunities for a career as a coach. That provoked a complete psychological breakdown, which required a hospitalisation in a psychiatric clinic<sup>46</sup> and continued psychotherapeutic follow-up until the moment of the interview, namely 1 ½ years later.

A9 describes the way he was thrown in prison by national police and then depicted as a criminal, without any possibility to defend himself. The violence of these reported experiences is palpable in the athlete's words and expressions.<sup>47</sup> Out of prison, the same athlete describes some of the hardest days of his life when he did not dare walk out in the streets of his village, fearful and ashamed of people's judgment.<sup>48</sup>

A10 speaks of a total loss of self-esteem and worthlessness once he came to terms with the reality of his sanction, which he had a hard time realising at first.<sup>49</sup>

A11 reports having cried a lot when perceiving, after the initial 3 months of the sanction, that there was no justice for his case. The sadness was then associated with the impression of having lost such an important part of himself, rooted in his precocious motivations as a child, namely cycling.<sup>50</sup>

A third and final phase is then reported almost unanimously, characterised by a progressive decrease of the distressing emotional states and a psychological and practical re-organisation of

<sup>46</sup> A3 : (89) Ja bei mir ist es so. (90) Bei mir ist die Welt zusammengebrochen. (91) Also es ist, ich war dann sechs Wochen in einer psychiatrischen Klinik. (92) Für mich war, und das ist heute noch, ich bin in Behandlung immer noch.

<sup>47</sup> A9 : (86) Ma sicuramente se partiamo dal giorno in cui sono stato arrestato, quel giorno lì è stato, bisogna comunque interrompere per un attimo comunque... ai telegiornali sono stato veramente dipinto come un criminale... cioè un'immagine comunque in cui io non mi vedevo ; mi sono sempre reputato un bravo ragazzo, tranquillo, serio. (87) Sono stato buttato in prima pagina senza avere la possibilità di potermi difendere.

<sup>48</sup> A9 : (90) E poi ho fatto dei giorni micidiali, in cui avevo paura ad uscire di casa (91) Quando uscivo poi la gente mi guardava storto, quindi difficoltà a reinserirmi nella società prima di tutto. (92) Poi comunque paura e vergogna, perché mi ha fatto veramente pesare questa situazione, in cui nessuno si è proposto di darti una mano nel caso o pochi,

<sup>49</sup> A10 : e poi non per un breve periodo ma per tanto tempo mi è capitato, mi capita ancora: e c'è:: dei dei momenti in cui davvero: mi sembra che:: ... eh: tutto quello che ho fatto è stato inutile, che non vali, non vali più niente.

<sup>50</sup> A11 : (51) J'ai pleuré beaucoup parce que (..) j'ai pensé avoir perdu tout ça et je n'espérais.. pour moi le vélo c'est très important

the athlete's life, be it on a personal level (having a child) or an occupational / vocational level (completing studies, starting or developing a professional activity outside the sports realm). In some cases, this phase corresponded to a thorough maturation of a new athletic self (in the case of A4 and A9 for instance) or a self outside the world of sports (A8 and A11 in the professional self, A2 in the "academic" self). For some athletes (A3, A4, A5, A7, A10), bitterness or other negative feelings linger on still many months later, making it hard to really re-organise one's life after the doping ban.

#### 6.1.4. Coping resources during the sanction period

To face such emotional experiences, athletes report to have used certain coping strategies, which allowed them to shift from one emotional stage to another. Out of an overall number of 19 coping strategies, the most frequently mentioned were family or partner's support (31.5%) and friends' support (15.8%). Mental strategies are also mentioned: in the attempt to positively move on (15.8%), sport psychological support (10.5%), an individual capacity to take some emotional distance (10.5%) or an attempt to communicate properly with the environment (10.5%).

Apart from the support that athletes obtained from their closest affective environment, which will be described in the next section (6.1.5), these are some typical examples of how athletes coped with the situation:

For A1, the key element in the coping process is not to focus on the why and how the athlete faces this situation, but on what to do in the future. Conversely, A9 believes that only an awareness of the factors that brought the violation of the anti-doping code can truly make the athlete step into another kind of approach in sports.

Also, a part of the athletes report having contested the anti-doping agency's decision, by appealing to the CAS. This process certainly has a role to play in helping athletes cope with their anger by putting the responsibility of their situation on the official structures, although only 3 athletes obtained a reduction of their penalties (27.3%).

Mental skills such as self-analysis, emotional self-distancing, a capacity to refocus on the future and a mastery of the communication about the sanction, all betray the athletes' attempt to take control of a situation that is generally perceived as being extremely unsettling. In general, the athletes' coping strategies appear to be limited, bringing the athlete to only a partial elaboration of his/her experience prior and during the sanction period. For most of the athletes, the psychological elaboration that they had to perform alone is far from having been initiated, such as in the case of A3, A4, A7, A8 and A10.

#### 6.1.5. Sources of support during the sanction period

As far as the sources of support, which appear to be the major coping strategies, athletes generally highlight a *lack of support from the official structures*. For A1, the sanction period is a moment of isolation for the athlete, during which he no longer belongs nor is informed of anything from the sports world<sup>51</sup>. According to A3, athletes find very little support, regardless of the doping issue<sup>52</sup>. A4 reiterates the same concept when stating that he found no help, especially

<sup>51</sup> A1: (53) Zu dieser Zeit wird man gar nicht mehr unterstützt. (54) Also das ist wie ein Verbrechen, man wird weggesperrt oder als Sportler wird man gesperrt. (55) Und man gehört nichts mehr, man erfährt nichts mehr, man ist einfach sportlich weg von dieser Welt.

<sup>52</sup> A3 : (132) Aber gefunden habe ich keine Hilfe. (133) Das ist das Problem. (134) Allgemein im Sport, ob Doping oder nicht.

from his own Federation<sup>53</sup>, as is the case for A6<sup>54</sup>. The force of these statements portrays the disappointment of the athletes, who wrongly had expected some help from the sports world.

Most of the athletes (63.6%) state that they were fortunate to count on their *family and close friends*. A5 stresses the importance of his close family and especially his wife and child, for whom he feels forced to stay well<sup>55</sup>. For A11, this is particularly the case: he found in his wife a partner who was willing to listen to his own fears and sufferings, and to slowly lift up from the despair of having been cut out for doping, and fight back his way to continue training<sup>56</sup>.

Finally, some athletes did find some consolation *from personal coaches*, who accepted their presence at the training sessions and supported them during their ban period (A4, A5, A6, A7). In particular, A4 appreciated the fact that his coach did not address the issue very much but simply accepted him in the normal training regimen. A5 remained in constant contact with his previous club who assured him that they would re-accept him as a teammate once his sanction was terminated<sup>57</sup>. A6 appreciated the support from his trainer in analysing the situation, accompanying him to the hearing with the National Olympic Committee and helping him with his communication strategy<sup>58</sup>. Finally, A7 underlines the role of the club president who helped him find a lawyer to legally represent his case.

### 6.1.6. Benefits and learning points of the sanction period

Despite the hardship endured when receiving a sanction for violating the anti-doping code, athletes may be able to develop an awareness of the benefits and learning points they are able to draw from this experience. Only two athletes, A4 and A10, were not able to identify any positive aspects related to their sanction, which portrays a particular lack of psychological elaboration. As for A11, the fact of having been a former fighter for a doping-free sport and then receiving a sanction for violating anti-doping rules, was perceived as a major negative experience<sup>59</sup>

Here is a list of the benefits and learning points, with some chosen excerpts that have been translated:

Quotation	Perceived benefit	Category
A1: "In the past, I was always worried about what people might think of me. Today I don't care anymore ... I have become stronger mentally"	Mental maturation	Personal psychological strength
A5: "Well, I changed, the sanction made me understand many things. I realised that what counted before was only money. And now I think that words can be more important"	Personal growth	

<sup>53</sup> A4 : (67) Von niemanden, weder Verband noch sonst jemanden.

<sup>54</sup> A6 : (116) Wo ich in keiner Art und Weise unterstützt wurde, war von meinem Sportverband, also Null, Null.

<sup>55</sup> A5 : (45) Fortunatamente ho avuto una famiglia che mi è stava molto vicina. (46) Ho trovato una ragazza con cui ho fatto una figlia, una bambina quindi sto bene per loro, tutto qua!

<sup>56</sup> A11 : alors j'ai pleuré beaucoup mais grâce à ma femme qui était fondamentale. Je suis j'ai réussi à être assez serré et de parler de mes sentiments et de ce que je ressentais avec elle et avec des copains très très proches (soupir) et c'est un petit peu comme ça. Parfois j'étais assez assez bas de moral et c'était eux qui me poussaient à lutter à parler et m'entraîner encore.

<sup>57</sup> A5 : La società mi è stata molto vicina. (155) Anche perchè mi coinvolgevano, e anche adesso mi coinvolgono, magari mi chiamano, mi dicono vieni qua a far l'allenamento con noi. (156) Cioè anche loro mi aiutano e poi mi stanno sempre aspettando.

<sup>58</sup> A6 : (112) Ich habe auch meinen persönlichen Trainer, der hat mich sehr gut unterstützt. (113) Er hat mich auch begleitet an die Anhörung von Swissolympic oder eben Anti-Doping. (114) Ich habe viel mit ihm zusammen das Ganze analysiert.

<sup>59</sup> A11 : « moi si j'étais toujours assez critique avec le dopage dans mon sport ça a été peut-être une de mes fautes dans ma carrière parce que j'étais assez critique dans le peloton avec le dopage. Et je le disais au sein du peloton (60) Et c'est pas facile parce que : je suis tombé dans la trappe j'étais assez critique, et maintenant les gars me disaient tu disais ce qu'il ne fallait pas faire ...

to make you a happy person”		
A3: “That is something that had to happen sooner or later, and now that it’s happened, I try to take it as an opportunity to clean up my life. I feel it was meant to be.”	Opportunity to clean up my life	
A8: “This was an opportunity to allow me to make a choice once and for all: I opted to disengage myself from competitive sports, because I was fed up with it”	An opportunity to make a choice whether to continue or stop	
A9: “I have to admit that somehow I desired this situation because deep down I knew I was not feeling well: today I am happy because it allowed me to feel better, because I know how to better deal with certain things, to understand my mistakes and identify what are the important things for my life”	An opportunity to revisit central life values	
A6: “Such an experience makes you more careful about nutritional supplements”	Be more careful with nutritional supplements	Doping-related knowledge and awareness
A6: “In such a situation you can really differentiate who your true friends are, and who was there only to take advantage of your success”	Discovering true friendship	Social awareness
A4: “I feel I have more respect for people”	More respect for people	
A2: “Being forced to stay away from competition allowed to go and watch matches, and reconsider game aspects I could work on for my comeback”	Analyse and learn sport-related skills	Sport performance enhancement
A7: “I have new goals in my sports ... I want to travel and go play abroad”	Setting new sporting goals	
A6: “The fact of being out of competition made me feel I was not under training pressure anymore”	Decrease competitive stress	
A2: “ The advantage for me was that I could focus more on my study and make a significant step forward in that domain” A7: “I want to profit of this time to finish my apprenticeship”	Opportunity to pursue and finish studies	Opportunity to widen identity scope
A11: “The only positive things regarded my private life: the birth of my son was the major positive event”	Becoming a father	

## 6.2. The athletes’ needs during the sanction period

After having highlighted the difficulties that athletes face when they are banned, this study allowed to shed a light on the athletes’ major needs during this period. The following paragraphs summarise the general responses and evaluates the extent to which athletes perceive a systematic follow-up should be organised in the future. This should allow athletes to better overcome the sanction period while fostering their capacity to come back to sports – or to another life – with a new constructive attitude.

The data reveals a certain consensus in our sample that athletes who are undergoing a penalty for violating the anti-doping rules need *support*. This support can take many forms, because the problems athletes face are multifactorial. In the following paragraphs, I will describe the main interests expressed by the athlete, namely in the psychological, physical preparation and occupational areas.

### 6.2.1. Interest in the psychological support

All athletes (100%) positively view the idea of offering psychological services for athletes who are undergoing a period of sanction for breaking the anti-doping regulations. The main reason for

that is that many sanctioned athletes seem to face major psychological problems such as depression or burnout, because the sanction implies serious personal and social consequences. Therefore, such a service should be provided right from the beginning of the process, namely the notification received by the athlete from his/her Federation, to help the athlete deal with the initial procedures that are particularly hard to face<sup>60</sup>.

Some athletes highlight the importance of a support program that can help athletes deal with negative feedback from their social environment and the media<sup>61</sup>. According to A11, the psychological and social impacts of such a situation are so tough that it is easy for him to understand how some athletes (i.e. Marco Pantani in cycling) eventually committed suicide after having been banned<sup>62</sup>. A10 reports that he cried every evening for several weeks in the months following his notification<sup>63</sup>.

Moreover, the need for psychological assistance is justified by the importance of understanding the deeper cause of the deviant behaviour and to help the athlete explain the circumstances of the substance intake (A9)<sup>64</sup>.

However, some athletes point out that psychological support should be offered as a personal option (and not a coercive measure) for those athletes who express a desire and a need for it, and that it should be provided by professionals who are certified and knowledgeable in sports (i.e. sports psychologists). A3 stresses this point upon reporting some bad experiences with psychologists who were not specialised in sports and did not show any understanding of what it meant for an elite athlete to be forced out of his/her sport<sup>65</sup>.

## 6.2.2. Interest in the physical preparation support

Athletes often feel discouraged to continue their training (as expressed by A4 and A7)<sup>66</sup>, upon exclusion by their Federation from competition. Often, more than half of them (54.5%) feel that the support program should also encompass possibilities for a follow-up in the physical preparation domain. As A8 points out, Federations should not forget that sanctioned individuals remain athletes, and should not be abandoned nor left alone to deal with a very negative psychological state and the challenge to continue maintaining their level of training, but rather

<sup>60</sup> A3 : « (254) Ja eben, dass es eine Anlaufstelle gibt, und zwar vom ersten Tag an ,,

A10: „(112) Eh, subito (113) Sì, all’inizio ci sono molte giornate difficili

<sup>61</sup> A6 : « (246) Ja einfach wie damit umgegangen wird, wie die Empfehlungen sind, sei das psychologische Natur, sei das rechtliche Natur, sei das medizinische Natur, einerseits den ganzen Fall aufzuklären, andererseits aber auch die Verarbeitung und den Umgang mit äh sei das soziale Komponenten, sei das auch mit Medien“

<sup>62</sup> A11 : « (99) Moi je pense que le plus important c’est le soutien affectif et psychologique..parce que socialement c’est dur à gérer (...) je suis arrivé à comprendre des gens comme Pantani parce que le monde où Marco a fini c’est assez facile d’y finir (100) c’est une porte pour peut-être s’évader de tous les problèmes, je le comprends aussi ».

<sup>63</sup> A10 : « (123) che i mesi successivi: sono davvero brutti, cioè sì, pieni di pianti, piangevo quasi tutte le sere e andavo a casa della mia ragazza, quando scendevo le scale, davanti ai suoi genitori continuavo a piangere”

<sup>64</sup> A9 : « un supporto psicologico sicuramente ci vuole per capire proprio i problemi che stanno alla base di questi comportamenti. »

<sup>65</sup> A3 : « (268) Es muss ein Psychologe sein, im Prinzip, der von der Materie kommt. (269) Weil ich hatte drei, vier Psychologen und am Anfang, die kommen nicht vom Sport und einer hat gesagt: (270) Ja wissen Sie, ich habe auch einmal eine Krise erlebt und ich konnte keinen Sport mehr machen. (271) Und dann habe ich gesagt, ich wünsche Ihnen einen schönen Tag, das ist nicht mein Problem. (272) Und es muss jemand sein, der weiss, was da passiert“

<sup>66</sup> A4 : « (146) Con una parola in più di conforto e anche la voglia di magari andare la sera ad allenarti da solo, di non mollare » ;

A7 : « (157) Ja, weitertrainieren und doch noch Sport machen. (158) Das ist das Wichtigste »

should be offered a structure to help them find a way back to the sporting world<sup>67</sup>.

Because individual training differs from individual training or training within a team, according to A5<sup>68</sup>, a systematic follow-up would grant the athlete the possibility to stay on top of his/her physical condition and therefore reduce the time needed to adapt once the athlete returns to the competitive sports world. In addition, in A6's opinion, a physical preparation program would provide an additional motivational stimulus in a period when athletes might tend towards certain lack of discipline and discouragement<sup>69</sup>.

### 6.2.3. Interest in the occupational support

Since the sanction forces athletes to momentarily quit sports, which often entails significant financial implications, athletes generally feel the need to find a job or, more generally, to reconsider the place of sports within a larger occupational plan for their lives. Also, the forced dropout is perceived as an opportunity to realise that an athletic career is not forever, and that athletes have to face the prospect of preparing themselves for a career after sport, as A5 wisely points out<sup>70</sup>. For these aforementioned reasons, many athletes (72.7%) of our sample showed interest in an occupational support provided by the program.

A10 underlines that one of the major needs for a sanctioned athlete, especially if he professionally practiced sports at a fairly high level and put aside an alternative career, is to be assisted in finding a new professional activity<sup>71</sup>.

When sports have taken up a big part of their lives prior to the ban period, A7 insists on the necessity to clarify one's future professional plans, as such athletes have barely had any experience with employers in the job market<sup>72</sup>.

The need for occupational assistance is even more needed as athletes have to overcome the negative image associated with the ban, which can discourage employers to even consider working with them. For instance, A10's doping affairs compromised his professional opportunities to participate in the development of a tourist project for his region, as the national and local media divulged information, which changed his image in the eyes of others<sup>73</sup>.

<sup>67</sup> A8 : « le plus important dans cette période c'est de pas laisser l'athlète (...) qu'il aie une possibilité de s'entraîner et puis qu'il aie un suivi psychologique sportif quoi...enfin, je dis bien psychologique mais sportif aussi parce que faut...faut pas oublier que c'est un athlète quand même »

<sup>68</sup> A5 : « (163) Sì, sì, quello sì. Anche perchè cioè allenandoti da solo e allenandoti con la squadra è totalmente diverso.(164) I ritmi sicuramente cambiano, quindi tornando dopo a giocare ci vorrà sicuramente del tempo prima di tornare al livello degli altri »

<sup>69</sup> A6 : « (285) Also dort, diese Zeit, in dieser man ja eigentlich in ein bisschen eine Trägheit ja hineingerät, man ist nicht mehr so diszipliniert, man hat keine Betreuung«

<sup>70</sup> A5 : « (165) Sì, potrebbe essere interessante come cosa, anche perchè finito di giocare a calcio, visto che non si può giocare fino a 50 anni, dovrò trovare qualcosa al di fuori dal calcio »

<sup>71</sup> A10 : « c'è molto in concreto la prima cosa che succede è che un atleta non è di altissimo livello si trova: ..e così si trova magari così senza lavoro e con il dover, aver il bisogno: di: lavorare e senza le competenze per: poter trovare un lavoro o senza le competenze per potere..fare altre attività»

<sup>72</sup> A4 : « (265) Wie gehe ich damit um, wenn ich keine, keine beruflichen Pläne oder Zukunftspläne habe oder mich irgendwo festgesetzt habe. (266) Wie nimmt das mein Arbeitnehmer, mein zukünftiger Arbeitgeber wahr, was ich gemacht habe oder warum ich gesperrt worden bin. (267) Ich glaube für jemanden, der noch nichts hatte, noch keine feste Stelle, wird wahrscheinlich sehr schwierig sein, als jemand, der schon irgendwo Jahre beim gleichen Arbeitgeber ist«.

<sup>73</sup> A10 : « una volta il presidente della regione mi ha detto potresti davvero farlo essere tu cioè metterti tu come persona atleta che qui sei conosciuto come promotore di questa cosa (17) con la squalifica e più che altro con il pensiero che c'è nella gente che io ho assunto una sostanza che è proibita ... tutte queste possibilità mi si sono un po' chiuse in faccia »

## 6.2.4. Interest in participating in a prevention campaign

63.6% of the athletes of our sample were in favour of participating in an anti-doping prevention campaign by providing testimonials of their experience to young athletes.

For A3, the main goal of such a prevention campaign would be to show what can happen in an athlete's life if he/she gets caught in a doping control<sup>74</sup>. Negative consequences illustrated by a living example will, according to him, act as a major deterrent to adopt such deviant behaviour. For A8, in addition to contributing to discouraging athletes from doping, such a campaign will highlight the consequences of being sanctioned, and in particular, how you can lose sight of a goal you pursued for many years<sup>75</sup>.

A9 believes that participating in a prevention campaign is an opportunity to show empathy to young athletes and to help them maintain their focus on health and self-respect, while stressing the importance of preserving such a demeanour despite the difficult moments traversed in competitive sports<sup>76</sup>.

On a more opportunistic note, A7's main motivation would be to have the possibility to shorten his own penalty period, to be able to come back sooner, a goal that he holds as his highest priority<sup>77</sup>. A6 also feels that if the prevention campaign had a positive consequence on the duration of his ban, then he would be more willing to consider his involvement<sup>78</sup>.

Also, there are some athletes who do not feel it would be appropriate for them to participate in a prevention campaign, mainly as a way to protect themselves from public scrutiny and judgement. For instance, A1 could not imagine himself being involved in such a campaign because he would be stressed wondering what people will think of him as well as how the media will react.<sup>79</sup> The best timing could therefore be to help prevention well after the sanction is over, and not when the athlete is still undergoing the ban, as suggested by A4<sup>80</sup>, or by protecting the athlete's identity by avoiding any media coverage, as A6 suggests<sup>81</sup>.

## 6.2.5. Desired support providers

According to most of the athletes, their main needs could be satisfied by setting up a **“contact point”**, which would offer a program run by specialists and by athletes who have had similar experiences. These contact points would include practical information based on psychology, legal counselling, professional orientation, and also provide support to help athletes attain

<sup>74</sup> A3 : « dass man sagt, ich kann dir mal aufzeichnen, was passiert mit deinem Leben, wenn du sanktioniert wirst. (295) Das ist ein Ziel«

<sup>75</sup> A8: „dire, au moins, voilà les conséquences...c'est qu'on a fait pendant douze ans quelque chose et on a essayé d'atteindre ce but et puis on était tout près et pis justement à cause de ce truc on lève l'ancre... »

<sup>76</sup> A9: „possono rischiare molti giovani quindi, io ho vissuto tanti momenti difficili, e se comunque posso in qualche modo dar una mano, intendo aiutare ad evitare che queste cose accadono perché...(192) quindi per esempio portare la mia esperienza, aiutare loro a capire certe cose, che è più importante la salute o comunque star bene con sé stessi »

<sup>77</sup> A7 : « es geht ja dann auch darum, dass die Strafe gekürzt werden kann. (184) Und das ist halt das, was ich am liebsten möchte. (185) Ich möchte spielen oder und ich würde alles dafür tun«.

<sup>78</sup> A6: „(295) Hätte es jetzt die Möglichkeit gegeben, meine Sanktion zu verkürzen, dann würde das Ganze anders aussehen. (296) Also dort, dort wäre eine Mitarbeit natürlich äh, ähm eher angebracht gewesen«.

<sup>79</sup> A1 : « Die Begründung ist äh...: (187) Sie sehen, ich wohne hier in einem kleinen Dorf. (188) Und Sie können sich vorstellen, wie das zu und her geht mit so einem Dopingfall. (189) Und es ist ein riesen mentaler Stress, das ist so, bei einer Sperre, bei der Urteilsverkündung mit den Medien«

<sup>80</sup> A4 : « (279) Nachher, ja nachher könnte man sich das überlegen, ja. (280) Aber während dieser Phase wäre das glaube ich das zweitschlimmste auf der Welt ».

<sup>81</sup> A6 : « (290) Ich bringe gerne mein Wissen und meine Erfahrung ein, aber ich möchte nicht noch einmal dieses äh Mediale haben, nicht«

psychological, social and occupational rehabilitation, very much like the programs offered to law offenders who are in jail<sup>82</sup>. Some athletes (A3) believe that this program should be run by an institution working in close cooperation with the Federation, while remaining neutral and independent (A6)<sup>83</sup>. It should also be able to provide very practical tips on how to behave in certain situations, such as negative public image (as suggested by A4)<sup>84</sup>.

Interestingly, athletes do not only view this program as an aid for the athletes themselves, but also as a way for the Federation to monitor and control whether sanctioned athletes were able to rehabilitate themselves and if they are “eligible” for a comeback in competitive sports. A11 states that “such a program should be mandatory, just like a driver whose driving license is withdrawn for a road accident and who has to follow a driving education program and be assessed before he can get back on the road”<sup>85</sup>.

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<sup>82</sup> A11 : « (105) Alors je pense que ça socialement quand tu fais quelque chose qui de grave tu va en prison et là tu as des programmes de réinsertion quoi et en prison peut-être tu auras une meilleure vie : ça veut dire que le système a fait quelque chose pour toi pour t'aider et pour te réinsérer quoi et ça je pense que c'est la meilleure chose avec le dopage. (106) Je pense qu'il faut avoir quelque système pour t'aider pour les gens qui ont eu des problèmes »

<sup>83</sup> A6: „(263) Muss das äh eine neutrale Stelle sein, sei das von Swissolympic oder Antidoping“

<sup>84</sup> A4 : « (240) Ich bin jetzt gedopt, ich stehe, ich stehe, mein Name ist jetzt im Google, oder. Googelt man den Namen ein, steht es. (241) Was soll ich jetzt tun? (242) Das war für mich etwas, wo ich wirklich gefragt hätte. (243) Ja du musst vielleicht das tun“

<sup>85</sup> A11 : « (114) Tu dois faire ce programme de réinsertion sinon si tu ne le fais pas c'est comme eh je ne sais pas si si tu fais une bêtise avec la l'automobile on peut prendre la : la documentation de l'automobile pour le retrait, et vous devez aller dans l'auto-école et ... c'est ça je pense que c'est la même chose quoi. »

## 7. Practical recommendations for the athletes' education

With such intelligence, a new comprehensive prevention programme, named WINDOP, is being launched to offer Sports Federations and the overall sports community services that can be distinguished by three levels of prevention: primary prevention, secondary prevention and tertiary prevention<sup>86</sup>. More specifically to WINDOP, here are the components of the prevention program:

### 7.1 WINDOP JUNIOR: primary anti-doping prevention

Prevention should take the form of conferences, seminars, coaching clinics and educational material (paper and electronic format) to address the doping issues in a comprehensible language for young athletes, the primary target of this this level of prevention. To enrich the prevention campaign for young athletes, sanctioned athletes participating to the WINDOP rehabilitation program should be included, by giving testimonials about their experience and by triggering an attitude change in the young audiences. In fact, there is no more credible speaker as a person who speaks the "sports" language and has gone through the experience him-/herself, thus having the power to touch young athletes emotionally. Therefore, in the process of his rehabilitation, the athlete is invited to **testify** in prevention campaigns for young athletes.

This primary prevention should allow to pursue the following goals:

- To improve the athletes' knowledge about the effects and dangers of prohibited substances and methods (be it recreational or performance-enhancing)
- To increase the athletes' awareness about how an athlete's life is affected when following a performance-enhancement programme with doping
- To increase the athletes' knowledge about the consequences of being caught, on his sports career and on his personal life
- To open up the discussion and de-construct the taboo around the doping-related topics in sports
- To raise awareness in athletes about the risks of unmonitored nutritional supplementation
- To foster mental skills in young athletes that will help them overcome pressure, improve self-confidence and strengthen intrinsic motivation in sports
- To nurture ethical values in sports (responsibility, self-improvement, respect of self and others)

A close look at our data, in particular about the benefits that the athletes were able to perceive while being banned from competition, reveal some additional preventive messages that these athletes could deliver, to help younger generations of athlete in the following domains:

- Developing psychological skills,
- Nurturing healthy relationships,
- Refining and deepening their knowledge about PEDs,
- Finding alternative ways to develop their performance skills,
- Fighting to maintain and follow a balanced career plan, which encompasses athletic as well as non-athletic identities.

### 7.2. WINDOP WATCH: secondary anti-doping prevention

In the case of doping behaviours, knowledge of psychological factors and other individual or situational conditions that can lead to first substance intake, can improve measures to stop young

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<sup>86</sup> The World Health Organisation defines 3 levels of prevention : primary prevention is the group of actions aimed at decreasing the incidence of an illness ; secondary prevention is the sum of actions aimed at reducing the apparition of new cases of an illness ; tertiary prevention is the group of actions aimed at diminishing the prevalence of chronic incapacity and relapses in the population.

athletes from adopting deviant behaviours. As a matter of fact, by better knowing the causes and circumstances of anti-doping code violation, protocols can be offered to better detect risk behaviours in young athletes, especially those who have the ambition to shift from amateur to professional level.

Secondary prevention could therefore be improved by:

- Screening / monitoring mental and physical health in groups of athletes at risk (i.e. athletes in transition, injured athletes, athletes in precarious socio-economic situations).
- Detecting identity foreclosure in athletes (especially those who gave up pursuing an educational development and focus uniquely on the athletic career)
- Teaching athletes constructive and solution-oriented coping skills to face delicate transitions in their athletic career (i.e. injury, lack of results, de-selection or selection in higher level)

### **7.3. WINDOP CLASSIC: tertiary anti-doping prevention**

Tertiary prevention refers to any preventive act geared at minimising risks of relapse in a population whp has suffered of a certain disease, by maximising factors of personal and social rehabilitation. In sports, that corresponds to the set-up of a rehabilitation programme to decrease sanctioned athletes' relapse risk and to improve their chances for a sport and/or socio-professional relocation.

Such programme should encompass the following aspects:

- Biological monitoring in order to improve the physical preparation and the physiological monitoring of the athletes.
- Physical preparation in order to optimise knowledge about sport-specific physical demands and diminish injury risks.
- Psychological assessment and occupational follow-up in order to assist the athlete in the understanding of his/her psychological dependence, to reinforce his/her mental resources and his/her life balance and finally to help him/her in his/her career and more particularly in his/her future development.

For such programme to work efficiently, it should look for the cooperation of sport federations to inform sanctioned athletes about the existence of the programme at the very moment of their notification.

The WINDOP programme is being launched in these very weeks and should be scientifically tested and amended, before being applied on a large scale for the benefit of the fight against doping and substance abuse in sports. That is the main reason why, following this first pilot-study, a further grant application will be submitted for the period between 2011 and 2013 (3-year period) with the goal to assess the implementation of WINDOP, in cooperation with interested National and International Federations.

In parallel, following the data of our study, which suggest the existence of a structural and social influence on doping behaviours, efforts should be made on the side of Federations and Olympic Committees to gradually adopt measures to change the sports culture that can nourish doping attitudes in their participants. In particular, efforts should be made in the clarification of the rules, the adaptation of schedules and reward system, the transparency of the sanction policies, and in the coherence of regulations across cases and sports, to help athletes diminish the blurred perception of anti-doping norms that currently does not help the fight against this phenomenon.

## 8. Conclusion

The present study allowed to highlight the main antecedent of code violations in competitive sports were:

**AWARENESS-KNOWLEDGE** Only 18.2% of the interviewed athletes declared they were totally aware of consuming forbidden substances (both recreational drugs), while 36.4% said were only partially aware («normal behaviour», «lack of vigilance») and 45.4% totally unaware.

**SPORT TRANSITIONS** 45.4% of the athlete were in a transition to a higher level of performance, or planning to do so, while 27.3% were in preparation phase prior to an important olympic year. One must add that all the athletes rate sporting results as either important or very important aspects of their lives

**OUTCOME MOTIVATIONS** dominate the motivational spectrum of these athletes (more money, more opportunity for professional promotion, competitive results, qualifications to major competitive events) 53.8%

**STRESS** is reported by 36.3% of the sample, with associated negative mental states (uncertainty, communication problems, confusion and fatigue). Surprisingly, some code violations occur rather when stress is too low, causing lack of vigilance in certain risky circumstances.

**BLURRED PERCEPTION ABOUT ANTI-DOPING NORMS IN THE SPORTS ENVIRONMENT** : athletes report hypocrisy, taboo attitude, ambiguity (lack of distinction, grey zone), negative social modeling (recurrent doping practices, that end up being perceived as normal) in their sporting environment.

**LACK OF SPORTSPERSONSHIP** : All the athletes admit, at various degrees, that fair-play is no longer present in the world of sports nowadays.

**EASY ACCESS**: access is perceived to be very easy, and that is a problem.

As far as the athletes' experiences and their needs during the period they were banned, here is a summary of the main results :

**NO CONSIDERATION OF CIRCUMSTANCES**: Athletes perceive that what seems to count is the presence or not of higher values of substance in their bodies. Athletes therefore regret that no consideration is made, in this first step of the procedure, about the human side of the sanction, the consequences that it implies for the athlete and an understanding of the specific context of a particular substance intake.

**UNFAIRNESS**: Very often athletes perceive their sanction as too drastic or exaggerated, especially when they compare it to others

**EMOTIONAL REACTIONS**: Athletes report to feel mixed emotions: the most frequently mentioned were anger (reported by 72.7% of the sample), sadness (36.4%), and disappointment (27.3%). Other emotions that were mentioned were hope, denial, confusion, existential fear, regret, incomprehension, guilt for the athletes' environment, loss of self-esteem, and frustration.

**PERSONAL CRISIS**: There are "emotional stages", which in general consist in a first period of denial and anger (acute phase), followed by a "realisation phase", characterised by a crisis, and eventually a psychological breakdown. How athletes shift to a more rational and less emotional phase is the great challenge, which is very different from one athlete to the other. In fact, most of the athletes have rather poor coping strategies and can rely on very limited help in those circumstances.

**LACK OF SUPPORT**: As far as the sources of support, which appear to be the major coping strategies, athletes generally highlight a lack of support from the official structures. Most of the athletes (63.6%) underline they were fortunate to count on their family and close friends.

**LEARNING POINTS**: Athletes are able to elaborate some thoughts about the benefits of their sanction, thus building a psychological basis for reduced relapse risk. The main perceived benefits were personal psychological, a better knowledge about doping risks, augmented social

awareness, readiness to develop new skills for performance enhancement, wider identity differentiation.

**NEEDS:** psychological support is recognised by all athletes as a fundamental measure, which could be provided by a contact point, gathering people with knowledge about the psychology of sports. Athlete also recognise the necessity for a help for their social-occupational orientation and physical recovery.

**ANTI-DOPING PREVENTION FOR YOUNG ATHLETES:** most of the athletes are motivated to enrich prevention campaigns for young athletes by sharing their experiences and providing the learning points.

Given the richness of the experience of the sanctioned athletes who participated in the study, this study ends up with the recommendation to start a prevention program based on the 3-level differentiation (primary prevention, secondary prevention, tertiary prevention) which would allow to integrate the rehabilitation work with sanctioned athlete with the anti-doping education of younger athletes, while improving risk detection.

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## 10. Enclosures (see attached files)

Interview guide

Information sheet about the study

Consent form

Report written and signed in Lausanne on June 20th, 2011

Mattia Piffaretti



## 10. 1. Interview guide (français)

### *Données personnelles*

1. Quel sport de compétition pratiquez-vous au moment de votre suspension?
2. Depuis combien d'année aviez-vous pratiqué ce sport?
3. Et quel était votre âge?
4. Au moment de votre suspension, quel était votre statut professionnel ?
5. Et à votre suspension, quel était votre état civil?
6. Quel a été votre niveau compétitif maximal dans la carrière sportive dans la quelle vous avez été sanctionné?
7. Au moment de votre suspension, quel était votre niveau compétitif?
8. S'agit-il de votre première consommation?\*
9. S'agit-il de votre première suspension?
10. Pourriez-vous donner une idée générale de votre situation sociale et économique au moment de votre sanction?

### *Expérience personnelle pendant la période de sanction*

11. Pour quelle raison avez-vous été sanctionné?
12. Etait-ce une consommation ponctuelle ou régulière? \*
13. Dans quelles circonstances avez-vous commencé à assumer la substance? \*
14. Quelle était la durée de la sanction?
15. Combien de temps reste-t-il aujourd'hui à la fin de la sanction?
16. Quel a été la justification donnée pour le type de sanction reçue?
17. Comment avez-vous perçu cette justification? Comment l'avez-vous interprétée?
18. Quel sentiment dominant avez-vous aujourd'hui concernant cette période de sanction?
19. Au travers de quelles étapes émotionnelles êtes-vous passé pendant la période de sanction?
20. Comment avez-vous fait face à ces sentiments? Comment avez-vous géré ces sentiments?
21. Quelles ont été les sources de soutien et d'aide plus importantes pendant cette période?
22. Le cas échéant, quels sont les bénéfices, les enseignements positifs et les opportunités relatives à votre sanction?

### *Facteurs associées à la prise du produit interdit*

23. Dans quel mesure étiez-vous au courant d'assumer un produit interdit? \* Dans quelle mesure étiez-vous au courant d'avoir une conduite sanctionnable?
24. Quel était votre degré de connaissance quant à ces effets néfastes sur la santé? \*
25. Quel était votre degré de connaissance sur la réglementation relative à ce produit et à la sanction prévue au cas où vous auriez été pris? \* Quel était votre degré de connaissance quant aux règles antidopage?
26. Au moment de votre première consommation, dans quelle phase étiez-vous dans votre parcours sportif? \*
27. Au moment de votre première consommation, aviez-vous l'impression que votre carrière était quelque part menacée?\*
28. Quelles étaient vos motivations dans le sport au moment de votre prise de produit? \*
29. Quel type d'attente aviez-vous en assumant ce produit? \* Quel type d'attente aviez-vous en assumant cette conduite?
30. Quel type d'effet avez-vous expérimenté après avoir assumé ce produit (sur votre bien-être, sur votre performance?\*
31. Quel était votre niveau d'inquiétude et de stress juste avant votre décision d'assumer cette substance? \* Quel était votre niveau d'inquiétude et de stress par rapport à votre conduite?

32. Quelles étaient les moyens à votre disposition pour faire face à ce stress?
33. Comment jugiez-vous votre état général de santé, au niveau physique, avant votre prise de produit? \*
34. Comment jugiez-vous votre état de santé, au niveau mental, avant votre prise de produit?\*
35. Quelle importance accordiez-vous à vos résultats sportifs dans votre vie?
36. Quelle attitude perceviez-vous par rapport au dopage dans votre environnement sportif?
37. Quel est votre avis sur la prise de produit dopants dans le sport de compétition? Quel est votre avis par rapport aux règles antidopage?
38. Quelle raison principale vous aurait-elle découragé à prendre un produit interdit? \*
39. Comment jugez-vous le degré de facilité avec lequel vous avez pu vous procurer la substance interdite?\*
40. En quelle mesure votre entourage vous a-t-il influencé dans la prise du produit interdit?\*
- En quelle mesure votre entourage vous a-t-il influencé dans votre conduite?
41. Quelle perception avez-vous de la notion du fair-play dans le monde du sport aujourd'hui?

#### *Perceptions des projets et besoins futurs*

42. Quels projets avez-vous une fois la période de sanction écoulée?
43. Quels objectifs avez-vous du point de vue sportif lors de votre retour à la compétition?
44. En repensant à ce que vous avez vécu, pourriez-vous identifier quel type de besoin est le plus important pour le sportif pendant la période de sanction?
45. Comment est-ce que ce besoin pourrait-il être satisfait?
46. Si vous en aviez la possibilité, seriez-vous intéressé par un travail psychologique sur vous-mêmes pendant la période de sanction? Pourquoi?
47. Egalement, seriez-vous intéressé par un travail de préparation physique pendant la période de sanction? Pourquoi?
48. Et, seriez-vous intéressé par des conseils en orientation et planification de carrière pendant la période de sanction? Pourquoi?
49. Si vous en aviez la possibilité, seriez-vous intéressé à participer à une campagne de prévention contre le dopage pendant la période de sanction? Pourquoi?
50. Quel conseil donneriez-vous à des jeunes athlètes par rapport à l'utilisation de substances interdites dans le sport?\*
- Quel conseil donneriez-vous à des jeunes athlètes par rapport à l'effraction des règles anti-dopage?
51. Quel conseil donneriez-vous à des jeunes athlètes par rapport à la façon de vivre une période de sanction?

\* QUESTION SI LA PERSONNE A FAIT UTILISATION DE SUBSTANCES DOPANTES

## 10.2. Information sheet about the study

*Learning about psycho-social determinants of doping behaviour through the testimony of sanctioned athletes*

Under the direction of Mattia Piffaretti, Dr. in psychology, with the partnership of the Institut des Sciences du Sport de l'Université de Lausanne.

The study that you are taking part in is conducted by researchers working for AC&T Sport Consulting and the University of Lausanne (ISSUL). This study focuses on athletes' doping behaviours and it's carried out with the support of WADA (World Anti-doping Agency).

### **Goals of the study :**

This study aims to better understand the motivational factors (type of motivation, passion type) that underpin the intake of illicit substances and more generally the psychological and psycho-social factors. These aspects are being studied in a population of athletes who are undergoing a sanction for violating the anti-doping rules. The direct access to athletes through interviews and questionnaires gives an opportunity to deepen the knowledge on doping behaviours.

### **Methodology :**

- Semi-directive interviews with athletes who are undergoing a sanction for violating the anti-doping rules.
- Questionnaires measuring psychological variables such as motivational orientation or passion type.
- Upon his/her consent, each athlete will be interviewed twice for a duration of approx. 1 ½ hours.

### **Final objective of the study:**

- To improve doping prevention
- To understand the motivational conditions that predict doping behaviours.

**Risks:**

- Non experimental study that does not imply any physical risk.
- The study will imply benefits for the participant. In fact, clinical psychology research indicates that individuals who are given the opportunity to express themselves in a confidential framework can improve their self-awareness about their experience. Therefore, the following benefits are implied in the athletes' participation: a) self-disclosure of personal experience and difficulties; b) elaboration of strategies to avoid relapse, **if the athlete freely requests them**; c) elaboration of a personal and athletic rehabilitation project, **if the athlete freely requests it**.
- The psychological are very limited and associated to the athletes' perception of his/her own responsibilities: therefore, during the interviews, the athlete might feel sadness, shame or guilt. As for the social risks, there will be none: the study will keep the identities of the participants confidential, and all type of data – in paper, audio and electronic format- will be destroyed after the necessary analyses **upon the delivery of the final report to WADA**.

**Conflict of interest :**

- All the researchers are independent from any sports organisation and have no connection with the industry.

**Results publication :**

- The results of these studies will be formally presented in a research report, in scientific publications and other forms of written publication. All these publications will respect the participants' name anonymous, unless otherwise agreed upon.

**Conditions of confidentiality and possibility of withdrawal from study are guaranteed :**

1. You can interrupt your participation at any time, without any prejudice whatsoever. If **you refuse or** choose to interrupt your participation, there will be no negative consequence for you (either personally or legally).
2. There is no obligation to respond to the questions that are perceived to be offensive to the participant's privacy.
3. The voice recorder can be stopped at any time if requested by the interviewee.
4. The interview transcription and publication, the mention of names and the possibility of identifying the participants will be submitted beforehand.
5. **The interviewee has been informed that there will be no publication of his/her interview without his/her formal authorisation; and that if he/she accepts the principle of this publication, he/she will be entitled to request that all elements allowing to identify him/her be modified so as to make an identification impossible/implausible. And that, moreover, his/her interview (or part of it, anonymised or not) will not get published without being submitted to him/her and his/her giving a formal agreement.**
6. Anonymous treatment of data will be ensured by the principal investigator who will attribute the names, places and events stocked in a file with coded access, and the file with the study results in another file. All research will use the new coding system and only the principal investigator will be in possession of the coding keys.

### 10.3. Consent form

*Learning about psycho-social determinants of doping behaviour through the testimony of sanctioned athletes*

Under the direction of Mattia Piffaretti, Dr. in psychology, with the partnership of the Institut des Sciences du Sport de l'Université de Lausanne.

The subscribing person :

1. Certifies he/she has been informed about the advantages, the risks and the obligations associated with this study.
2. Confirms that enough time was given to think before participating.
3. Agrees that he / she was informed on the objectives and the procedure of this study by the investigator who is named at the end of this page.
4. States to have read carefully and to have understood the information described in the attached paper and to have been able to ask all needed questions.
5. Has been informed that he / she could interrupt his / her participation to the study at any time without any prejudice whatsoever.
6. Has been informed that there is no obligation to reply to questions he / she might judge indiscreet.
7. Has been informed that the voice recorder may be stopped upon his / her request at any time.
- 8. Has been informed that there will be no publication of his/her interview without his/her formal authorisation; and that if he/she accepts the principle of this publication, he/she will be entitled to request that all elements allowing to identify him/her be modified so as to make an identification impossible/implausible. And that, moreover, his/her interview (or part of it, anonymised or not) will not get published without being submitted to him/her and his/her giving a formal agreement.**
9. Has been informed that all recordings will be deleted once the study finished.

PLEASE INDICATE WITH A CROSS THE DESIRED OPTION

- I allow**  **I do not allow** the publication of my interview.
- I allow**  **I do not allow** that my name be mentioned, or elements allowing to recongise (in case of non authorisations, names will be removed, so as the places, events and years will be modified).
- I wish**  **I do not wish** to receive the written version of my transcribed interview signed by the principal investigator on each page.

This agreement is signed in double copy by the interviewer and the interviewee.

The subscriber accepts to participate in the study mentioned above.

Place : ....., Date : .....

Signature of the study interviewee: Responsible: Mattia Piffaretti :	signature of the interviewer  Mattia Piffaretti:	signature of the
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