Doping in Czech Adolescents: Prevalence, Correlates and Experiences

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Table of contents

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I. PROJECT RESULTS

Executive summary

International research shows that performance enhancing drugs (PED) represent a serious problem both in competitive and leisure sports, affecting not only adults but adolescent athletes as well. However, to our knowledge, no recent studies of doping in adolescents are available in the Czech context, including studies focusing on prevalence of doping, doping attitudes, motivation toward doping use or in-depth explorations of doping experiences. The aim of the present research project (conducted with a support of the World Anti-Doping Agency) was to explore the doping in Czech adolescents from multiple perspectives, both quantitative and qualitative. First, we focused on the prevalence of doping in the Czech adolescent population and looked for specific subgroups within the general population that are at risk of doping abuse. Second, we explored attitudes of Czech adolescents towards doping and their doping intentions. Third, we included a motivational perspective and examined how motivational variables, such as motivational orientations and perceived self-determination of sports activity, may be related to doping intentions and doping behavior in Czech adolescents. Fourth, we explored qualitative accounts of Czech youth athletes describing their doping attitudes, intentions and experiences with doping.

The quantitative part of the study included 2851 adolescents from all regions of the Czech Republic (mean age=16.2 years). The respondents completed a battery of questionnaires assessing their attitudes toward doping and cheating in sports, doping intentions and doping behavior, performance goal orientations (task, ego), sources of sports confidence (mastery, demonstration of ability, physical self-presentation, social support, situational favorableness, environmental control), sports motivation at various levels of self-determination (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, amotivation).The quantitative analyses included descriptive

statistics and correlations, and also more complex analyses such as multiple linear regressions and structural equation modeling (SEM). In the quantitative analyses, we explored the prevalence of doping behavior in Czech adolescents, their attitudes toward doping and doping intentions and examined relationships between these doping-related variables and demographic and motivational factors.

We found that Czech adolescents reported relatively frequent use of doping in comparison with international studies: 8 % of the respondents reported that they had at least one-time experience with doping, and more than twice this number (16.9 %) reported that they were offered doping at least once. Doping was reported significantly more frequently by men, students of vocational schools, and students of sport schools. The highest prevalence of doping (12.3 %) was observed in elite athletes, followed by leisure athletes (8.9 %). Doping was most frequently offered to elite athletes and competitive athletes: 25 % of elite athletes reported that they were offered doping at least once.

In general, respondents reported negative attitudes towards doping but, at the same time, relatively positive attitudes in comparison with results of international studies. More negative attitudes toward doping were reported by older respondents, participating in sports more frequently and at a higher level, coming from families of more educated and physically active parents. We observed relatively low doping intentions within our population; the respondents appeared to be more discouraged by possible health consequences, rather than by moral aspects of doping. The qualitative interviews also suggested that perceiving doping as normative behavior within the sport culture was related to doping intentions even in athletes who expressed negative attitudes toward doping and were concerned about negative health consequences of doping abuse.

Regarding the relationships between motivational and doping related variables, we observed that task/mastery orientations and social support as a source of sport confidence

were negatively associated with attitudes toward doping and cheating, doping intentions and behavior, whereas orientations on ego/demonstrations of ability and physical self-presentation showed opposite relationships. We also observed that less self-determined forms of motivation (such as extrinsic regulation and amotivation) were positively associated with doping-related variables, whereas more self-regulated forms of motivation (such as identified and integrated regulation) showed negative relationships with doping attitudes and intentions. Contrary to our hypotheses, intrinsic motivation was not associated with doping attitudes or intentions but showed a positive relationship with doping behavior. When we tested the complex relationships between sport motivation and doping-related variables in a SEM model, our analyses indicated a very good fit of the proposed model (χ^2 = 7045.8; df = 65; $p < 0.001$; RMSEA = 0.044; 90% CI [0.032 to 0.056]; SRMR = 0.009; CFI = 0.994), explaining 50% of the variance in doping intentions and 17% of the variance in doping behavior.

These results suggest that doping intentions and doping behavior may be influenced by sports motivation and that this relationship may be partially mediated by attitudes toward doping and cheating in sports situations. It appears that higher levels of sports motivation (both intrinsic motivation and external regulation) as well as amotivation may be related to doping, albeit through different paths. Furthermore, orientation toward task/mastery may represent a preventive factor in relation to doping, whereas a focus on ego/demonstration of ability and physical appearance may support intentions to use performance-enhancing drugs and actual doping behavior.

Our qualitative explorations of interviews with Czech athletes suggest that in some sport cultures doping may be a widespread problem whereas other sports appear to be much less supportive of doping behavior. Although almost all interviewed athletes expressed negative attitudes towards doping, in some (power/fitness-related) sports the participants perceived doping as normative behavior at the elite level. This perceptions of doping as normative

behavior appeared to positively influence doping intentions of these participants even when they expressed negative attitudes towards doping and had concerns regarding health consequences of doping. On the other hand, a majority of the participants expressed beliefs that doping is highly prevalent in elite sport in general but not in their sport and cited health and moral concerns as the main reasons why they would not use doping. An interesting case of an athlete who tested positive for a banned substance and was subsequently disqualified from the sport also illustrates possible detrimental consequences of being labelled "a doping cheat" in adolescence, this experience affecting the athlete not only with regard to sport participation but also on psychological and interpersonal level.

We believe that these results have significant implications for further research as well as for anti-doping prevention in the Czech sport context. We identified doping as a risk behavior which is relatively prevalent in Czech adolescents, explored sub-groups of Czech adolescent which can be considered at-risk with regard to doping, and investigated relationships between motivational and attitudinal variables and doping behavior, some of which may be partially modifiable and their facilitation might possibly lead to less frequent doping behavior. Our results appear to confirm, to a degree, the notion expressed by numerous authors that the values present in contemporary youth sports that emphasize physical appearance, performance, success in competition and victory at all costs may have some negative consequences, including higher susceptibility to doping. On the basis of these results we proposed a statement that have been co-written by the Czech doping experts participating at the "Doping in the youth sports" conference (organized to disseminate and discuss the results of the project). In the statement, we proposed directions in which Czech sport organizations, policy makers and educational professional should go to mitigate some of the negative trends we observed in our research project.

Introduction

The abuse of performance-enhancing drugs (PEDs) represents a significant problem in both competitive and leisure sports. The use of PEDs violates the spirit of fair play (Ehrnborg, Rosen, 2009) and represents a significant health concern because doping has been linked to a number of health issues, including cardiovascular, neurological, and psychiatric disorders (Kanayama et al., 2008; Maravelias et al., 2005). The World Anti-Doping Agency (2014) reports that approximately 1% of the tested samples from Olympic sports athletes and approximately 3% of the tested samples from non-Olympic sports athletes showed positive results for doping. However, these relatively low numbers are in contrast with the results of questionnaire surveys that suggest a much higher prevalence of doping: approximately 10-15% of competitive and recreational athletes report past or current use of doping, with some studies suggesting an even higher proportion (Ntoumais et al., 2014).

Adolescent athletes may be considered particularly vulnerable to the abuse of PEDs. From a health perspective, adolescent users are at high risk of the side effects of PEDs such as anabolic steroids (Maravelias et al., 2005; Anderson et al., 1997). From a psychological perspective, adolescents are especially susceptible to social pressures and expectations regarding sports competition and physical appearance (Kindlund et al., 1999) and tend to participate in risky behavior with possible harmful long-term effects (Blatný et al., 2006). A large-scale international meta-analytic study found that approximately 3%-6.5% of boys and 1%- 2% of girls report current or past use of anabolic steroids. Other national surveys have found that, depending on the methodology used, 2.1%-11% of adolescents report past or current use of PEDs (Johnson et al., 1989; Kindlundh et al. 2008; Lucidi et al., 2008; Pedersen, Wichstrom, 2001; Sas-Nowosielski, 2006).

A number of behavioral and psychological factors have been related to PEDs abuse in adolescents. Adolescent users of PEDs report more positive attitudes toward doping, show

higher levels of moral disengagement toward doping and perceive higher approval of doping abuse by other people (Luicidi et al., 2008; Zelli, Malia, Lucidi, 2010). Adolescent users of PEDs also report lower self-confidence and lower status in their peer group (Kindlundh et al., 2001) and experience higher levels of anxiety (Laure, Bissinger, 2007), more frequent depression (Irwin et al., 2002), lower self-regulation (Luicidi et al., 2008; Zelli, Malia, Lucidi, 2010), and more frequent use of other addictive substances, such as alcohol, tobacco, and hard drugs (Kindlundh et al., 1999; Pedersen, Wichstrom, 2001). They also experience more frequent eating disorders (Irwin et al., 2002) and engage in other types of risk behavior, ranging from school absences (Kindlundh et al., 1999) to membership in violent groups (Pedersen, Wichstrom, Blekesaune, 2001).

Two major motivations for adolescents' use of PEDs have been discussed in the literature. First, adolescents use PEDs because they strive for physical attractiveness (Kindlundh et al., 2001), which appears to be an especially dominant motive among adolescents who participate in leisure sports (Kanayama, Hudson, Pope, 2008; Sas-Novosielski, 2006). For example, Sas-Novosielski (2006) found that a majority of adolescent PED users predominately strived for a "better body" with the main aim of gaining muscle and losing body fat. Although more than half of the participants reported side effects of the substances (such as acne, hair loss, depression, and sexual disorders), they insisted that they would continue to use PEDs to improve their physical appearance.

Second, adolescent athletes use PEDs to obtain a competitive advantage and succeed in competitive sports. It appears that a focus on victory and success in competition has become a dominant discourse even in youth sports, which has increased the incidence of problematic behavior such as cheating and doping (De Knop et al., 1996). Motivational orientations that emphasize competitive performance and "winning at all costs" have been related to positive attitudes toward doping as well as to doping behavior (Ehrborg, Rosén, 2009; Petroczi, 2007).

Although adolescent athletes generally report negative attitudes toward doping, they sometimes admit that they would be willing to use PEDs to develop their professional athletic careers (Lentillon-Kaestner, Carstairs, 2010).

However, only limited attention has been paid to doping in adolescents and related factors in the Czech context. The first larger scale quantitative study (n=554) conducted in 1995 found that about 1 % of participating adolescents admitted current or past using of doping and 14.5 % of respondents reported that they would like to try doping sometimes in the future (Slepička, Jansa, Slepičková, 1995; Slepička, Slepičková, 1996, 1997). Nekola (2005) found in a questionnaire survey among the members of fitness gyms (n=950) that 7.4 % of men and 1.4 % of women reported current use of anabolic steroids. A relatively large portion of the participants of the study (20.5 %) reported that they intendedto use doping in the future. Pyšný (2005) reported results of a qualitative research study focusing on the motivation of adolescent members of fitness gyms to use anabolic steroids. As the main reasons for using anabolic steroids the respondents reported striving for acceptance and admiration in their peer group and feelings of insufficiency and low satisfaction with their body.

Theoretical framework

The main aim of the research project is to explore the doping in the Czech adolescents from multiple perspectives: 1) a descriptive, in which we focus on the prevalence of doping and doping attitudes in the general population and sub-populations of Czech adolescents, 2) motivational, in which we explore the relationship between sport motivation and doping-related attitudes, intentions and behavior, and 3) qualitative, in which we seek in-depth insights through interviews with individual athletes that would allow us to better understand

the observed prevalence of doping, doping attitudes, and also motivation toward the use of doping. As a general framework for our research, we follow researchers who have adopted a social cognitive view of the relationship among motivation, doping-related attitudes and intentions, and doping behavior (Barkoukis et al., 2011; Barkoukis et al., 2013; Chan et al. 2015a; Chan et al. 2015b; Hodge et al., 2013; Lucidi et al. 2008; Petroczi, 2007; Zelli, Mallia, Lucidi, 2010; Zucchetti, Candela, Villosio, 2015). From this perspective, sports motivation (i.e., the reasons athletes participate in sports) can be understood as a predictor that directly influences sports- and doping-related moral attitudes, which, in turn, influence doping intentions and doping behavior. Constructs of various motivational theories are implemented in the models as predictors of doping-related attitudes, intentions and behavior, including the theory of planned behavior (Ajzen, 1991; Chan et al., 2015, Barkoukis et al., 2013), achievement goal theory (Nicholls, 1984; Allen et al., 2015; Sas-Novosielski, 2006; Swiatkovska, 2008), and self-determination theory (Chanet et al., 2015; Deci, Ryan, 2000; Hodge et al. 2013). We integrate some of the key ideas of these theories as a theoretical background for our study.

First, on the basis of self-determination theory (Deci, Ryan, 2000), we expect that motivational states characterized by different levels of self-regulation (i.e., intrinsic motivation, external regulation and amotivation) may have different effects on doping-related attitudes and behavior (Barkoukis et al., 2011, 2013, Chanet et al., 2015, Hodge et al. 2013). Self-determination theory suggests that people strive to fulfill several basic psychological needs, such as the need for autonomy, inner organization and better relationships with others. These basic needs are manifested predominantly through “intrinsically motivated behavior”, behavior that people engage in for its own sake, such as for the enjoyment stemming from the activity itself. On the other end of the self-determination spectrum is “externally regulated behavior”, which people engage in for external reasons, such as obtaining a reward or

avoiding punishment. The least self-regulated motivational state is "amotivation", in which people perceive a lack of self-regulation and personal agency toward the behavior. On the basis of extensive research, Deci and Ryan (2002) assert that engagement in intrinsically motivated behavior (as opposed to extrinsically regulated or amotivated behavior) is related to a range of positive outcomes, such as better performance, better relationships, and a higher level of well-being. With regard to doping, it has been found that motivational states with higher self-regulation are negatively related to attitudes toward doping (Chan et al. 2015), doping intentions (Barkoukis et al., 2013), and past doping use (Barkoukis et al. 2011), whereas external regulation is associated with moral disengagement in sports situations (Hodge et al., 2013) or positive attitudes toward doping (Zucchetti et al. 2015).

In contrast to self-determination theory, which focuses on why people engage in an activity, another group of motivational theories focuses on the ways in which different people subjectively prefer differing achievement outcomes. Achievement goal theory (e.g., Dweck, 2006; Nicholls, 1984; Pintrich, 2000), the most prominent approach in this area, conceptualizes these achievement outcomes through the dichotomy of "success in comparison with past performance" and "success in comparison with others". In this framework, a subjective preference for one of these two dimensions has been found to have different impacts on achievement-related beliefs, choices, intentions and behavior. Various authors propose different terms for these two dimensions, such as task-ego (Nicholls, 1984) and mastery-performance (Pintrich, 2000) orientations. These two dimensions appear to be relevant in the context of doping: a negative relationship has been found between the orientation toward improving past performance (task, mastery) and doping-related intentions, attitudes and behaviors, whereas the orientation toward comparison with other people (ego, performance) generally showed opposite relationships (Allen et al., 2015; Barkoukis et al.,

2013; Duda, Olson, Templin, 1991; Kavusanu, Ntoumais, 2003; Petroczi, 2007; Sas-Novosielski, 2006; Swiatkovska, 2008).

For the purpose of our study, we found the achievement goal theory approach to be applicable but overly narrow because it focuses only on the dichotomies of task-ego (Nicholls, 1984) or mastery-performance (Pintrich, 2000) goals and neglects other possible outcomes of achievement situations. In this context, we find very useful sport-confidence theory (Vealey et al., 1998), which partially overlaps with achievement goal theory but focuses specifically on athletes and provides a more detailed categorization of performance-oriented situations that may represent different sources of positive emotions for athletes. Within this framework, the majority of the proposed dimensions (such as social support, environmental comfort, or situational favorableness) are relevant to competitive sports, but we consider three dimensions applicable also to leisure sports participation, especially with regard to doping: mastery (an orientation toward self-improvement), demonstration of ability (an orientation toward winning in comparison with others), and physical self-presentation (an orientation toward attractive physical appearance). The first two sources of confidence are parallel to achievement goal theory. In addition, we believe that a focus on physical self-presentation represents a crucial motivational orientation in relation to doping because some authors suggest that improving physical appearance represents an important reason for doping among adolescent athletes (Kindlundh et al. 2001; Kanayama, Hudson, Pope, 2008; Sas-Novosielski, 2006).

Therefore, we considered three sets of motivational variables possible predictors of doping-related attitudes, intentions and behavior: 1) achievement goal orientations (task- ego), 2)sources of sports confidence, including mastery (i.e., experiencing positive emotions when achieving better results in comparison with previous performance), demonstration of ability (i.e., experiencing positive emotions when achieving better results in comparison with the

performance of others), and physical self-presentation (i.e., experiencing positive emotions when perceiving one's own body as good looking); 3) different positions on the self-determination continuum, including intrinsic motivation (engagement in the behavior is fully self-determined), external regulation (engagement in the behavior is determined by external incentives), and amotivation (the perception of a lack of agency and self-regulation of the behavior).

We believe that the relationships between motivational orientations and self-determination can be understood as hierarchical. The level of self-determination (i.e., whether people perceive their behavior as intrinsically motivated, externally regulated or amotivated) may stem partially from the subjective preference for various achievement outcomes. Specifically, we hypothesize that a focus on task/mastery allows people to perceive outcomes as subjectively under their personal control and, therefore, supports more autonomous forms of motivation, such as intrinsic motivation. In contrast, a focus on the ego/demonstration of ability depends not only on individual performance but also on the performance of others. Therefore, we may hypothesize that it relates positively to external regulation. In a similar way, orientation toward the demonstration of ability could be expected to increase amotivation because people who focus on comparison with others may experience difficulties in dealing with failure and may show a "helpless" psychological and behavioral reaction (Dweck, 2006). We hypothesize that similar processes may apply to the orientation toward physical self-presentation because it depends on being judged by the aesthetic standards of others, which may be often difficult or even impossible to achieve, especially for adolescents (Derenne, Beresin, 2006).

Furthermore, it appears that motivational variables may be predictive of doping-related attitudes, intentions and behavior. We may expect that people who focus on mastery and engage in sports predominantly for intrinsic reasons would be less inclined to use PEDs and

would have more negative attitudes toward doping because they would strive for the level of performance corresponding to their individual standards and natural abilities. However, we may also expect that other motivational variables (focus on demonstration of ability and physical appearance, extrinsic regulation, amotivation) would be positively related to doping-related attitudes, intentions and behavior. These motivational variables reflect a focus on competition and external evaluation of sports performance and physical appearance, which have been related to more frequent use of PEDs (Allen et al., 2015; Barkoukis et al., 2013; Chanet et al., 2015; Duda, Olson, Templin, 1991; Hodge et al. 2013; Kavusanu, Ntoumais, 2003; Petroczi, 2007; Sas-Novosielski, 2006; Swiatkovska, 2008).

Finally, we may expect that the relationship between doping-related attitudes, intentions and behavior would be hierarchical. As suggested by several authors who have applied the theory of planned behavior (Ajzen, 1991) as a framework to explain PED abuse, the use of doping is largely determined by doping intentions, which are, in turn, determined by attitudes toward doping (Chan et al., 2015, Barkoukis et al., 2013). It also appears that an important predictor of doping behavior is general moral attitudes, such as attitudes toward cheating. However, we may expect that the effect of general moral attitudes on doping is indirect and is mediated by specific attitudes toward doping and doping intentions. This is in line with other research (Hoges et al., 2013) finding that general moral attitudes may be indirectly related to doping intention through attitudes toward doping.

Aim of the study

At present, research on doping in sporting youth is almost completely missing in the Czech context and no recent data has been available which could be used in preparing anti-doping policies or designing anti-doping programs. The main goal of the project is to bridge this gap and conduct a systematic comprehensive research on doping in the Czech adolescents

involved in sports both on elite and recreational level. We will explore this population with respect to 1) prevalence of doping, 2) attitudes towards doping, 3) related demographic factors (such as family background and SES, type of school, type and level of sport involvement), 4) the motivational orientation towards sport involvement (such as goal orientation, intrinsic/extrinsic motivation, sources of sport confidence), 5) detailed qualitative insight into their experiences with doping.

In the project, we focused on the population of Czech adolescents involved in sport on recreational and elite level and we will strive to answer following research questions:

Research questions related to questionnaire survey

1) What is the prevalence of doping and other performance enhancing substances in this population?
2) What are the attitudes of Czech adolescents towards doping?
3) What demographic factors are related to doping behavior and positive/negative attitudes toward doping in Czech adolescents?
4) How doping behavior and positive/negative attitudes towards doping are related to sport motivation in the Czech adolescents?

Research questions related to qualitative interviews

5) How do Czech adolescents who use doping perceive their experience with doping?
6) How do Czech adolescents who use doping explain their decision to start using doping?
7) How do Czech adolescents perceive doping abuse?

Apart from the general research questions andon the basis of the theoretical framework introduced above, we also formulated a set of hypotheses regarding the relationships among motivational constructs, attitudes, intentions and doping behavior which directed our quantitative analyses. We empirically tested these hypotheses on a large sample of a general

population of Czech adolescents involved in leisure and competitive sports. The implemented analyses were based on the following hypotheses:

Relationships between demographical and doping related variables

First, we hypothesized that some demographical variables (gender, socioeconomic background, type of school, participation in competitive sport) are related to doping behavior in following way:

H1: Men use doping more frequently than women.

H2:Adolescents reporting more favorable socioeconomic background (including more selective schools, higher SES and higher education of parents) use doping less frequently.

H3: Competitive athletes use doping more frequently than leisure athletes.

Relationships between motivational constructs and doping-related attitudes and behavior

Second, we expected that preferred motivational orientations and different levels of self-determination are related to doping attitudes, intentions and behavior as follows:

H4: Mastery/task orientations and more intrinsic forms of motivation are negatively related to positive attitudes toward cheating, positive attitudes toward doping, doping intentions and doping behavior.

H5: Motivational orientations on ego/demonstration of ability/ physical self-presentation and less self-determined forms of motivation (such as extrinsic regulation and amotivation) are positively related to positive attitudes toward cheating, positive attitudes toward doping, doping intentions and doping behavior.

In addition, we hypothesized that motivational orientations are related to different levels of self-regulation in the following ways:

H6: Task/mastery orientations are positively related to more intrinsic forms of motivation.

H7: Ego/ demonstration of ability/ physical self-presentation are positively related to less self-determined forms of motivation (such as extrinsic regulation and amotivation).

Relationships between positive doping-related attitudes and behavior

Third, we expected the following hierarchical relationships among doping-related attitudes, intentions and behavior:

H8: Doping intentions are directly related to doping behavior.

H9: Attitudes toward doping are related to doping behavior both directly and indirectly through doping intentions.

H10: Attitudes toward cheating are related to doping behavior both directly and indirectly through doping attitudes and doping intentions.

Methodology/Procedures

The present report is a final outcome of the research project "Doping in Czech adolescents: Prevalence, correlates and experiences", which was conducted with the support of the World Anti-Doping Agency. Before the beginning of the data collection, the research was approved by the ethics committee of the Faculty of Physical Education and Sport, Charles University. The project was conducted in two stages: in the first stage we conducted a large scale quantitative survey, which was complemented by qualitative in-depth interviews in the second stage of the project. The quantitative data were collected during November 2014 – May 2015 and the qualitative interviews were conducted during March-November 2016. In the quantitative survey, we focused on both the general population of Czech adolescents, in the qualitative survey we focused on adolescents who actively participated in competitive and elite sports.

The main part of the data collection took place at high schools and elementary schools throughout the Czech Republic. The data collection at schools was facilitated by the Czech Association of School Sport Clubs, a nationwide educational organization that works with sporting children and adolescents. Additionally, competitive and elite adolescent athletes were contacted through various Czech sports associations. In total, 60 schools and 7 sports associations participated in the research. Based on the preferences of the schools and sports associations, the questionnaires were

administered either in paper form or through identical electronic questionnaires. The questionnaires were administered at schools or at training camps of the sports associations by the research team members and research assistants, who were PhD students of the Faculty of Physical Education and Sport, Charles University. The data collection was anonymous, and the questionnaire was constructed in a way that prevented the identification of individual schools or respondents. Because the questionnaires were collected at the schools during school hours, the response rate was high (95%). In the qualitative phase, we conducted in-depth interviews with elite youth athletes from various sport disciplines, some of which had a personal experience with doping and others were acquainted with some doping in their sports. We contacted the respondents by the snowball technique and the word-of-mouth. The important members of the research team during the data collection (both quantitative and qualitative) were the research assistants (PhD students of the main investigator, see acknowledgements) who acquired significant research experience during their work on the project.

Sample

In total, we collected fully completed questionnaires from 2851 respondents (mean age 16.2 years, SD=1.84). The description of the sample is provided in Table 1. In some of the analyses presented further, we included only respondents who participated in any kind of sports activity; thus, the effective sample in these analyses was n=2559.

Table 1

Demographic description of the respondents (n=2851)

Demographic variable		
Age (years)	M (SD)	16.2 (1.84)
Gender	Male	50.7 %
	Female	49.3 %
Type of school	Elementary	28.9 %
	Vocational	3.4 %
	Secondary	51.8 %
	Grammar	16.0 %
Sports school	Yes	17.1 %

	No	82.9 %	
Sports participation			
Level of sports participation	Does not participate in sports	10.0 %	
	Leisure sports	53.6 %	
	Competitive sports	28.9 %	
	Elite sports	7.9 %	
Hours of sports participation/week	0	7.1 %	
	1-3	26.1 %	
	4-6	25.3 %	
	7-10	20.0 %	
	11-13	10.2 %	
	14-16	6.3 %	
	17 and more	5.1 %	
Family			
Perceived economic situation of the family	Poor	1.5 %	
	Rather poor	27.5 %	
	Rather well-off	65.3 %	
	Well-off	5.9 %	
Education of parents		Mother	Father
	Elementary	2.7 %	1.9 %
	Vocational	32.4 %	42.1 %
	High school	44.9 %	36.8 %
	Tertiary	20.0 %	19.2 %
Sports participation of parents		Mother	Father
	Does not participate in sports	34,5 %	20.0 %
	Leisure sports	44.8 %	40.2 %
	Competitive sports	18.2 %	35.6 %
	Elite sports	2.5 %	4.1 %

Regarding the qualitative part of the project, we collected interviews with 20 elite athletes (8 men/12 women), all in their early 20, coming from a range of Olympic and non-Olympic sports. The semi-structured interviews were conducted on a basis of an interview schedule in which we covered topics including their athletic development, attitudes towards cheating and doping in sports, possible doping intentions, and their personal and vicarious experiences with doping. We provide the Czech version of the interview schedule in the Apendix III. All participants provided consent for the interviews to be used in the research. However, some personal data unrelated to the research were altered in order to prevent

identification. Also, we purposefully do not report the sport disciplines of the participants as it might threaten their anonymity and lead to their possible identification.

Measures

The battery of questionnaires used in the quantitative study included several scales, some of which were administered to all respondents, some only to respondents participating in recreational and competitive sports, and some to competitive athletes only. In the first part of the questionnaire, the respondents were asked about demographic variables, such as gender, age, type of school, education and sports participation of parents, and the economic situation of their family (see Table 1). In the next part, the respondents were asked about their sports participation, including the type of sport and the level and intensity of their sports participation.

In the following section, the respondents were asked about their experiences with doping. The World Anti-doping Agency defines doping as "breaking one or more anti-doping rules", meaning that athletes who were found to be "positive" either used substances or methods present on the list of banned substances or were not compliant with doping control regulations (Anti-doping agency of the Czech Republic, 2015). On the basis of the WADA definition, some studies have examined the prevalence of doping by inquiring about the substances respondents used in the past that were subsequently classified according to the WADA list (Zelli et al., 2010). However, we found this approach suitable for the population of adult competitive athletes but not for adolescents, a large part of whom did not participate in competitive sports. For the purpose of our study, we defined doping in the questionnaire as the "use of any substance which aims to enhance sport performance artificially and unfairly". Therefore, we explored subjective evaluations of the respondents' experiences with doping. The respondents evaluated the frequency of their experiences with doping on a six-point scale

ranging from 1 (no) to 6 (yes, regularly). Similar research methods for doping prevalence have been implemented by other studies (Pedersen, Wichstrom, 2001).

To assess the respondents' attitudes toward doping, we used the Performance Enhancement Attitude Scale (PEAS, Petroczi, Eidman, 2009). The PEAS is a one-dimensional 17-item scale measuring general attitudes toward doping in sports (unrelated to personal intentions to use doping). In the PEAS, respondents indicate on a 6-point Likert scale ranging from 1 ("completely disagree") to 6 ("completely agree") their agreement with statements evaluating various aspects of doping, such as "Doping is not cheating since everyone does it", "Athletes are pressured to take performance-enhancing drugs", or "The risks related to doping are exaggerated". In scoring the PEAS, the overall score is obtained as the mean of all items. Overall, the PEAS shows good psychometric properties (Petroczi, Aidman, 2009) and has been used in studies focusing on the population of adolescents (Zelli, Malia, Lucidi, 2010). In our study, the PEAS showed good reliability (Cronbach's alpha = .788).

To measure doping intentions, we implemented four items from an older Czech study focusing on the doping intentions of Czech adolescents (Slepička, Jansa, Slepičková, 1995; Slepička, Slepičková, 1996, 1997). The respondents answered on a scale ranging from 1 ("definitely not") to 6 ("definitely yes") whether they would use doping in four hypothetical situations: 1) "Would you use doping if you strived for an important victory and were absolutely certain that nobody would find out?", 2) "Would you take a performance-enhancing substance that is not illegal but could have undesirable health effects?", 3) "Would you use doping if you were certain that it would help you succeed and would not have undesirable health effects?", 4) "Would you use doping to enhance your performance if you knew that it would help you to achieve the highest level of sports success, such as winning the

Olympic games?" On this basis, we computed doping intention as the mean of these four items. This scale showed good reliability (Cronbach's alpha =.872).

Furthermore, we used the Acceptance of Cheating scale from the Attitudes to Moral Decisions in Sport Questionnaire (Lee, Whitehead, Ntoumanis, 2007) to measure general moral attitudes toward cheating in sports situations. On this 7-item scale, respondents are asked to indicate on 5-point Likert scale (from 1 – strongly agree to 5 – strongly disagree) how much they agree with seven statements presenting them with sports situations including a moral dilemma, such as "It is OK to cheat if nobody knows" or "I cheat if I can get away with it". This scale appeared to have good reliability (Cronbach's alpha =.883).

To assess motivation-related constructs, we used selected scales from three questionnaires: the Perception of Success Questionnaire (PSQ) (Roberts, Treasure, Balague, 1998), the Sources of Sport-Confidence Questionnaire (SSQ) (Vealey et al., 1998) and the Sport Motivation Scale-6 (SMS-6, Mallett, et al., 2007). The PSQ questionnaire assesses situations that are perceived as achieving success in the sport context. It stems from the two dimensional conceptualization of goal orientations presupposing that the success in achievement situations may be represented either by mastering the task at hand (task) or outperforming others (ego). In the PSQ, these two dimensions are measured by six items on the scale ranging from 1 (strongly agree) – 5 (strongly disagree). In these items, respondents asses the degree in which they perceive sport success as mastering a task (e.g., When playing sport, I feel most successful when I really improve.)or as outperforming others (When playing sport, I feel most successful when I beat other people.). In this way, the dimensions "task orientation" and "ego orientation" represent the mean of all the items in the corresponding sub-scale. Also the PSQ questionnaire showed good reliability (Cronbach alfa=,864).

The SSQ questionnaire measures on a 7-point Likert scale ranging from 1 (not at all important) to 7 (most important) what types of sports situations increase the respondents'

confidence, prompting respondents with the question, "I usually gain self-confidence in my sport when I…". The SSQ originally included nine dimensions. We adapted three dimensions that we found relevant for the purpose of our study: Mastery (5 items, such as "…master new skill in my sport"), Demonstration of Ability (6 items, such as …win), and Physical Self-presentation (3 items, such as "…feel my body looks good"). We computed these three dimensions as the means of all corresponding items. The SSQ as a whole showed very good reliability (Cronbach's alpha = .919).

To measure the reasons why respondents participated in sports, we implemented several constructs based on self-determination theory (Pelletier et al., 1995). Specifically, we used the dimensions of Intrinsic motivation, External regulation, and Amotivation from the SMS-6, which represents a revised version of the Sport Motivation scale (Pelletier et al., 1995). Each of these dimensions was measured by four items on a 5-point Likert scale ranging from 1 ("Does not correspond at all") to 5 ("Corresponds completely"). Respondents were prompted by the statement, "Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing your sport", based on which the respondents indicated their reasons for their participation in sports. The items used to measure each dimension included "For the excitement I feel when I am really involved in the activity" (Intrinsic motivation), "Because it allows me to be well regarded by people who I know" (External regulation), and "I don't know anymore; I have the impression of being incapable of succeeding in this sport" (Amotivation). The SMS-6 questionnaire showed good psychometric properties (Cronbach's alpha = .901 in our sample) and has been widely used in sports psychology research (Mallett, et al. 2007).

Analysis

To conduct the basic quantitative analyses we used the software SPSS 21. These analyses included means, standard deviations, and frequencies observed in the items of the

questionnaire items. The between-group differences were assessed by the chi-square test, t-test, and one way ANOVA (with post-hoc analyses conducted by the Tukey test). To assess the relations between variables we computed Spearman correlation coefficient and conducted multiple linear regressions.

Furthermore, we tested the hypothesized more complex relationships within a structural equation modeling (SEM) framework using the statistical open source software R (R Development Core Team, 2014), and Lavaan, an R structural equation modeling package (Rosseel, 2012). Because of the large sample size, we report and interpret the results only at the 1% level of significance in the SEM model. The indirect effects were calculated within the context of the structural model, where the indirect effects were estimated automatically. Only data from complete questionnaires were included in the analysis; therefore, there were no missing values. No outliers were identified in the data, and all the reported coefficients from our analyses are standardized.

The model fit was assessed using standard measures of model fit: the chi-square statistic and corresponding p-value; the standardized root mean square residual (SRMR, which should approximate or be less than .08 for a good-fitting model) (Hu and Bentler 1999); the root mean square error of approximation (RMSEA, with values approximately .05 or less being indicative of a close fit and values of .08 or less being indicative of a good fit) (MacCallum et al. 1996); and the comparative fit index (CFI, where values should be higher than 0.90 for adequately fitting solutions) (Marsh et al. 2004).

In the qualitative part, the interviews were recorded on a digital voice recorder and transcribed verbatim. Transcribed interviews were subsequently processed by thematic analysis (Braun, Clarke, 2006) along the guidelines of authors coming from the interpretative-constructivist paradigm (Smith, Osborn, 2008; Stake, 2006). On the basis of the research questions, the analysis focused on understanding how the participants perceived doping in

sports, and how they interpreted their sport experiences in relation to doping. In the preliminary analyses, we processed all interviews with open coding, categorization and thematic analysis. For each interview, we generated a list of codes from which we subsequently abstracted more general categories that formed main themes within each case and consequently main themes between cases. In the results we present some of the preliminary findings of our analyses.

However, we intend to continue with the qualitative and quantitative data analyses as we believe there is still more to learn from the collected qualitative and quantitative data. The analyses will continue throughout the year 2017 and the further results will be submitted to Czech and international peer reviewed journals.

Results of quantitative research

Prevalence, attitudes and demographics variables (descriptive statistics)

The main descriptive results focusing on the reported prevalence of doping, doping attitudes and intentions may be summarized as follows: 227 of respondents (i.e. 8 % of the total sample of 2851) reported that they had used doping at least once to improve their sport performance. Specifically, 3.3 % reported that they had tried doping only once, 2.5 % several times, 1.1 % repeatedly, and 1.1 % regularly. The reported prevalence of doping varied between various groups of respondents. We observed significant differences between boys and girls, students of various types of schools, between respondents participating in sports on various levels, and in respondents coming from families of different economic background (see Table 2). These findings may be summarized as follows: 1) Boys reported the use of doping more than two times more often than girls. 2) The highest prevalence of doping was reported by students of vocational schools and the lowest prevalence of doping reported students of grammar schools, 3) students of sport schools reported significantly higher

prevalence of doping than students of regular schools, 4) the highest prevalence of doping was reported by elite youth athletes followed by leisure youth athletes , 5) respondents considering themselves as well-off or rather well-off reported significantly higher prevalence of doping than respondents considering themselves as poor or rather poor.

In comparison with the respondents reporting doping use, almost twice this number reported that they were offered doping at least once (482 respondents, i.e. 16.9 % of the sample) (see Table 2). Also in this group we observed similar trends as in doping users: 1) Doping was offered almost twice as often to boys than girls, 2) doping was offered more frequently to students of vocational schools and secondary schools than students of elementary schools and grammar schools, 3) doping was offered significantly more to students of sport schools than students of regular schools, 4) doping was offered most frequently to youth elite and competitive athletes, less frequently to leisure athletes. Not surprisingly, we observed a strong relationship between the use of doping and the offer of doping (r=.562) (see Table 3); 40 % of respondents who reported that they were offered doping reported also the use of doping.

Table 2

Prevalence of doping in various groups of respondents

		Reported use of doping (in %)			Were offered doping at least once (in %)
Whole sample		At least once	8		16,9
		Only once	3,3		8,3
		Several times	2,5		5,9
		Repeatedly	1,1		1,8
		Regularly	1,1		0,9
Between-group differences	p	Reported use of doping (in %)		p	Were offered doping at least once (in %)
Gender***	p<,001	Male	10,9	p<,001	21,6
		Female	5		12,2
Type of school ***	p<,001	Elementary	6,2	p<,001	10,9
		Vocational	12,6		24,2

		Secondary	9,7		21,5
		Grammar	4		10,8
Sport schools **	p=,002	Sport school	11,5	p<,001	23,3
		Regular school	7,3		15,6
Level of sport participation***	p<,001	Leisure	8,9	p<,001	16,9
		Competitive	7,9		20,7
		Elite	12,3		25
SES*	p=,032	Poor/rather poor	6,2	NS	NS
		Well-off/rather well-off	8,6		NS

Difference (chi-square test) significant on level: *** p<,001, ** p<,01, *p<,05, ns – non-significant)

After conducting a correlation analysis (Spearman correlation coefficient) (see Table 3) we found a significant relationship between the use of doping and gender, age, economic background of the family, and level of sport participation. The users of doping were somewhat older, more probably boys than girls, participated in sports more frequently and on higher level, and reported better economic background. We observed even stronger relationship between these variables and reported offer of doping. Doping was offered more frequently to older respondents, boys, participating in sports more frequently at higher level and coming from sporting families.

Apart from the reported use of doping we also assessed the attitudes of Czech adolescents toward doping (by Performance Enhancement Attitude Scale, Petroczi, Aidman, 2009). We found that the respondents reported average value 2.71 (SD=.62) on a 6-point scale in which points 1-3 indicated negative attitudes and points 4-6 indicated positive attitudes towards doping.). (However, it is interesting to note that these attitudes can be considered as relatively positive when compared with international studies of athletes conducted by the Performance Enhancement Attitude Scale that reported average scores ranging from 1.82 to 2.63 (Petroczi, Aidman, 2009, see Figure 1).

These attitudes may be further illustrated by the results of individual items of the Performance Enhancement Attitude Scale in which negative attitudes towards various aspects of doping reported 53.3-90 % of the sample (see Table 4). Despite the negative attitudes towards doping the respondents believed that doping is relatively common in competitive sport: On average, they estimated that 42 % of elite athletes use doping to improve athletic performance (M=42,13, SD=25,6). Also the estimated prevalence of doping appeared to be quite high in international comparison (cf. Petroczi et al., 2008, see Figure 2).

Table 3

Use of doping – correlation between variables

	Use of doping	Doping offered	Positive attitudes towards doping	Estimated prevalence of doping in prof. sport	Gender	Age	SES	Education of parents	Sport participation of parents	Level of sport participation
Use of doping	-									
Doping offered	,562**	-								
Positive attitudes towards doping	,181**	,126**	-							
Estimated prevalence of doping in prof. sport	,104**	,108**	,251**	-						
Gender	,111**	,129**	NS	,166**	-					
Age	,048*	,108**	-,059**	NS	NS	-				
SES	,053*	NS	NS	NS	-,063**	-,075**	-			
Education of parents	NS	NS	-,047*	-,087**	-,099**	NS	,232**	-		
Sport participation of parents	NS	,087**	-,096**	-,090**	-,053**	NS	,171**	,272**	-	
Level of sport participation	,060**	,136**	-,145**	-,125**	-,182**	-,060**	,118**	,206**	,371**	-
Hours of sport /wk	,081**	,180**	-,150**	-,098**	-,203*	NS	,118**	,195**	,353**	,668**

*p<,05, **p<,01, NS – non-significant

Table 4

Responses on selected items of the Performance Enhancement Attitude Scale (measured on the scale 1 (strongly disagree) – 6 (strongly agree), M=2,71, SD=,62),

	Disagree (in %)	Agree (in %)
Legalizing performance enhancements would be beneficial for sports	90	10
Doping is not cheating since everyone does it	89,6	10,4
Doping is necessary to be competitive	88	12
Doping is an unavoidable part of competitive sport	83,3	16,6
Only the quality of performance should matter, not the way athletes achieve it	75,8	24,2
Athletes are pressured to take performance-enhancing drugs	62,3	37,7
Athletes often lose time due to injuries and drugs can help to make up the lost time	62,2	37,8
The risks related to doping are exaggerated	59,2	40,8
The media blows the doping issue out of proportions	55,1	44,9
Athletes who take recreational drugs, use them because they help them in sport situations	53,3	46,7

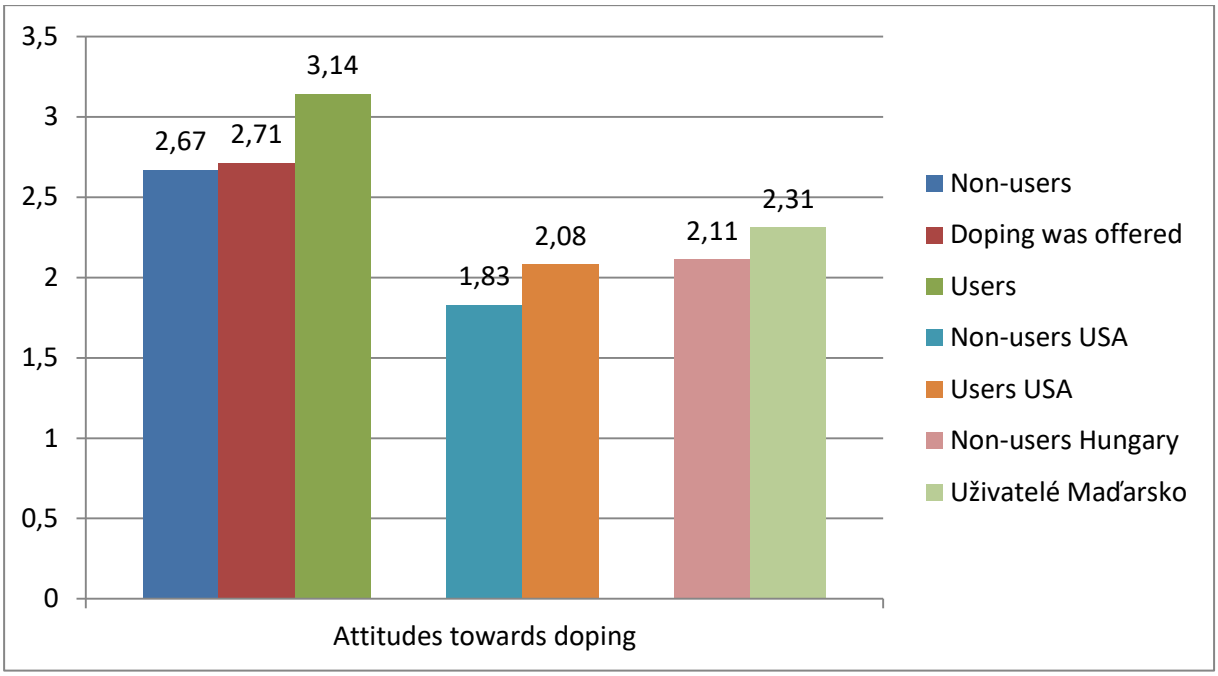

Figure 1 Attitudes toward doping: international comparison

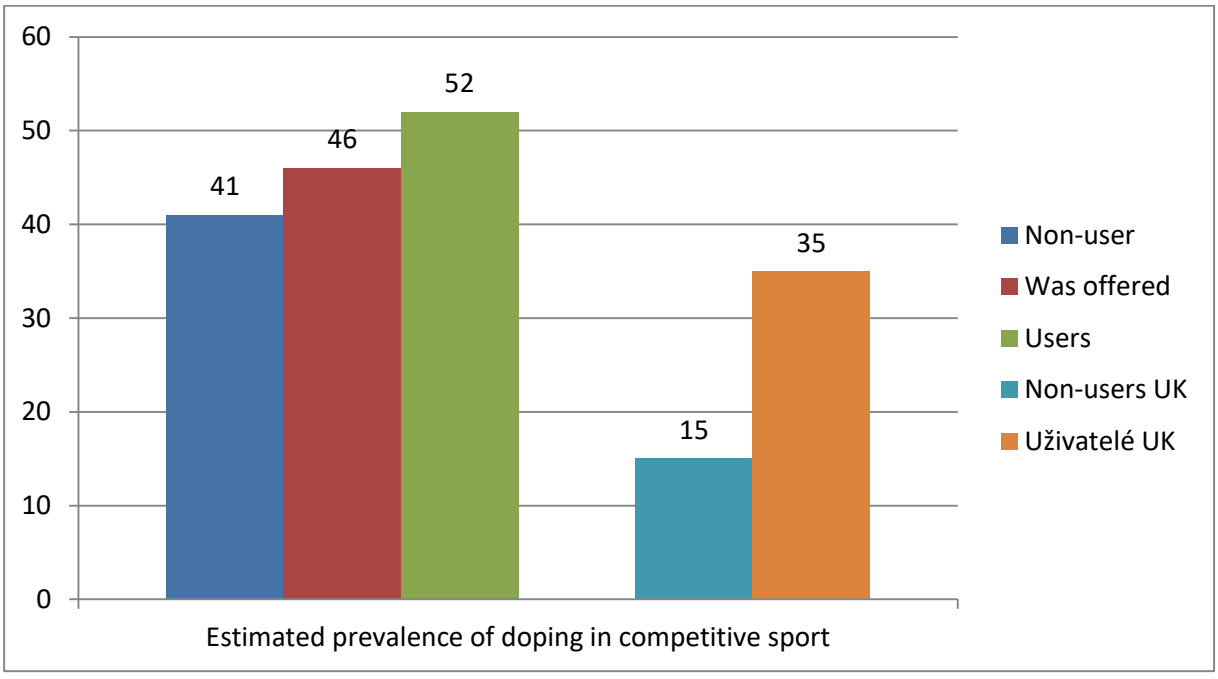

Figure2 Prevalence: international comparison

The results show that the attitudes towards doping are significantly related to the doping use. The respondents who reported the use of doping also reported significantly more positive attitudes towards doping and also estimated that doping is used by a higher portion of elite athletes (see Table 5).

Table 5

Differences in attitudes towards doping in users and non-users of doping

	Users of doping (M(SD))		Non-users of doping (M((SD))		
	M	SD	M	SD	P
Attitudes towards doping	3,14	,72	2,68	,60	<,001
Estimated prevalence of doping in elite sport (in %)	52	27	41	25	<,001
	Was offered doping (M(SD))		Was not offered doping (M((SD))		
	M	SD	M	SD	P
Attitudes towards doping	2,90	,71	2,67	,59	<,001
Estimated prevalence of doping in elite sport (in %)	49	27	41	25	<,001

The correlation analysis showed that the demographic variables were related to the attitudes toward doping in following ways: More positive attitudes were reported by younger respondents who participated in sports at a lower level and less frequently. In comparison to the reported use of doping, there seemed to be a stronger relationship between attitudes towards doping and family variables; more negative attitudes towards doping were reported by children of parents with higher education and participating more in sports (see Table 3). More positive attitudes towards doping were reported also by students of elementary and vocational schools (as compared to students of secondary and grammar schools (ANOVA: $F(3, 2809) = 12{,}964$, $p <{,}001$)). On the other hand, we did not observe a significant relationship between attitudes towards doping and gender or economic situation of the family.

When we explored the doping intentions of our participants through the four hypothetical doping-related situations (see the Methods section), we found that a large majority of our participants would allegedly not used doping. It also appeared that possible

health consequences might play the most important role in deterring adolescents from doping as the largest number of participants reported that they would not use a substance which is allowed but may have negative health consequences. On the other hand, the largest number of participants stated that they would use doping if there were no negative health consequences (see Figure 3).

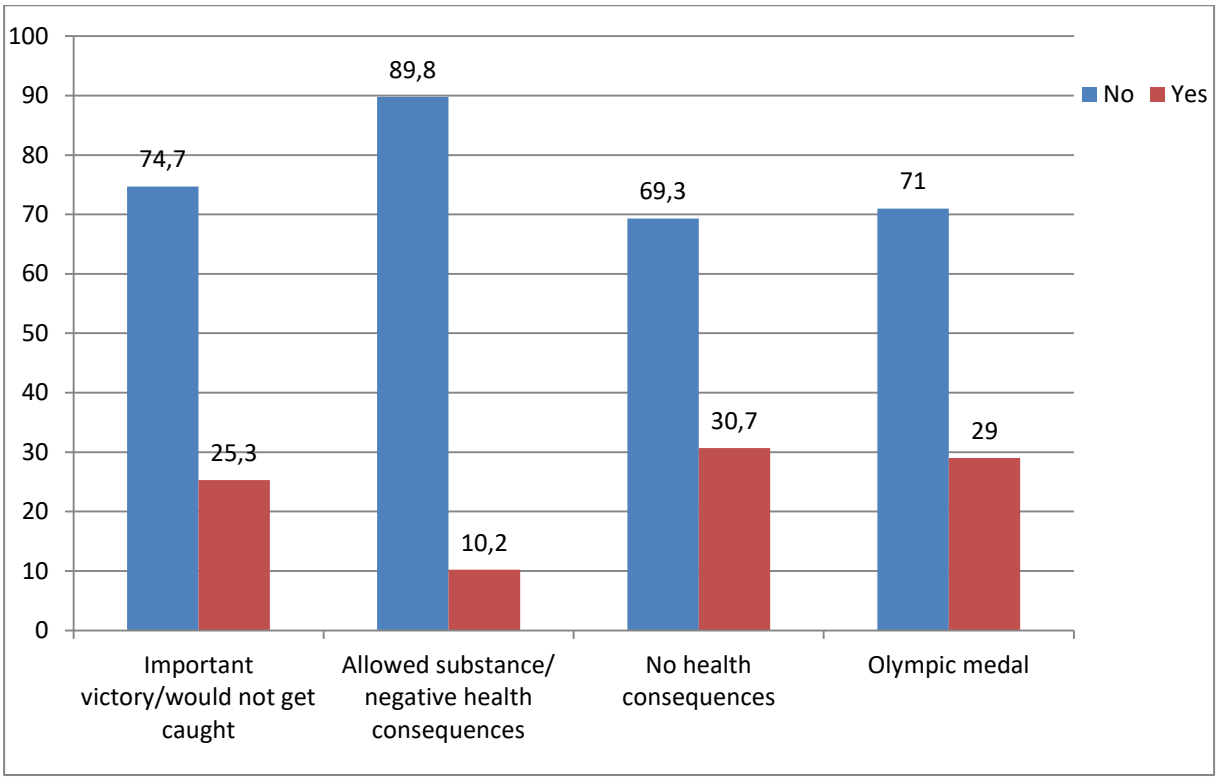

Figure 3 Doping intentions (%)

Motivational variables

The second aim of our project was to explore further the hypothesized relationships between sport motivation and doping-related attitudes, intentions and behavior. First, we explored the motivational orientations as conceptualized within the Perception of Success and the Sources of Sport-Confidence frameworks. It appears that, in the whole sample, focus on task/mastery represented the most prevalent motivational orientation, whereas focus on ego/demonstration of ability and physical self-presentation was less dominant. In addition, social support and

situational favorableness appeared to be especially important sources of confidence in competitive athletes (see Table 6).

Table 6

Motivation orientation – descriptive statistics (only active athletes)

Questionnaire	Dimensions	Descriptive statistics			Frequencies of responses (%)		
		N	Mean	Standard deviation	No	Neither no/ nor yes	Yes
Perception of success [1] (Competitive and recreational athletes)	Task orientation	2538	4,22	,64	1.4	7.5	91.1
	Ego orientation	2538	3,50	,84	10.2	35.9	53.9
Sources of sport confidence[2] (Competitive and recreational athletes)	Mastery	2527	5,24	1,10	6.2	15.5	78.3
	Demonstration of ability	2527	4,80	1,41	17.3	19.4	63.3
	Physical self-presentation	2527	4,17	1,62	35.1	21.3	43.6
Sources of sport confidence[2] (Competitive athletes only)	Social support	1024	5,57	1,13	5.2	10.5	84.3
	Environmental comfort	1024	4,74	1,36	13.3	21,9	64.8
	Situational favorableness	1024	5,6	1,23	4.6	9.4	86,0

[1]Measured on scale ranging from 1 (strongly disagree) to 5 (strongly agree). [2]Measured on scale ranging from 1 (not at all important) to 7 (of highest importance).[1]*No* represents values 1 and 2, neither no/ nor yes represents value 3, yes represents values 4 and 5 [2] *No* represents values 1- 3, neither no/ nor yes represents value 4, yes represents values 5-7.

The observed correlations confirmed the hypothesized relationships between motivational orientations and doping-related attitudes, intentions and behavior. Notably, task/mastery orientation in the general sample and social support in competitive athletes were negatively associated with doping-related variables, whereas ego/demonstration of ability and physical self-presentation orientations showed opposite relationships. Especially the

Table7

Motivation orientations – correlations with doping variables.(only active athletes)

		Doping behavior	Doping was offered	Estimated prevalence of doping in own sport	Estimated prevalence of doping in elite sport	Positive doping attitudes	Doping intention	Acceptance of cheating
Perception of success (Competitive and recreational athletes)	Task orientation	-,093**	NS	-,047*	NS	-,163**	-,080**	-,181**
	Ego orientation	NS	,062**	NS	NS	NS	,191**	,190**
Sources of sport confidence[2] (Competitive and recreational athletes)	Mastery	NS	NS	NS	NS	-,093**	NS	-,108**
	Demonstration of ability	NS	,069**	NS	-,061**	NS	,182**	,171**
	Physical self-presentation	,069**	,072**	,095**	,063**	,083**	,220**	,181**
Sources of sport confidence (Competitive athletes only)	Social support	-,062*	NS	NS	NS	-,103**	-,124**	-,135**
	Environmental comfort	NS	,066*	NS	NS	-,077*	NS	NS
	Situational favorableness	NS	NS	NS	NS	NS	NS	NS

** Significant at .01 level; * significant at .05 level; NS - not significant

orientation on physical self-presentation appeared to be important as it was positively related to all measured doping-related variables (see Table 7).

Furthermore, we conducted linear regression analyses to explore the relationships between motivational and doping related variables in more detail. We found that motivational variables included in the linear regression models significantly predicted attitudinal variables, such as positive attitudes toward doping, acceptance of cheating in sports and also doping intention. All the observed relationships within the models were in the hypothesized direction, i.e. task/mastery orientations had a negative effect on doping-related variables, whereas ego/demonstration of ability and physical self-presentation orientations showed opposite relationships. However, it is necessary to mention that the proportion of variance explained by the motivational variables was relatively small (see Table 8).

Table 8

Regression analysis: Effect of motivation orientation on the attitudes towards doping/cheating (only active athletes))

		Positive attitudes towards doping		Doping intention		Acceptance of cheating in sport	
		F(5, 2513)=16.072, p<.001, R2 =.031		F(5, 2516)=55.867, p<.001, R2 =.100		F(5, 2494)=80.611, p<.001, R2 =.139	
		beta	p	beta	p	beta	p
Perception of success	Task orientation	-,101	,000	-,095	,000	-,203	,000
	Ego orientation	,086	,003	,146	,000	,190	,000
Sources of sport confidence	Mastery	-,072	,006	-,115	,000	-,149	,000
	Demonstration of ability	-,015	,619	,105	,000	,118	,000
	Physical self-presentation	,117	,000	,186	,000	,157	,000

In the second part of the analysis, we focused on the perceived self-determination of sport participation, specifically on the relationships between the dimensions on the self-determination continuum and the doping related variables. The descriptive statistics showed that the respondents predominantly perceive themselves as intrinsically motivated, whereas extrinsic motivation appeared to be the least important reason for the sport participation. Also, the respondents generally did not experience amotivation towards the sport participation (see Table 9).

Table 9

Self-determination –descriptive statistics (only active athletes)

	n	Mean	Standard deviation
Amotivation	2517	1,81	,80
Extrinsic regulation	2517	2,26	,92
Introjected regulation	2517	3,07	,91
Identified regulation	2517	2,98	,85
Integrated regulation	2517	3,09	1,03
Intrinsic motivation	2517	3,15	,90

[1] Measured by the level of agreement with corresponding statements on a scale ranging from 1 (Does not correspond at all) to 5 (Corresponds exactly).

When conducting the correlation analysis between the self-determination and doping related variables, we observed, above all, the positive relationships between amotivation, extrinsic regulation and all doping-related variables, i.e., the respondents with higher levels of

amotivation and extrinsic regulation reported more positive attitudes toward doping, higher doping intentions as well as doping behavior and more positive attitudes towards cheating in sports. The more intrinsically motivated motivation showed opposite relationships regarding the attitudinal variables. However, contrary to our hypotheses, the intrinsic motivation showed positive relationships with doping behavior which suggests that more intrinsically motivated athletes may have somewhat more negative attitudes towards doping and cheating but also that higher motivation may be positively related to doping behavior regardless its position on the self-determination continuum (see Table 10).

Table 10

Self-determination – correlations with reported use of doping, attitudes towards doping and acceptance of cheating in sports (only active athletes)

	Amotivation	Extrinsic regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic motivation
Attitudes towards doping	,167**	,109**	NS	NS	-,061**	-,041*
Doping intention	,158**	,087**	NS	-,041*	-,040*	NS
Acceptance of cheating in sports	,250**	,191**	NS	-,061**	-,081**	-,062**
Keeping winning in proportion	-,192**	-,297**	NS	NS	NS	,058**
Doping behavior	,142**	,172**	NS	,056**	,061**	,087**

** correlation significant at ,01 level; * correlation significant at ,05 level

We observed these relationships also in linear regression models in which we tested in more detail the hypothesized relationships between the positions on the self-determination continuum and doping-related variables. Overall, the less self-determined forms of motivation (such as amotivation and extrinsic regulation) positively predicted the doping-related variables within the models, whereas the more self-determined forms of motivation (such as

identified or integrated regulation) generally showed an opposite direction of relationships. Interestingly, the most self-determined form of motivation (intrinsic motivation) did not show significant relationships with attitudinal variables within the model but was positively related to doping behavior. However, similarly to the motivational orientations, also the self-determination of sport participation appeared to be a significant predictor of doping related variables, but the proportion of variance explained was generally small. Above all, the self-determination appeared to predict predominantly moral attitudes, such as acceptance of cheating or keeping winning in proportion (see Table 11).

Table 11

Regression analysis – self-determination continuum as a predictor of attitudes towards doping, doping intention and acceptance of cheating in sports (only active athletes)

	Attitudes towards doping		Doping intention		Acceptance of cheating in sports		Keeping winning in proportion		Doping behavior	
	F(6, 2505)=22.021, p<.001, R2 =.048		F(6, 2508)=17.649, p<.001, R2 =.038		F(6, 2499)=59.397, p<.001, R2 =.123		F(6, 2499)=78.766, p<.001, R2 =.157		F(6, 2507)=26.433, p<.001, R2 =.057	
	beta	p	beta	p	Beta	p	beta	P	beta	p
Amotivation	,128**	,000	,145**	,000	,199**	,000	-,090**	,000	,142**	,000
Extrinsic regulation	,179**	,000	,108**	,000	,287**	,000	-,448**	,000	,170**	,000
Introjected regulation	-,036	,185	,056**	,000	,005	,853	,133**	,000	-,053*	,050
Identified regulation	-,036	,277	-,093*	,039	-,130**	,000	,124**	,000	-,080*	,013
Integrated regulation	-,070*	,025	-041**	,004	-,080**	,008	-,025	,397	,034	,281

Intrinsic motivation	,010	,743	,024	,194	-,022	,440	,141**	,000	,088**	,004

Statistical significance: * - p <= .05; ** - p<=.01

SEM models

In the next step, we conducted a structural equation modelling analysis to analyze the hypothesized complex relationships between the sport motivation, doping related attitudes, doping intentions and doping behavior. On the basis of our hypotheses, we formulated a structural model in which the motivational orientations (mastery, demonstration of ability, physical self-presentation) were related to the motivational states on the self-determination continuum (intrinsic motivation, external regulation, amotivation) and the motivational variables were related to moral and doping attitudes (acceptance of cheating, attitudes toward doping), doping intentions and doping behavior. Furthermore, moral and doping attitudes were related to doping intention and doping behavior, and doping intention was related to doping behavior. We also controlled for gender and participation in competitive sports by including them as predictors of all variables in the model. This SEM model showed a very good fit (χ^2 = 7045.8; df = 65; p < 0.001; RMSEA = 0.044; 90% CI [0.032 to 0.056]; SRMR = 0.009; CFI = 0.994). Figure 4 presents the SEM model. The model best explained doping intention (50% variance explained); less variance was explained in acceptance of cheating (19%), attitudes toward doping (18%), and doping behavior (17%).

We included only active athletes in the SEM analysis, therefore the effective sample was n=2559.As described in the previous part of the report, 227 respondents (8.9 % of the active athletes in the sample) reported that they used doping at least once to improve their athletic performance. Similarly to the whole sample, the respondents included in the SEM sample reported low doping intentions (m=2.6, SD=1.18); that is, the respondents generally answered “no” or “rather no” to the questions whether they would use doping in the four

hypothetical situations. Attitudes towards doping appeared to be predominantly negative. The mean value was 2.67 (SD=.64) on a 6-point Likert scale on which points 1-3 signified a gradual negative attitude toward various aspects of doping and points 4-6 signified a gradual positive attitude toward doping. The same applied to the acceptance of cheating, in which the mean value of the scale was 2.13 (SD=.82) on a 5-point Likert scale (i.e., most people "disagreed" that they would cheat in sports). Regarding the sources of confidence, the respondents rated mastery as the most important source (m=5.24, SD=1.1), followed by demonstration of ability (m=4.8, SD=1.41) and physical self-presentation (m=4.17, SD=1.62). With regard to self-determination, respondents perceived themselves most frequently as intrinsically motivated (m=3.15, SD=.90), with lower levels of external regulation (m=2.26, SD= .93) and low amotivation (m=1.81, SD=1.41).

We observed significant but rather weak correlations between most of the variables included in the analysis. There were moderate to strong correlations between the motivational variables, such as mastery-demonstration of ability (r=.445), mastery-intrinsic motivation (r=.461), and intrinsic motivation-external regulation (r=.452), and moderate to strong correlations between doping intention and attitudes toward doping (r=.446) and between doping intention and acceptance of cheating (r=.619). All descriptive statistics and correlations of the variables included in the SEM model are included in Table 12.

Table 12

Descriptive statistics and correlations

	1. Gender (1=man, 2=woman)	2. Competitive sport (0= no, 1=yes)	3. Mastery	4. Demonstration of ability	5. Physical self-presentation	6. Intrinsic regulation	7. External regulation	8. Amotivation	9. Acceptance of cheating	10. Attitudes towards doping	11. Doping intention	12. Doping behavior
1.	-											
2.	-,222**	-										
3.	-,088**	,122**	-									
4.	-,154**	,219**	,445**	-								
5.	,052**	-,082**	,320**	,397**	-							
6.	-,138**	,283**	,461**	,306**	,129**	-						
7.	-,228**	,341**	,188**	,379**	,194**	,452**	-					
8.	-,067**	-,112**	-,107**	ns	,064**	-,111**	,197**	-				
9.	-,117**	-,041*	-,108**	,171**	,181**	-,062**	,191**	,250**	-			
10.	ns	-,097**	-,093**	ns	,083**	-,041*	,109**	,167**	,377**	-		
11.	ns	-,127**	ns	,182**	,220**	ns	,087**	,158**	,619**	,446**	-	
12.	-,118**	ns	ns	ns	,069**	,087**	,172**	,142**	,250**	,199**	,272**	-
M	1,49	,41	5,24	4,80	4,17	3,15	2,26	1,81	2,13	2,67	2,60	1,18
SD	,50	,49	1,10	1,41	1,62	,90	,93	,81	,82	,64	1,18	,65

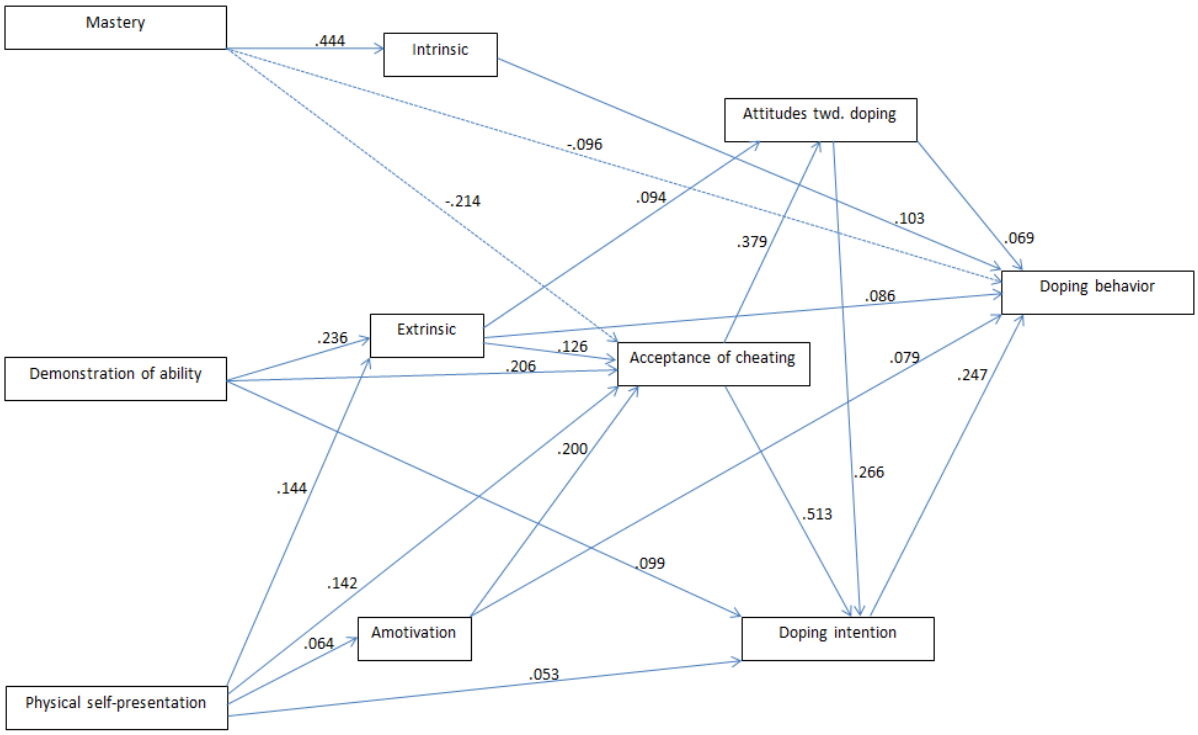

Figure 4 SEM model

Relations between motivational constructs

As hypothesized, we observed a direct effect of mastery on intrinsic motivation (β= .444) and somewhat weaker but significant effects of demonstration of ability on extrinsic motivation (β= .236) and physical self-presentation on extrinsic motivation (β= .144) and amotivation (β= .064). These findings suggest that respondents who gain confidence from mastering a task or developing a skill also experience more enjoyment from the sports activity, whereas respondents who gain confidence from winning or "looking good" tend to participate in sports for external reasons, such as other people's evaluations (see Table 13).

Table 13

Effects of sources of self-confidence on self-determination

	Intrinsic regulation	Extrinsic regulation	Amotivation
R2	.28	.24	.02
Mastery	.44	Ns	Ns
Demonstration of ability	Ns	.236	Ns
Physical self-presentation	Ns	.144	.064

Relations among motivational constructs and attitudes, intentions, and doping behavior

In accordance with our hypotheses, we found that focus on mastery as a source of confidence was negatively related, either directly or indirectly, to moral and doping attitudes, doping intentions and behavior. Specifically, we observed a direct negative effect of mastery on doping behavior (β= -.096), both direct and indirect effects on acceptance of cheating (β= -.233), and an indirect effect on attitudes toward doping (β= -.092) and doping intention (β= -.149). The two other sources of confidence appeared to have an opposite effect: demonstration of ability was both directly and indirectly related to the acceptance of cheating (β= .236) and doping intention (β= .226) and indirectly related to more positive attitudes toward doping (β=.078) and doping behavior (β=.058). Physical self-presentation was both directly and indirectly related to the acceptance of cheating (β= .173) and doping intention (β=.159) and indirectly related to attitudes toward doping (β=.066) and doping behavior (β=.061). These findings suggest that a focus on mastery may be associated with more negative attitudes toward doping and cheating, lower doping intentions and less frequent doping behavior, whereas a focus on demonstrations of ability or physical appearance may have the opposite effect.

As expected, less self-determined sources of motivation (extrinsic motivation and amotivation) appeared to be positively related to all included doping-related variables. Specifically, we observed a direct effect of extrinsic regulation on acceptance of cheating

(β=.126), an indirect effect on doping intention (β=.123), and both direct and indirect effects on attitudes toward doping (β=.142) and doping behavior (β=.121). For amotivation, we observed a direct effect on acceptance of cheating (β=.200), indirect effects on attitudes toward doping (β=.076) and doping intention (β=.123), and both direct and indirect effects on doping behavior (β=.109). Interestingly, contrary to our hypotheses, we did not find a significant relationship between intrinsic motivation and doping-related attitudes or intentions, and we observed a direct positive relationship between intrinsic motivation and doping behavior (β=.103). This finding suggests that higher motivation on all levels of the self-determination continuum may play a significant role in doping in sporting adolescents. However, this effect is mediated by doping-related attitudes and intentions only in the less self-determined motivations (see Table 14).

Table 14

Effect of motivational variables on attitudes, intentions, and doping behavior

		Acceptance of cheating	Attitudes towards doping	Doping intention	Doping behavior
R2		.19	.18	.50	.17
Mastery	Indirect	-.029	-.092	-.149	-
	Direct	-.214	-	-	-.096
Demonstration of ability	Indirect	.030	.078	.127	.058
	Direct	.206	-	.099	-
Physical self-presentation	Indirect	.031	.066	.106	.061
	Direct	.142	-	.053	-
Intrinsic regulation	Indirect	-	-	-	-
	Direct	-	-	-	.103
Extrinsic regulation	Indirect	-	.048	.103	.035
	Direct	.126	.094	-	.086
Amotivation	Indirect	-	.076	.123	.030
	Direct	.200	-	-	.079

Relations among attitudes, intentions and behavior

In our model, acceptance of cheating appeared to be an important moral attitude that was directly associated with attitudes toward doping (β=.379) and doping intention (β=.614) and indirectly associated with doping behavior (β=.178). Attitudes toward doping were directly related to doping intention (β=.266) and both directly and indirectly related to doping behavior (β=.135). Doping intention was directly related to doping behavior (β=.247). These results appear to confirm our hypotheses that general moral attitudes are related to doping indirectly through attitudes toward doping and doping intentions, attitudes toward doping predict predominantly doping intentions, and doping intentions are a major predictor of doping behavior (see Table 15).

Table 15

Relations between positive doping-related attitudes and behavior

		Acceptance of cheating	Attitudes towards doping	Doping intention	Doping behavior
R2		.19	.18	.50	.17
Acceptance of cheating	Indirect	-	-	.101	.178
	Direct	-	.379	.513	-
Attitudes toward doping	Indirect	-	-	-	.066
	Direct	-	-	.266	.069
Doping intention	Indirect	-	-	-	-
	Direct	-	-	-	.247

Effects of gender and competitive/recreational sports

We controlled for an effect of gender and participation in competitive sports by including these two variables as predictors of all variables in the model. Overall, we observed that men reported higher levels of sports motivation, higher acceptance of cheating and more frequent doping behavior, although the effects were low. Competitive athletes reported significantly higher levels of all motivational variables (with the exception of physical self-presentation), lower levels of amotivation, lower acceptance of cheating, less positive attitudes toward

doping, and lower doping intentions, but there were no significant differences in doping behavior between competitive and recreational athletes (see Table 16).

Table 16

Effects of gender and competitive/recreational sports on the variables of the model

	Mastery	Demonstration of ability	Physical self-presentation	Intrinsic regulation	External regulation	Amotivation	Acceptance of cheating	Attitudes towards doping	Doping intention	Doping behavior
Gender (female)	-.04	-.10*	.03	-.06*	-.12*	-.09*	-.10*	.02	.05*	-.08*
Competitive sport	.11*	.20*	-.08*	.21*	.28*	-.10*	-.08*	-.08*	-.10*	-.02

Note. * 1% level of significance. Abbreviations are explained in Table 2.

Qualitative interviews

In the second part of the research we conducted a series of qualitative interviews in which we explored in more detail the attitudes and intentions, as well as experiences of young athletes in relation to doping. These results are complementary to the quantitative analysis presented above and they are intended to expand and provide more nuanced insights into the ways in which young athletes perceive doping abuse and howthey interpret their direct and vicarious experiences with doping.

Subjective definitions of doping

First, we explored how the participants of the qualitative study perceived doping in sports. Almost all participants referred to the fact that doping is performance enhancing and that it is illegal or banned. However, most participants were not able to specify who imposed the doping-related restrictions and only one participant referred specifically to the WADA list of banned substances as a framework for the doping definition. A minority of participants mentioned negative health effects as an integral attribute of doping. The most frequently cited examples of doping substances were anabolic steroids, followed by diuretics, stimulants and marijuana. Typical definitions provided by the participants were, for example,

"using substances that are not allowed and stimulate the body to better performance"

"everything that increases performance, negatively impacts health, and is banned"

"definitely the banned substances that help athletes to achieve the best results, such as increasing strength, performance, endurance, or, in fitness, losing weight, gaining muscle, or shred the body fat."

There was almost uniform consensus between the participants regarding the risks of doping: all perceived health problems as the major risk of doping abuse. Minority of respondents

mentioned also other risks such as being negatively judged by other people or being disqualified from their sport. However, the health appeared to be the main concern among our respondents.

"For sure it impacts health a lot – it destroys liver, kidneys, heart, I think it is a terrible stuff! It is sad that some people consciously use it despite these risks."

"The highest risk is health. In most cases doping is not well-tested and the athletes don't know how their body would react to the substance."

"For sure the risks are impaired health, infertility and the shame if people find out."

"The risks are that people might find out that you won because of doping and also health – women become men, it burdens heart, kidneys, liver."

"Health risks, for sure. And also they can catch you and disqualify you. Just like the Russians."

Overall, the participants were not able to find any justification for the use of doping, except health reasons that were mentioned in few cases:

"I think that when somebody is ill and could get better by using a medicine that includes banned substances, so I think this maybe should be allowed. I think it is strange that, as an athlete, I cannot use Modafen for the flu, unlike normal people. But I guess it has some reasons."

Prevalence of doping

In order to better understand the attitudes of our participants towards doping, we considered important to explore how the participants perceived the prevalence of doping both in competitive sport in general and in their own sport. In general, almost all participants stated

that they believed doping is highly prevalent in elite sport and often expressed regret or disbelief at this situation.

"At present, there is too much of it everywhere. For a long time I have been naïve and thought that athletes are clean and only rarely there are some dirty ones. And I believed they would always get caught anyway. But lately I see it as a terribly common problem. […] For me it is a complete nonsense to destroy my own body and do these prohibited things only to get admiration of others. I consider this as completely misguided. I do understand that some people are ambitious and that the only thing they want in life is to be best at something, but for me the priorities are completely different and they will remain different till the end of my life, even if I always get the fifth place. But I don't believe that the sport is clean."

Based on our interviews, some sports appear to be represented in general public discourse as more prone to doping than others. The general examples of sports that the participants believed to be most threatened by doping included cycling, bodybuilding, weight-lifting, or track and field:

"I believe that in fitness and bodybuilding you cannot do it professionally without doping."

"I think that for example in cycling it is difficult without doping. If you want to accomplish something there, you've got to ride with the best and it means doping. Jesus, that's terrible. They don't have a choice in such situation. Or they will never get the first place."

Only rarely there was a more positive general outlook on the prevalence of doping in elite sports:

"I believe that the issue of doping is blown out of proportions a little. I really believe that a majority of athletes are clean. Now they caught the Russians so they disqualified them from the Olympics and that's alright. But I don't believe that if others doped they wouldn't get caught. They would get caught but I believe that people don't use it that much. There is a lot

of talk and also a little bit of scaremongering. So I believe that you can succeed without doping. For example, [famous Czech athlete] doesn't dope and she won the Olympics twice."

As the main reason for the high perceived prevalence of doping, the participants generally believed that athletes are under extreme pressure to use doping in order to stay competitive at the highest level. The participants most frequently mentioned other people, such as coaches or sponsors, but also the simple fact that "everyone does it" so athletes have to use doping to stay in competition as the main source of this pressure.

"I am a terrible optimist, so I believe that you can [succeed in elite sport even without doping], but lately I have been hearing that this guy used, that one too, so it makes me kind of sad and the people disappoint me a lot. On the other hand, I think that the athletes are even pressured to dope. That a coach tells them 'take this', or 'look, you could get the first place but not without this, so we don't have a choice', so the athletes are given a fait accompli and are under terrible pressure."

However, we may argue that these rather unfavorable general views reflected mostly how the issue of doping is represented in the Czech general public discourse. When the participants were asked about their personal experiences with doping (i.e. whether they know personally any concrete examples of doping in their sports), the answers were more diverse: A few participants described doping as an integral part of the culture of their sport, others (most frequently) were able to recall some individual (often unproven) cases of doping in their sports, and some participants did not have any concrete knowledge of doping individuals in the context of their sport.

In the first group, some participants coming from power/fitness sports background talked about doping as being highly prevalent in the culture of their sports:

"*When you look at [my sport] you could hardly find anybody who wouldn't cheat. I am not saying that everybody does it but if you want to be good, you sometimes have to dope a little bit."*

"I think that doping is everywhere. In all sports. Almost everybody dopes in [my sport]and they don't even think they do anything wrong. The same in [my second sport].And it is not only my impression; they all talk about it openly, what they took. I did not see it in [my third sport]but I guess this is because it is an Olympic sport and there are also children out there so adults wouldn't talk about it out loud."

These athletes also provided a number of concrete examples which corroborated their statements regarding the prevalence of doping in their sports:

"I can give you an example of a friend who does power sports. He took shots of Testosteron and then he laid it off for a while so his body wouldn't stop making its own. And he took other things, Stanozol, Sustanon, and others. Sometimes he got too wild with it and we had to curb him a little bit."

"Anyway, I know a boy who took Oxymetholon and he got heart-attack when he was 22 years old."

"I know guys who took Nandrolon, Boldenon, Clenbuterol, and others. You can get doping easily. I know that some [foreign nationality] guy delivered it to our gym and he had high-quality stuff."

"Or I met girls in [my sport] who took Stanozol or Oxandrolon to gain muscle and then they took "Furak" (Furosemid) to dehydrate. The same the girls in [my other sport].All the better girls there have used, mostly these two things."

"I guess insiders mostly know what's going on about doping. Outsiders can only speculate (laugh)."

"Personally I know lots of people, all from [my sport's] world. […] Guys usually used some growth hormones to gain weight fast; girls used for example ephedrine to get slim quickly. It served the purpose and they were in better shape because of it, but for what price…"

The second groupthat reported only limited concrete knowledge of doping cases appeared to be the most prevalent. These participants perceived doping in their sports as fairly rare and were able to recall only isolated cases of doping, some of them only speculations:

"I believe that doping is not very prevalent in my sport but we've suspected some competitors from other countries for a long time. Some of them were even caught before the Olympics, so it confirmed what we've been thinking for a long time."

"I know personally some of my opponents from abroad who grew tremendously in one year, got stronger, faster. And it all looked very strange. And even their team doctor was once arrested with a case full of banned substances but he was released after he stated it was 'medical equipment'."

"We don't encounter doping much in the team sports. The only prosecuted athletes I know were caught for using marihuana."

"I think there is too much doping in sport but not in my sport, because it is a young sport."

"I think that we are not that far ahead in my sport to dope. But it is true that one guy got unnaturally strong and I am almost certain that he had to use some doping. That was blatantly obvious. Even so, although he has got the power he doesn't have the technique so he doesn't win anyway. I think it is useless for him and that doping could be, so to say, better used in other sports."

Finally, some participants did not have any experience at all and believed that doping is very rare in their sport, although they mostly appeared to be convicted that doping is quite prevalent in sports in general.

"In contemporary elite sports I believe doping is almost in all sports. […] Personally I don't know anybody who would use doping."

"I don't know anybody [who would use doping]in my sport and I wouldn't think anything good about such person. I believe that in sports that are based on technical skills the doping is not used much. So you can succeed here even without doping."

"[My sport] is probably the most honest sport ever so I've never heard about any case of doping there. But I'm not naïve, something must have happened for sure. But I have no personal experience. […] Anyway, it is such terrible pity when anyone uses doping. I don't know how they can enjoy such victory."

To conclude, it appears that general outlook on the doping prevalence in elite sports has been almost universally negative as our respondents expected that doping is highly prevalent in elite sports. However, a majority of respondents appeared to have only limited knowledge of concrete cases of doping in their sports.On the other hand, several participants provided insiders perspectives from their sports that suggested that doping is highly prevalentin the cultures of some sports.

Doping intention

In the second part of the interview, we focused on personal experiences of our participants with doping. First, we explored whether and under what circumstances they would use doping to improve their sport performance. Most of the participants declined that they would use doping in the future, citing health concerns and personal morality, such as own conscience and feelings of shame, as reasons for their refusal of doping.

"Never, not in my dreams! It would be completely immoral."

"No, I like myself too much to do that. And I cannot imagine the shame if people would find out."

"I would never forgive myself that I won by cheating. It would bother me terribly."

"No, because of the health. I wouldn't do it. The victory isn't everything."

"I don't want to cheat and risk my health. I don't have such ambitions."

Even an athlete caught for (allegedly unintentional) doping strongly denied any doping intentions citing moral reasons as a background for this decision. However, she also perceived a thin line between what is and what is not considered as doping:

"For me, such victory would be of absolutely no value. I don't even see the record I achieved when I was caught for doping as real. Even when I believe that I did it on my own and the doping didn't help me, I consider it is dirty. However, the line between what is allowed and what is not is thin. It is kind of strange that something gets banned today what was allowed yesterday. That yesterday it wasn't harmful and today it is."

However, several participants talked about their intention to use doping in the future. Some participants expressed intention to use substances that they did not consider performance enhancing but that were on the list of banned substances, such as marihuana.

"From time to time I would like to use marijuana at a party but I can't because they could find out. I don't know why it is considered doping because it is hardly performance enhancing, but it is there. "

Other participants expressed interest in experimenting with the effects of doping (*"Yes, I would like to try what the effects are, I want to use anabolic steroid Stanazol.*"), especially when they felt that they had reached the limits of their own body ("*I think that you should go without doping as long as possible. But of course that one day it comes to an end and no*

matter how hard you try it won't go any further. Doping will help you to go beyond that limit.").

Some participants alsoreferred to the high prevalence of doping in their sport that justified, or even demanded doping:

„I would take it if I knew that other people take it as well and that there are no doping controls. But it would have to be a really important competition. I wouldn't take doping when I knew it is tested."

„Of course I want to use it, because everybody does it at this level. […] They don't even control it much or pay much attention to it over there. "

Experience with doping

Finally, we explored how the participants who used doping perceived this experience, such as why they decided to use doping and what were, from their perspective, the benefits and negatives of this experience. Almost all doping users perceived their experience with doping as intentional and although their mentioned a negative side of their doping experience, they emphasized that they saw doping as necessary to achieve their athletic goals. On the other hand, an interesting case was represented by an athlete who was caught and punished for doping that was (allegedly) unintentional. This case illustrates possible destructive effects that come with being labeled as a "doping cheat" in a very young age – the participant described significant impact not only on her subsequent sport participation but also on the social and psychological well-being.

Almost all athletes who conceded the use of doping talked about their doping experiences as something natural and even unavoidable. They described themselves as having no choice but to use doping in order to stay competitive in their sport and continue on their path toward their sport goals.

"Of course I did it. I doped a little bit to prepare for the competition. […] Look, I'll tell you what it's about. If you want to do something for real and be a little bit successful, and then you look around and compare that you have been working like crazy for two years and the others have been going to the gym for six months, took some shit and they are better than you, so it just makes you mad. I guess that most people will come to the same decision, if they don't have really strong will. You find out that you are not competitive without doping and you start taking it as well."

These athletes recognized the possible harmful effects of doping abuse for their health, they perceived doping as crucial component of their athletic career that they could not go without, even if they wanted to.

"The only bad feeling I had about it was that I ruined my liver, kidneys, and so on.[…] I think that if nobody doped so I wouldn't have decided to take it, because it would be really about comparing my strengths with the others but you cannot compare a natural athlete with some steroid head."

"[Even when it might harm my health] I had to take it anyway. You go on a path, and you feel that there is only one way forward and you would do almost anything to succeed."

Overall, these athletes perceived their doping experiences as positive, as something that enabled them to reach their goals that would be otherwise unreachable. However, they sometimes perceived that even doping was not enough to reach their highest competitive goals because some of their competitors would use doping even more.

I was very satisfied with the results. But I want to say that people think that we take something and all of a sudden we are mountains of muscle. But it is more that the regeneration is completely different and I was able to do three hours of high quality training every day. And the body was ok with it, thanks to those substances. Also the body was able to process protein

much better and I twas just beautiful. Especially before the competition when the body goes on 140 % it is a huge difference. And when you take insulin at the end and you can see only the skin and the muscle underneath, it is just beautiful."

"It met my expectations. But it's not that you take a doping substance and it would all go by itself, it doesn't work this way, even when half of the people, outsiders, think that they don't need to do anything and the doping would do it for them. You've got to work twice as much so it would make any sense at all to take it. As a positive effect I take that it positively influenced my mindset for the competition and everything felt easy. The negative side was when I found out how weak you are after you stop doping."

"I tried anabolic steroid Stanozol three months before the world championships in my sport in which the doping was not tested. I had the treatment prepared very carefully, I gradually increased the doses, my bodyweight grew, I gained the muscle mass without increasing fat. I put up six kilos in three months and my performance improved as well. The regeneration improved incredibly, I was able to train more. I was able to lift heavier weights. It also impacted my mental game, I felt like the world champion, like I would be able to handle anything, I was really self-confident. The side effects were that I had acne and after the treatment I had depression but only for a while and then everything went back to normal. I wanted to try it once again before the European championships, but after a week I was terribly depressed so I quit and never started again. I have to say that the weights I had lifted with doping I later lifted even without doping. It took more time and training and it felt much more difficult but I made it anyway. "

"Anyway, the idea of my victory still hasn't come to fruition. For example, I know that one of my opponents has been taking doping three years longer than me and he also takes something completely different. So doping is a normal thing here."

The participants mentioned that they obtained doping from other people in their sport, such as their coach or friends. Not surprisingly, they also expressed that they wanted as few people as possible to know about their doping experiences.

"When I decided that I would dope, I didn't understand it much, my coach advised me. That is a big problem of the young guys today that they would, how to say it …, fuck themselves up with the steroids. They don't have money to get good stuff, so they buy fake shit on the internet. And they have nobody to guide them how to take it or they don't want the advice. So they take absurd cocktails that won't help them anyway."

"I got it from my friend, in the gym it's usually no problem. […] Only my friend knew about it. I think it's nobody's business and it is not a good idea to talk about it. Only people who do not understand it talk about it. Other people who don't understand it would judge me, of course. I would judge others before I came to understand it."

"My parents of course didn't know at all that I doped, the closer I got to the competition I tried to wear some long shirts to cover it as much as possible. And my parents didn't go to my competitions; they don't like it that much, so I let it roll there."

"Now I hesitate [whether I will start doping again]. I am kind of on a crossroads now. It is also about a lot of money. It is really expensive. And second, you won't get the shot from your ass that easily, it is a decision for years to come. I don't know, if I am competing I will take something, If not I will do it just for fun."

Becoming a doping cheat: a case of unintentional doping

An especially interesting case was presented by an athlete caught for doping who declared that the doping was unintentional, claiming that she didn't know how the banned substance got into her body. In the interview she provided an in-depth insight into possible

psychological and social consequences of being labeled a "doping cheat" during the teenage years.

In the context of her athletic career, she described herself as highly motivated, doing everything possible to get an edge in the competition. However, she maintained how important it was for her to be able to win by her own effort, within the rules of her sport.

"We had a nutrition plan, nutrition supplements, loads of them. […] I bought some other stuff on the Internet, so we had saccharides, proteins, arginines, creatines, carnitines, and we poured it. It was all in the coach's office, he had it in huge buckets. And we always came with our shakers and we poured it one after another. But we didn't do nothing wrong. I was also the only one who went to the gym by herself; I went there on Christmas and on the New Year's Eve. […] Every evening I went to bed and imagined the race, when I would see the time, how I would raise the hand and wave to everybody, how happy I would be, really, I saw it every evening."

She perceived that all her effort came into fruition at a competition in which she performed above her expectations and achieved excellent results. However, several weeks later she was informed by an anti-doping agency representative that she tested positive for a banned substance.

"[At the competition] I had incredible times, the improvement was huge. So I was really happy and everything. But three weeks later they called me from the anti-doping agency that they found a banned substance in my body. I was like 'this is impossible' but he was telling me just like we are talking now, all cool, hi, how are you, how's family. So he's like 'we found a banned substance in your body, should we open the B sample?' And I did not take it seriously at all, I was certain that it would get explained, it would be alright and that all what he said was bullshit."

After the positive results were publicly announced, she became a center of unwanted attention of media and other people, which was even magnified by the fact that she perceived herself as innocent.

"So I went home, my coach just said 'we are screwed' and I still did not get it. I still did not believe that it wouldn't get explained. So we wanted to open the B sample, went to Prague again, of course it was found positive again, and I thought, 'ok, this isn't funny anymore'. But I still believed that it would get explained that I didn't take anything like that. Anyway, it didn't. The same day my mother called, I was at high school at the time, so my mother called that she was watching TV and that there was an athlete [name]who doped and that she might be disqualified for two years, so I told myself 'that's a real bummer'. But I still thought that maybe nobody would notice… You bet they wouldn't. The class ended, I left the classroom and rightin my face, a man with a camera 'look there she is'. They cornered me down to a classroom and some journalists interviewed me and after that I thought 'that's really bad. 'Then I went to my regular practice and there was another TV crew and they went after me right away, it was incredible rush. After that I went about three more times to my practice session and then I broke down completely."

Despite the positive test results, she maintained that she was strongly against doping in sports and asserted that she would have never knowingly used a banned substance. However, she recognized that her positive doping results put her in a bad position in eyes of the general public.

"I would never be able to cheat! This was always a no go zone for me. […]But if I've ever heard that somebody was caught for doping and claimed to be innocent I wouldn't believe him. And when I saw myself on TV in the news so I thought 'Jesus, girl, you are really something'. Even I did not believe me, when I saw myself there."

It appeared that she suspected her coach to give her a tainted substance, although she did not want to believe it and never got a proof.

"My coach … he is kind of different, he is not a guy that would praise anybody, not at all, he didn't show emotions much, so I didn't pay attention to him at the moment, but thinking back, he never said that he trusted me, that we would do something about it, that it's nonsense. He just pulled back and said 'we are screwed'. I got a wake-up call half a year later by two guys I hired, two lawyers who focused on doping in sport, kind of detectives, and they told me that in 90 % of cases it's the coach. I said that my coach didn't do it, that he would never do anything like that. And they said 'what he told you', and I was like 'shit, we are screwed' and they were looking at me and said that this is how somebody who did something wrong would react. I never wanted to believe that it could be him, we had a great relationship. I called him dad by mistake sometimes."

However, despite her suspicion, she allegedly did not want to compromise her coach's career, so she decided to take the blame for the use of doping on her.

"The two lawyers […]found that years ago he gave something to his other trainees[…], they found some other fuck-upsof his that I didn't know about, and they said 'this is what we have but we have no proof that he gave it to you. Now it's up to you if you point at him and say that he did it or not. And if you don't it's over because we have no way to continue'. And I told them that I hold him in such a high regard that I cannot point the finger at him if I'm not certain that he did it. And if he was punished unjustly, just like I was, so he would be out for life and he doesn't know anything else. He wouldn't be able to work with people, coach, his life would be ruined. For me it meant ruined life as well, at the time, but it was with a time limit, only for two years."

After the doping scandal, she left the sport, fought with some personal issues but eventually was able to come back, although she has never returned to her previous level of training and performance.

"*At the time nobody could believe me, I wasn't coherent, I contradicted myself. Nobody believed me in my sport, and nobody in the Czech Republic who saw the TV recording could believe me either. I believe that my parents believed me, that a few friends believed me, but they all might have a suspicion that 'maybe she took it and only kept saying for x years that she didn't'. It is terrible helplessness. When I look back, my world fell apart. But I always say to myself that it was only two stupid years of competing. Nothing else. But when I now imagine that somebody goes to prison for something he didn't do I think that's really fucked up."*

Discussion

When comparing our results with studies conducted in other countries we may conclude that the doping prevalence in our sample is relatively high. Similar results have been found in U.S. or Polish adolescents (Johnson et al., 1989; Sas-Nowosielski, 2006) and, for example, studies conducted on Italian or Scandinavian samples observed significantly lower prevalence of doping (Kindlundh et al. 2008; Lucidi et al., 2008; Pedersen, Wichstrom, 2001).Alsoprevious research on doping use in Czech adolescents conducted 20 years ago found that the experience with doping was reported by a much lower number of adolescents (Slepička, Jansa, Slepičková, 1995; Slepička, Slepičková, 1996, 1997). The results of the qualitative study suggest that possible reasons may be that young people consider doping a relatively normal part of high level sports, some describing that doping was highly present in their sport environment. Doping may be also much more available than in the past, especially through the Internet. Regarding how often the doping was offered to our participants, our findings appear to be comparable to results of studies from other countries (e.g., Pedersen, Wichstrom, 2001). However, some subgroups of our respondents were offered doping much more frequently, which was especially prominent in elite athletes, a quarter of which was offered doping.

Our results suggest that some groups of respondents are threatened by doping more than others. First of all, men appeared to use doping much more frequently, which has been consistently found also in other studies (Kindlundh et al., 2008; Pedersen, Wichstrom, 2001; Sas-Nowosielski, 2006). This phenomenon may be related to the fact that adolescent boys often strive for a muscular masculine body whereas girls focus more on losing weight (Macek, 1999). Other studies suggest that doping and other forms of risk behavior in adolescence may be related to some forms of masculine identity that emphasize physical dominance and risk-taking (Atkinson, 2007; De Visser, Smith, 2007). In our study, the

highest prevalence of doping was reported by students of vocational schools where, in the Czech context, these forms of behavior tend to occur more frequently than at other types of schools, such as grammar schools (Tomášek, 2008).On the basis of these results, we may suggest that effective doping prevention programs should focus on boys and students of vocational schools, although it is obvious that doping behavior occurs (less frequently) across the general population of Czech adolescents.

Furthermore, doping behavior appears to be related to the environment of organized sport: Above all, significantly more frequent doping behavior was reported by the students of sport schools (as compared to the students of regular schools) and elite athletes (as compared to recreational and competitive but not elite athletes).Additionally, our qualitative interviews suggest that elite youth athletes in some sports may be more threatened by doping than others. For example, athletes participating in some power/fitness based sports described doping as a part of the normative culture of their sports whereas athletes from other sports were much less aware of doping abuse. We also observed a significant relationship between the doping behavior and the frequency of sporting activity. On the other hand, recreational athletes reported more frequent use of doping than competitive (albeit not elite) athletes, which suggests that doping behavior is motivated not only by the success in sport competition, a fact we explored in more detail in the analysis of the sport motivation.

Also in the SEM analysis, we did not find a difference in the reported doping prevalence between competitive and recreational athletes, but we found significant differences in other measured variables. First, competitive athletes reported significantly more negative attitudes toward doping and cheating in sports, lower doping intentions, lower amotivation and higher levels of motivation, with the exception of the orientation toward physical self-presentation, which was higher in recreational athletes. These findings suggest that in general,

participation in competitive sports may be related to a number of psychological benefits, including higher levels of sports motivation and more positive doping-related attitudes.

The results suggest that the environment of organized sport is more related to whether the respondents came to the contact with doping rather with actual use of doping. In our study, doping was reportedly offered more frequently to elite and competitive athletes than recreational athletes. Also, there was a significant relationship between how frequently the doping was offered to our respondents, the frequency and level of their sport involvement and also the level of sport participation of their parents. Therefore, it appears that adolescent athletes who operate in the environment of organized sportmay be offered doping more frequently by other people but they do not have to use necessarily more often than recreational athletes. At the same time, however, it is obvious that doping is a frequent problem in elite adolescent athletes who compete at the highest level and they should be also one of the important target groups of anti-doping prevention.

Despite the relatively high prevalence of doping, the participants of our study generally reported negative attitudes towards doping, i.e., a majority of them perceived various aspects of doping as problematic and refused doping as such.However, when comparing our results with other studies using the PEAS questionnaire, the attitudes towards doping appear to be rather positive in our sample. On average, the attitudes reported by our participants correspond to attitudes reported in international studies by the users of doping (Petroczi, Aidman, 2009). Similarly to other studies (Bloodworth, McNamee, 2010), also our results suggest that adolescents may perceive doping more positively when the doping behavior could be explained by "rational" reasons, such as returning to competitive sport after an injury or (economic) pressures of professional sports.

Our participants also estimated that doping is fairly common in elite sport: on average they assumed that 42 % of elite athletes use doping. For comparison, British college athletes

estimated that doping is used by 15 % of competitive athletes (Petroczi et al., 2008). One of the reasons of the relatively high prevalence of doping may be the fact that Czech adolescents perceive doping as a relatively common aspect of the competitive sport which may provide a justification for doping abuse (Zelli et al., 2010). This was also evident in some qualitative interviews in which the participants described that they believed doping is highly prevalent in their sports and it is necessary to use it in order to achieve the highest level of performance.

As observed in other studies (Petroczi, Aidman, 2009, Petroczi et al., 2008, Zelli et al., 2010), we found that attitudes towards doping were significantly related to the doping abuse. In general, it seems that users of doping have more positive attitudes towards doping than non-users (Petroczi, Aidman, 2009). Positive attitudes toward doping appear to influence doping intention and also may be related to lower self-regulation and higher levels of moral disengagement towards doping (Zelli et al., 2010). Users of doping tend to perceive doping as relatively common behavior (Petroczi, Aidman, 2009).Therefore, the attitudes towards doping may represent a variable that influence doping intention as well as actual doping behavior. In this way, preventive educational programs focusing on the attitudes toward doping may have an important impact on the prevalence of doping (Bloodworth, McNamee, 2010; Goldberg et al., 2000; Laure, Lecerf, 1999). On the other way, some of the participants of the qualitative study expressed negative attitudes toward doping, although they had personal experience with doping or wanted to use doping in the future. This suggests that other variables (such as perceived norms related to doping abuse) may be in some cases more significant precursors of doping intentions than negative doping attitudes. It appears that health risks may be crucial deterrents of doping intentions whereas perceiving doping as a normal part of the sport culture may lead to doping behavior even when the participants express negative attitudes towards doping and concerns about possible health impacts of doping.

Our results show that some demographic variables may be reversely related to doping behavior than to doping attitudes. We observed this effect in age, level and frequency of sport involvement, and also in the sport participation of parents. It appears that older adolescents may better understand the risks of doping but, at the same time, doping may be more available to them. Similarly, higher engagement in sports and higher involvement in sport environment may lead to emphasizing fair play and refusing cheating in sports but, at the same time, active athletes may be offered doping more frequently and some of them may be more probable to strive for performance enhancement through the use of doping substances.

When examining the relationships between sport motivation and doping related variables, we mostly confirmed our hypotheses regarding the effects of the sports motivation and doping attitudes, intentions and behavior in adolescents. Also the complex SEM model based on our hypotheses showed very good fit, mostly confirming our hypotheses. These findings suggest that sports motivation represents a psychological variable that may have a broader impact than simply sports performance and that should be considered in preparing anti-doping programs and policies, especially those focusing on the general population of adolescents.

On the basis of these results, task/mastery orientations can be considered preventive motivational factors with regard to doping as they were negatively associated with all measured doping-related variables. The opposite appeared to be true for the motivational orientations toward the ego/demonstration of ability, which, in comparison to mastery, showed almost exactly reverse relationships. The positive effects of task/mastery orientations toward doping prevention have been observed in a number of other studies. For example, Barkoukis et al. (2011) found that athletes who emphasized mastery goals and de-emphasized performance goals also reported the lowest levels of past doping use and the lowest doping intentions. Similar findings were reported by Sas-Nowosielski and Swiatkowska (2008), who found that athletes with high task and low ego orientation reported the most negative attitudes toward doping, whereas athletes with low task/high ego goals reported the most positive

attitudes toward doping. These contradictory effects of mastery and performance orientations were also observed in relation to cheating and cheating intention in sports (Yperen et al., 2011).

In addition, we observed significant associations between the orientation toward physical self-presentation and doping-related variables, which were very similar in direction and magnitude to the orientation toward the demonstration of ability. This finding is consistent with other studies suggesting that striving for better physical appearance is a dominant motive for PED use among adolescents, especially adolescents participating in recreational sports (Durant et al. 1995; Kindlundh et al. 1999; Sas-Nowosielski, 2006). Also some of the participants in the qualitative interviews who expressed doping intentions or had an experience with doping stated that they used doping to reach high (otherwise impossible) standards of physical appearanceand to keep up with other competitors, who were also perceived as using doping. Overall, our findings provide further evidence that societal norms that emphasize success in competition and physical appearance may lead to higher doping use, especially in adolescents (Yesalis, Bahrke, 2000). In this context, it is encouraging that task/mastery represented the most prominent motivational orientations among our respondents, and even more so in competitive athletes. Therefore, the unhealthy focus on sports competition that has reportedly occurred in youth sports (De Knop et al., 1996; DiFiori et al. 2014) does not appear to be as pronounced in the Czech context.

In addition to the motivational orientations, also the perceived level of self-determination of sporting activity appeared to influence doping-related attitudes, intentions and behavior. We observed that less self-determined forms of motivation, such as external regulation and amotivation were either directly or indirectly positively associated with all doping-related variables. On the other hand, more self-determined forms of regulation (such as identified regulation or integrated regulation) showed opposite relationships with some

doping-related variables. Comparable results were reported by Barkoukis et al. (2016) who found that athletes high in amotivation reported higher doping intentions and higher past PED use, whereas athletes high in external regulation reported higher past use of PEDs in comparison to other athletes. Similarly, Zuchetti et al. (2015) found that extrinsic motivation was related to more positive attitudes toward doping. Regarding the more self-determined forms of motivation, Chan et al. (2015) observed that autonomous motivation predicted doping avoidance-related attitudes, subjective norms, perceived behavior control and, indirectly, the intention of doping avoidance.

Corresponding to Barkoukis et al. (2016) and in contrast to Chan et al. (2015), we did not observe a significant relationship between intrinsic motivation and doping-related attitudes and intentions. However, contrary to our hypotheses, intrinsic motivation was directly positively related to doping behavior in our sample. This finding suggests that the intensity of sports motivation may be a more important predictor of doping behavior than the perceived degree of self-determination; that is, more motivated athletes may tend to use PEDs more frequently regardless of whether they are intrinsically or extrinsically motivated. However, based on the SEM model, we may argue that the processes by which various levels of self-determination experienced in sports situations relate to doping behavior may be different. Whereas the effects of extrinsic regulation and amotivation on doping appeared to be partially mediated by doping-related attitudes and intentions, we did not observe this path in intrinsic motivation. On this basis, we may hypothesize that other variables not included in our quantitative analyses influence the relationship between intrinsic motivation and doping behavior. For example, Barkoukis et al. (2013) found that higher levels of self-determination were positively associated with the susceptibility to situational temptations to use doping, which might explain the relationships observed in our study. Also some of the participants of our qualitative study expressed negative attitudes towards doping but believed that they had to

use it anyway in order to stay competitive in their sports in which they perceived doping as highly prevalent.

In the SEM analysis, acceptance of cheating appeared to be a general moral attitude that had a significant relationship to attitudes toward doping and doping intention and thus appeared to indirectly affect doping behavior. Similarly, Jalleh et al. (2014) argued that personal morality was the most important predictor of attitudes toward doping and an indirect predictor of doping. The indirect nature of the relationship between the acceptance of cheating and doping behavior may be because athletes use various doping substances not only to cheat but also to improve their physical appearance, as recreational drugs, and for other reasons (Pluim, 2008). As illustrated by one of our case studies, some athletes may not even know that they used doping and express strong anti-doping attitudes until tested positive. Furthermore, acceptance of cheating appears to be an important mediating factor in the relationship between motivational and doping-related variables. For example, the observed contrasting indirect effects of the mastery and demonstration of ability orientations on attitudes toward doping in the SEM model were mostly due to the effects of the motivational orientations on the acceptance of cheating. Significant effects of motivational variables on moral attitudes, similar to the relationships observed in our study, were also observed in other studies (Ommundsen et al., 2003; Ntoumanis, Standage, 2009).

The paths among attitudes, doping intentions and doping behavior observed in the SEM analysis are consistent with the applications of the theory of planned behavior in doping research that suggest that attitudes toward doping and cheating are significantly associated with doping intentions, which, in turn, predict doping behavior (Chan et al., 2015; Barkoukis et al., 2013). In this context, we observed that the magnitude of the relationship between the acceptance of cheating and doping intention was almost twice as strong as the relationship between attitudes toward doping and doping intention. Therefore, it appears that general

moral attitudes may be, in some respects, more significant than attitudes specifically related to doping, which should also be considered in anti-doping interventions.

Limitations

Our study has some limitations that should be taken into consideration. The quantitative analyses employed a cross-sectional design that limits causal interpretations of the proposed relationships. We included variables in the study that we hypothesized to be important with regard to doping in adolescents; however, a number of other variables that were not included may have similar or even higher effects. Additionally, although we recruited a large number of respondents from all regions of the Czech Republic and the response rate was high, our sample differed in some attributes from the general population of Czech adolescents. Above all, students from vocational schools were somewhat underrepresented in our sample. We should also emphasize that we did not use objective methods in evaluating the prevalence of doping; instead, we relied on participants' self-reports. Although self-reports of doping prevalence have been commonly used in studies of doping in adolescents (Pedersen, Wichstrom, 2001), these methods may have significant limitations (Petroczi et al., 2010). For example, respondents may report methods that are not on the list of banned substances as doping, or they may conceal doping because it is generally a condemned behavior that may even lead to potential penalties. It is also important to note that the relationships among the sport motivation and doping-related variables were significant but rather weak, which suggests that although motivational variables appear to play a role in doping among adolescents, this role should not be exaggerated. Finally, because our models explained a relatively low portion of variance in doping behavior, we may argue that effects of motivational variables are much more noticeable with regard to doping intentions than actual doping behavior. Other variables that were not included in our study, such as the availability

or affordability of doping (Jalleh et al., 2014), may moderate the relationships among motivation, attitudes, and doping behavior. Also the qualitative part of the study has several limitations. First, we based our research on the subjective perspectives of the participants which might differ from perspectives of other involved actors and might not accurately portrait the actual events. Also, our findings offer insight into the participants' attitudes toward and experiences of doping but provide no information about the prevalence of the identified themes. This was partially provided by the quantitative study; nevertheless, a qualitative study on a larger sample would be more appropriate. Finally, the study was carried out in the specific national context of the Czech Republic which may limit the transferability of its findings.

Dissemination of results/ Implications/ Future directions

The final report presents analyses conducted by the end of the research project specified in the project agreement. In these analyses we introduced the main findings some of which have been submitted for publication to Czech and international peer reviewed journals (Mudrák, Slepička, Slepičková, 2016; Mudrák, Slepička, Slepičková, in review; Slepička, Mudrák, Slepičková, Hlaváčková, Novotná, 2016; Slepička, Mudrák, Slepičková, 2016) and presented at four Czech conferences. We intend to publish other analyses of the quantitative and qualitative data of the project throughout 2017. Furthermore we want to proposed to a major Czech academic publisher Karolinum the monograph "Risk behavior of sporting youth" and the some results of the project can be presented by means of this book to wide Czech academic audience interested in the doping in youth. The monograph will be finished and submitted for publication at the end of 2017.

The investigators of the project also organized a conference **"Doping in youth sport"** as very important means of dissemination research results (04/28/2016, Faculty of the physical education and sport, Charles University) in which they presented the main findings of the project. The conference provided a platform for meeting of Czech experts specializing on the doping-related issues and educational professionals working with youth athletes. The participants of the conference included academics from all Czech physical education faculties, members of the Czech Anti-doping Committee and Olympic Committee, members, Ministry of education representatives, an of several Czech sport associations, directors of Czech sport schools, physical education teachers and coaches of various sports. There were sixteen presentations and eleven papers covering a wide range of doping-related topics have been published in the proceedings of the conference, including three papers based on the results of the present project, presented by the investigators of the project. In this way, the results of the project were introduced to Czech academics, sport officials, policy makers, and practitioners working with Czech youth athletes. This conference was the first Czech conference focusing specifically on doping in youth athletes and it opened a possibility for future collective efforts regarding research, policies and educational practices related to doping in youth athletes. The participants of the conference collectively drew a statement published in the conference proceedings which suggests possible ways of the dissemination of the research results as well as policy and practice implications. This statement is very important output of our project indicating what is necessary to realize for antidoping prevention (see Appendix I).

Furthermore, the results of the project were disseminated in several other ways: First, the research assistants participating in the project acquired significant research experience, especially during the data collection and data management phase of the project. Currently, the research assistants are finishing their PhD studies and will implement this research experience in their further academic careers.

The results of the project were also disseminated to the participating schools and sport associations. In this way, they directly influenced the educational practices related to doping by providing further evidence about doping-related behavior and attitudes of Czech adolescents. Also, the project re-introduced the topic of doping in general and doping in youth athletes in particular at the Faculty of physical education, Charles University. So far, a master thesis affiliated with the project has been successfully completed and the result will be also published in a Czech peer reviewed journal. We expect that more master theses and dissertations on the topic of doping will be completed in the future. The results of the project will be included in the teaching at the faculty and the investigators of the project will continue their research efforts directed at doping in Czech adolescent athletes.

Conclusion

To conclude, the project was significant in several important aspects: 1) It represents the first Czech research project focusing specifically on doping in youth athletes. The results of the project provided both generalizable and in-depth findings regarding the prevalence of doping and doping related attitudes/intentions, identifying also some sub-groups of Czech adolescents who are at-risk of doping abuse. 2) The project approached the topic of doping in youth athletes from multiple perspectives, including motivational and qualitative. In this way, we enhanced the understanding of the processes related to doping in adolescents with policy and practice implications which may facilitate the anti-doping efforts in the Czech context and beyond in the future. 3) The project allowed us to introduce a psychological perspective on doping as a research topic at the Faculty of the physical education and sport. We expect that the psychological aspects of doping in youth will receive further research attention at the Faculty of physical education and sport with the investigators of the project having a key role as researchers and supervisors of other projects. 4) The project brought together academics,

policy makers and practitioners interested in anti-doping prevention from all over the Czech Republic. In this way, the results of the project directly impacted Czech anti-doping efforts and will continue having positive impact in the future.

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Appendix I. Conclusions of the conference "DOPING IN THE YOUTH SPORTS"

I. Doping, adolescence and society

1) Doping is not only a problem of the sport environment but it is related to the society as a whole.

2) Doping in youth is not only a bio-medical but also a psychological and social problem.

3) Attention must be paid not only to the adolescents participating in organized sports (through schools or sport associations) but also to adolescents who participate in unorganized sports or adolescents who use commercial facilities and institutions.

4) Doping in adolescents should be approached from a research perspective which must be complemented by subsequent evidence-based preventive interventions in families and school environments.

5) Following institutions should be considered as key actors in the anti-doping prevention:

   a) Organized sports (key sport organizations, sport associations, sport clubs, physical education unions) in which the prevention should be in the competence of coaches, teachers, doctors, officials and others.

   b) Schools which can influence athletes participating in both organized and unorganized sports. The anti-doping prevention should be included in regular curriculum but it could be also provided through specialized lectures, sporting events, parent's meetings and so on.

   c) Families (parents, grandparents) supporting the sport participation of children must exert their influence in the spirit of fair play and also be aware of the possible risks of doping abuse (not only health-related but also psychological and social).

d) Media usually inform about doping only in cases of doping scandals. Media should increasingly provide also factual information related to the risks of doping, especially in youth, which would be supportive of the anti-doping prevention.

II. Education

1) The educational curriculum of adolescents should include an introduction of possible negative health, psychological and social risks of doping in sports.

2) The education of physical education teachers, coaches, instructors and other pedagogical and managerial workers employed in sports should include more information about doping and anti-doping prevention as the current curriculum is insufficient in this regard.

3) The topic of doping in spots should be included in the curriculum at all levels of schooling (as a part of civic education or social science classes).

4) It is important to emphasize dual careers in elite adolescent athletes striving to become professional athletes. In this way, higher job security may weaken the tendency to use doping as a means for obtaining future financial security.

5) We consider sports as a unique environment that has a great educational potential and social potential in positively influencing the active lifestyles of all population groups.

III. Final recommendations

1) We appeal on increasing the coverage of doping-related issues, including the introduction of health and other risks of doping in the education of all workers (both educational and non-educational) working with adolescents.

2) When working with adolescents, the focus should be also on introduction of the negative health, psychological and social consequences of doping abuse in sports.

3) An educational anti-doping preventive program focusing on the doping abuse in leisure adolescent athletes should be created (especially focusing on adolescents in bodybuilding and fitness-related sports).

4) A national grant scheme focusing on an education of elite adolescent athletes should be supported.

5) We recommend emphasizing the responsibility of pedagogical (teachers, coaches, instructors) and non-pedagogical (doctors, group leaders) workers in the prepared law about the support of sport in the Czech Republic, in case they are found guilty of promoting or distributing illegal performance enhancing substances and methods to adolescents.

6) We consider necessary to emphasize the objectivity in the processes related to penalization of doping transgressions in all sports and adherence to the same anti-doping rules in different sports.

Appendix II. Quantitative questionnaire

DOTAZNÍK „JÁ A SPORT“

Obracíme se na Vás s prosbou o vyplnění tohoto dotazníku. Budeme se v něm dotazovat na různé aspekty Vašeho sportování. Některé části dotazníku jsou určeny pro všechny dotazované, jiné jsou určeny pouze pro ty, kteří sportují. Pokud u otázky není uvedeno jinak, kliknutím vyberte tu z nabízených možností, která podle Vás **nejlépe vystihuje Vaši situaci či Váš názor**.
Dotazník je **anonymní** a neobsahuje žádné otázky, které by umožnily Vás identifikovat.

SEKCE A: (Tuto část vyplňují všichni)

Odpovězte, prosím, na následující otázky týkající se Vaší osoby:

A1) Pohlaví: 1. muž 2. žena

A2) Věk: …….let ……..měsíců

A3) Nejvyšší ukončené vzdělání:
1. základní
2. vyučen/a
3. střední odborná škola bez maturity
4. střední odborná škola s maturitou
5. gymnázium

A4) V současné době:
1. navštěvuji základní školu
2. jsem v učebním poměru
3. navštěvuji střední odbornou školu
4. navštěvují gymnázium
5. navštěvuji vysokou školu
6. školu nenavštěvuji, jsem zaměstnaný
7. školu nenavštěvuji, jsem nezaměstnaný

A5) Absolvoval/a jste nebo stále navštěvujete školu se sportovním zaměřením?
1. ano 2. ne

A6) Jaké je nejvyšší dosažené vzdělání Vašich rodičů?

Otec:	Matka:
1. základní	1. základní
2. vyučen	2. vyučena
3. středoškolské bez maturity	3. středoškolské bez maturity
4. středoškolské s maturitou	4. středoškolské s maturitou
5. vysokoškolské	5. vysokoškolské

A7) Jak hodnotíte Vaši rodinu z hlediska její ekonomické situace? Jako:
1. chudou 2. spíše chudou 3. spíše bohatou 4. bohatou

A8) Věnovali se Vaši rodiče sportu?

Otec:	Matka:
1. ne	1. ne
2. ano, na rekreační úrovni (neúčastnil se pravidelných soutěží)	2. ano, na rekreační úrovni (neúčastnila se pravidelných soutěží)
3. ano, na výkonnostní úrovni (účastnil se pravidelných soutěží)	3. ano, na výkonnostní úrovni (účastnila se pravidelných soutěží)
4. ano, na vrcholové úrovni (byl členem národního reprezentačního výběru, účastnil se mezinárodních soutěží typu ME, MS, případně olympijských her)	4. ano, na vrcholové úrovni (byla členkou národního reprezentačního výběru, účastnila se mezinárodních soutěží typu ME, MS, případně olympijských her)

A9) Věnujete se Vy sám/sama aktivně sportu?
1. Ano, nejvíce se věnuji tomuto sportu: (uveďte jen jeden sport)
2. Ne

A10) Přibližně kolik hodin týdně se aktivně věnujete celkem sportu?
1. 0 hodin
2. 1-3 hodiny
5. 11-13 hodin
6. 14-16 hodin

3. 4-6 hodin
4. 7-10 hodin
7. 17-19 hodin
8. 20 a více hodin

A11) Na jaké úrovni se věnujete sportu?
1. nesportuji vůbec
2. na rekreační úrovni (sportuji, ale neúčastním se pravidelně soutěží)
3. na výkonnostní úrovni (účastním se pravidelně soutěží)
4. na vrcholové úrovni (jsem členem/členkou národního reprezentačního výběru, účastnil/a jsem se mezinárodních soutěží typu ME, MS, případně olympijských her)

A12) V procentech odhadněte, jaké úsilí vkládáte do svého sportu: ……%
(0% značí „vůbec se nesnažím", 100% značí "do svého sportu dávám úplně všechno")

SEKCE B: (Tuto část vyplňují pouze ti, kdo sportují na soutěžní úrovni, ostatní prosím přejděte k Sekci C)

Následujících pět otázek se týká pouze těch, kdo se sportu věnují na výkonnostní či vrcholové úrovni (tj. těch, kteří se účastní ve sportu pravidelných soutěží). Ostatní, prosím, pokračujte v Sekci C na následující straně.

B1) V kolika letech jste začal/a s pravidelnou sportovní přípravou? V ……..… letech

B2) V kolika letech jste se poprvé zúčastnil/a organizované soutěže? V ……. letech

B3) Umístil/a jste se někdy na 1. až 3. místě v organizované soutěži (označte pouze nejvyšší úroveň soutěže)?
1. ne
2. ano, na okresní úrovni
3. ano, na krajské úrovni
4. ano, na národní úrovni (mistrovství České republiky, celonárodní soutěže)
5. ano, na mezinárodní úrovni (ME, MS, evropské, světové poháry a podobně)

B4) V procentech odhadněte, jaké máte podle Vás předpoklady k dosažení úspěchu ve vrcholovém sportu:……%
(0% – značí „vůbec nemám předpoklady k úspěchu ve vrcholovém sportu", 100% - značí „mám všechny předpoklady k tomu, abych uspěl/a ve vrcholovém sportu")

B5) V procentech odhadněte, do jaké míry je podle Vás úspěch ve vrcholovém sportu podmíněn vrozeným talentem:……%
(0% – značí „vrozený talent vůbec nehraje roli, úspěch ve vrcholovém sportu je podmíněn pouze tréninkem", 100% - značí „úspěch ve vrcholovém sportu je zcela podmíněn vrozeným talentem")

SEKCE C: (Tuto část vyplňují všichni)

Lidé mají různé názory na doping. U následujících výroků vyjádřete, prosím, Váš názor na toto téma. **Dopingem je myšleno *užití jakéhokoliv prostředku či látky, jehož cílem je zvýšit uměle a neférově sportovní výkon***. Na uvedené škále vyznačte, do jaké míry s uvedenými výroky souhlasíte či nesouhlasíte:

C1) Legalizace dopingu by sportu prospěla.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C2) Doping je nezbytný, aby měl člověk šanci uspět v soutěži.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C3) Rizika dopingu se přeceňují.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C4) Rekreační drogy[1] poskytují motivaci trénovat a soutěžit na té nejvyšší úrovni.

[1] Rekreační droga je v uvedených případech chápána jako látka ovlivňující náladu či vědomí (například alkohol, marihuana nebo extáze) užívaná pro vyvolání příjemných pocitů či emocí.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C5) Sportovci by se měli cítit provinile, pokud porušují pravidla a dopují.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C6) Sportovci jsou pod tlakem užívat doping.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C7) Zdravotní problémy a zranění spojená s tvrdým tréninkem jsou stejně vážná jako zdravotní problémy související s dopingem.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C8) Média problematiku dopingu nepřiměřeně nafukují.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C9) Média by se měla méně věnovat dopingu.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C10) Sportovci nemají možnost jiné kariéry než ve sportu.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C11) Sportovci, kteří berou rekreační drogy, to dělají proto, že jim pomáhají ve sportu.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C12) Rekreační drogy pomáhají překonat nudu při tréninku.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C13) Doping nevyhnutelně patří k soutěžnímu sportu.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C14) Sportovci často ztrácí čas kvůli zraněním a doping jim může pomoci dohnat ztracený čas.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C15) Doping není podvádění, protože dopují všichni.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C16) Záležet by mělo pouze na podaném výkonu, ne na tom, jakým způsobem jej sportovci dosáhnou.

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C17) Je rozdíl mezi výhodou získanou dopingem a výhodami získanými užíváním nejnovějšího sportovního vybavení (jako jsou nové materiály a technologie).

1	2	3	4	5	6
Rozhodně nesouhlasím	Nesouhlasím	Spíše nesouhlasím	Spíše souhlasím	Souhlasím	Rozhodně souhlasím

C18) V procentech odhadněte, kolik sportovců na nejvyšší úrovni (tj. profesionálních sportovců, členů reprezentačních výběrů a podobně) podle Vás užívá doping s cílem zlepšit svůj sportovní výkon:…….%

C19) Byla vám někdy nabídnuta možnost užít podpůrnou látku/doping pro zlepšení výkonu (i v běžném životě mimo sport)?

1	2	3	4	5
Ne	Ano - jednou	Ano - několikrát	Ano - opakovaně	Ano-pravidelně

C20) Užíváte nebo užíval/a jste vy sám/sama někdy podpůrné látky/doping s cílem zlepšit svůj výkon (i v běžném životě mimo sport)?

1	2	3	4	5
Ne	Ano - jednou	Ano - několikrát	Ano - opakovaně	Ano-pravidelně

SEKCE D: (Tuto část vyplňují ti, kdo se věnují sportu v jakékoliv formě)

Co pro vás znamená úspěch ve sportu? Rádi bychom, abyste na uvedené škále zakroužkoval/a možnost, která nejlépe vystihuje vaše pocity. Nejsou zde správné ani špatné odpovědi.

Ve svém sportu zažívám nejsilněji pocit úspěchu, když…

D1) porazím ostatní.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D2) jsem jasně lepší.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D3) jsem nejlepší.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D4) se opravdu snažím.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D5) se hodně zlepším.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D6) se mi daří víc než ostatním.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D7) dosáhnu cíle, který jsem si stanovil.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D8) překonám obtíže.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D9) uspěji v něčem, co mi dříve nešlo.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D10) se mi podaří něco, co ostatní nezvládnou.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

D11) předvedu ostatním, že jsem nejlepší.

1	2	3	4	5
Rozhodně	Nesouhlasím	Ani nesouhlasím,	Souhlasím	Rozhodně

nesouhlasím		ani souhlasím		souhlasím

D12) podám nejlepší výkon, jakého jsem schopen.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

<u>SEKCE E: (Tuto část vyplňují ti, kteří se věnují sportu v jakékoliv formě, soutěžní i rekreační)</u>

Nyní se zamyslete, kdy jste se při sportu cítili velmi sebejistě a jaké věci v těchto situacích zvyšovaly vaše sebevědomí.

Obvykle se při sportu cítím sebejistě, když…

E1) si osvojím novou dovednost.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E2) zvítězím.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E3) se cítím dobře ohledně své váhy.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E4) zlepším svůj výkon v nějaké dovednosti.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E5) prokážu, že jsem lepší než ostatní.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E6) mám pocit, že vypadám dobře.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E7) zlepším své dovednosti.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E8) předvedu své schopnosti tím, že vyhraji nebo se dobře umístím na soutěži.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E9) mám pocit, že moje tělo vypadá dobře

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E10) rozšířím dovednosti, které jsem schopný/á provést.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E11) vím, že dokážu překonat své soupeře.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E12) si rozvinu si novou dovednost a zlepším se.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E13) prokážu, že jsem lepší než moji soupeři.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

E14) ukážu, že jsem jeden/ jedna z nejlepších.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

Nyní si představte následující situace týkající se dopingu ve sportu a uveďte**, jak byste se v dané situaci zachoval/a.** Dopingem je myšleno ***užití jakéhokoliv prostředku či látky, jehož cílem je zvýšit uměle a neférově sportovní výkon.***

E15) V případě, že by vám šlo o důležité vítězství, vzal/a byste si doping při absolutní jistotě, že to nebude zjištěno?

1	2	3	4	5	6
Rozhodně ne	Ne	Spíše ne	Spíše ano	Ano	Rozhodně ano

E16) Vzal/a byste si dopingovou látku, která není zakázaná, ale mohla by mít nežádoucí zdravotní důsledky?

1	2	3	4	5	6
Rozhodně ne	Ne	Spíše ne	Spíše ano	Ano	Rozhodně ano

E17) Kdybyste si byl /a jist/a, že vám doping neublíží na zdraví a pomůže k úspěchu, použil/a byste jej?

1	2	3	4	5	6
Rozhodně ne	Ne	Spíše ne	Spíše ano	Ano	Rozhodně ano

E18) Vzal/a byste si doping pro zvýšení výkonu, kdybyste věděl/a že vám to pomůže k životnímu úspěchu, zisku olympijské medaile?

1	2	3	4	5	6
Rozhodně ne	Ne	Spíše ne	Spíše ano	Ano	Rozhodně ano

E19) V procentech odhadněte, kolik sportovců *účastnících se soutěží ve Vašem sportu* podle Vás užívá doping:……%

E20) Byla vám někdy nabídnuta možnost užít doping pro zlepšení sportovního výkonu?

1	2	3	4	5
Ne	Ano - jednou	Ano - několikrát	Ano - opakovaně	Ano-pravidelně

E21) Užíváte nebo užíval/a jste vy sám/sama někdy doping s cílem zlepšit svůj sportovní výkon?

1	2	3	4	5
Ne	Ano - jednou	Ano - několikrát	Ano - opakovaně	Ano-pravidelně

Sekce F: (Tuto část vyplňují ti, kteří se věnují sportu v jakékoliv formě, soutěžní i rekreační)

Nyní Vám předložíme výroky týkající se Vaší účasti ve sportu. V níže uvedených výrocích prosím vyznačte, do jaké míry každý výrok odpovídá tomu, proč se v současné době věnujete vašemu sportu.

Proč se věnujete Vašemu sportu?

F1) Kvůli vzrušení, které zažívám, když jsem opravdu ponořený/á do této činnosti.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F2) Protože to je součást toho, jak jsem se rozhodl/a žít svůj život.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F3) Protože je to dobrý způsob, jak se naučit spoustu věcí, které by mi mohly být užitečné v dalších oblastech mého života.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F4) Protože si mě díky tomu váží lidé v mém okolí.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F5) Už ani nevím, mám pocit, že nejsem schopný/á v tomto sportu uspět.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F6) Protože cítím velké osobní uspokojení, když v tréninku zvládnu nějaké obtížné techniky.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F7) Protože je naprosto nezbytné sportovat, pokud chce být člověk ve formě.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F8) Protože je to jeden z nejlepších způsobů, které jsem si vybral/a, abych rozvinul/a další aspekty svého života.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F9) Protože je to součást mě samotné/ho.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F10) Protože musím sportovat, abych se před sebou cítil/a dobře.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F11) Kvůli prestiži plynoucí z toho, že jsem sportovec/sportovkyně.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F12) Nevím, jestli chci ještě pokračovat a investovat tolik času a úsilí do mého sportu.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F13) Protože účast v mém sportu je v souladu s mými nejvnitřnějšími principy.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F14) Pro uspokojení, které zažívám, když zdokonaluji své schopnosti.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F15) Protože to je jeden z nejlepších způsobů, jak udržovat dobré vztahy s mými přáteli.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F16) Protože bych se cítil/a špatně, kdybych svému sportu nevěnoval/a čas.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F17) Samotné/mu už mi to není jasné, nemyslím si, že moje místo je ve sportu.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F18) Pro potěšení z objevování nových strategií, jak podat výkon.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F19) Pro materiální a společenské výhody plynoucí z toho, že jsem sportovec/ sportovkyně.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F20) Protože tvrdým tréninkem vylepším svůj výkon.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F21) Protože účast v mém sportu je neoddělitelná součást mého života.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F22) Zdá se mi, že už mě můj sport nebaví tak jako dřív.

1	2	3	4	5

Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F23) Protože musím sportovat pravidelně.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

F24) Abych ostatním ukázal/a, jak jsem dobrý/á ve svém sportu.

1	2	3	4	5
Vůbec neodpovídá	Odpovídá jen trochu	Odpovídá	Odpovídá značně	Odpovídá přesně

Sekce G: (Tuto část vyplňují ti, kteří se věnují sportu v jakékoliv formě, soutěžní i rekreační)

Níže jsou uvedeny některé výroky, které mohou lidé říkat o podvádění a fair play ve sportu. U následujících výroků vyjádřete, prosím, do jaké míry s uvedenými výroky souhlasíte či nesouhlasíte. Některé z uvedených výroků se od sebe příliš neliší, proto buďte pozorní.

G1) Je v pořádku podvádět, pokud o tom nikdo neví.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G2) Podváděl/a bych, kdybych si myslel/a, že mi to pomůže vyhrát.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G3) Když podvádí druzí lidé, tak já můžu taky.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G4) Podvádím, když vím, že mi to projde.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G5) Když mám možnost, tak oklamu rozhodčí.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G6) Vždycky hraji podle pravidel.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G7) Podváděl/a bych, kdybych si myslel/a, že to mému týmu pomůže vyhrát.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G8) Pokud vyhraješ podle pravidel, je to lepší pocit, než když vyhraješ nečestně.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G9) Je potřeba myslet i na jiné věci, nejen na vítězství.

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G10) Rozčilují mě lidé, kteří se snaží "vyhrát za každou cenu".

1	2	3	4	5
Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

G11) Vítězství je to jediné na čem záleží.

1	2	3	4	5

Rozhodně nesouhlasím	Nesouhlasím	Ani nesouhlasím, ani souhlasím	Souhlasím	Rozhodně souhlasím

Sekce H: (Tuto část vyplňují pouze ti, kteří se věnují sportu a účastní soutěží na výkonnostní a vrcholové úrovni).

Zamyslete se nyní, kdy jste se při soutěži ve vašem sportu cítili velmi sebejistě a jaké věci v těchto situacích zvyšovaly vaše sebevědomí.

Obvykle se při soutěži ve svém sportu cítím sebejistě, když…

H1) dostávám pozitivní zpětnou vazbu od ostatních členů týmu.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H2) vím, že mám podporu ostatních.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H3) mi ostatní říkají, že mi věří.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H4) mě trenéři nebo rodina povzbuzují.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H5) dostávám pozitivní zpětnou vazbu od trenérů.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H6) obdržím podporu nebo povzbuzení.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H7) věřím ve schopnosti mého trenéra/trenérky.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H8) držím se určitých rituálů.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H9) cítím se v daném prostředí v pohodě.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H10) vidím, že se mi začíná dařit.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

H11) mám pocit, že se všechno daří.

1	2	3	4	5	6	7
Vůbec není důležité						Je nejdůležitější

Děkujeme za vyplnění dotazníku!
Tým pracovníků Fakulty tělesné výchovy a sportu

Appendix III. Qualitative interview schedule

1) Úvod

Představení se (nabídnout tykání).

Představení projektu:
V následujícím rozhovoru se tě budu ptát na různé aspekty tvého sportování. Budu se ptát na tvůj sportovní vývoj, proč se věnuješ sportu a také na tvoje postoje k některým kontroverzním jevům ve sportu, jako je podvádění či doping. Zajímat mě budou tvoje osobní zkušenosti a názory a chtěl/a bych tě požádat o co největší otevřenost. Na otázky nejsou žádné správné ani špatné odpovědi.

Chtěl/a bych zdůraznit, že tento rozhovor je zcela anonymní, za žádných okolností nebudeš ty ani nikdo, koho zmíníš, žádným způsobem identifikován.

Současně bych tě chtěl požádat o souhlas s tím, abych si rozhovor nahrál/a na diktafon. Je to nutné z hlediska zpracování a nahrávka nebude za žádných okolností k dispozici nikomu jinému než členům výzkumného týmu. Souhlasíš za těchto podmínek s nahráním rozhovoru? (dát podepsat souhlas, zapnout diktafon)

Nejdříve bych tě chtěl požádat o stručné představení tebe a tvého sportování. (Projít úvodní dotazník)

2) Sportovní vývoj (Rodina, trenéři, sportovní prostředí, přizpůsobovat formulace konkrétní situaci respondenta/respondentky):

- Popiš, jak probíhal tvůj sportovní vývoj od úplných počátků až do současnosti.
- (Otevírací otázka: Jak ses dostal ke sportu? Doptávat se: Jak to bylo dál? (Případně dále navázat: Jak ses dostal [ke svému hlavnímu sportu]).
- Co považuješ za důležité momenty tvé sportovní dráhy. Proč myslíš, že jsou důležité?
- Co považuješ za svůj největší úspěch ve sportu? (Co považuješ za svůj největší neúspěch?) Proč?
- Jak ti šel sport ve srovnání s vrstevníky? Proč myslíš, že to tak bylo?
- Kdo podle tebe nejvíc ovlivnil tvou sportovní dráhu? Jak?
- Máš nějaký sportovní vzor? Co na něm obdivuješ?
- Jak se na tvé sportovní dráze podíleli rodiče? Jakým způsobem ovlivňovali/ovlivňují tvoji sportovní dráhu? Věnují se sami sportu? Na jaké úrovni? Jak bys charakterizoval jejich přístup? Co podle tebe považují u tvé sportovní dráhy za důležité?
- Jak bys charakterizoval přístup svých trenérů/trenérek? Co ti vyhovovalo na jejich přístupu a co ti nevyhovovalo? Jak myslíš, že ovlivnili tvou sportovní dráhu?
- Byli nějací další lidé (například učitelé či vrstevníci), kteří podle tebe významně ovlivnili tvou sportovní dráhu? Jak?

3) Současný stav a budoucnost (Sportovní prostředí, Motivace)

- Jak vypadá v současné době tvůj trénink?
- Zkus se zamyslet nad tím, proč se věnuješ sportu (fitness)? Proč se věnuješ právě [svému hlavnímu sportu]? Co ti sport přináší? Co ti sport bere?
- Čeho bys chtěl ve sportu (fitness) dosáhnout? Jak myslíš, že se bude dále vyvíjet tvoje sportovní kariéra?
- Co se ti na tvém sportování líbí? Je něco, co se ti nelíbí? Proč?
- Jaká bys popsal/a atmosféru v klubu/oddíle/… kde trénuješ? Co ti zde vyhovovalo a co ti nevyhovovalo? Proč?
- Co pro tebe znamená úspěch a neúspěch ve tvém sportu?
- Uvažuješ nebo uvažoval/a jsi někdy, že bys se sportem skončil/a? Proč?

4) Důvody odchodu ze sportu (Místo bodu 3, pokud by daný člověk už nesportoval)
- Proč jsi skončil se [svým sportem]?
- Jak tvůj odchod ze sportu probíhal? Co (Kdo) se na něm podílel/o? Jak?
- Zkus se zamyslet nad tím, proč ses sportu věnoval/a? Proč ses věnoval/a právě [svému hlavnímu sportu]? Co ti sport přinesl? Co ti sport vzal? Čeho jsi chtěl ve sportu dosáhnout?
- Jak bys zhodnotil/a podmínky, které jsi měl/a ve sportu? S čím jsi byl/a spokojen/a? S čím jsi byl/a nespokojen/a? Proč?
- Jaká byla atmosféra v klubu/oddíle/… kde jsi trénovala? Co ti zde vyhovovalo a co ti nevyhovovalo? Proč?
- Co pro tebe znamenal úspěch a neúspěch ve tvém sportování? Jak jsi je prožíval/a?
- Co myslíš, že by se muselo stát, abys u sportu zůstal/a?

5) Podvádění

- Setkal/a ses někdy s tím, že někdo porušoval pravidla ve sportu? Popiš, o co se jednalo. Co sis o tom myslel/a?
- Co si představuješ pod pojmem podvádění ve sportu? Jakým způsobem se podle tebe ve sportu podvádí? Jak často se podle tebe podvádění vyskytuje? V jakých sportech? Kdo podle tebe nejvíce podvádí? Podváděl někdo ve tvém sportovním okolí?
- Vyskytla se při tvém sportování někdy možnost, abys podváděl/a? Jak jsi se zachovala?
- Chtěl po tobě někdy někdo, abys podváděl/a ve sportu? O co se jednalo? Přistoupil/a jsi na to? Proč ano/ne?
- Jak moc je pro tebe důležité dosáhnout svého sportovního cíle? Byl/a bys ochotna porušit pravidla či podvádět, kdyby ti to pomohlo uspět? Za jakých podmínek?

6) Postoje k dopingu

- Co si představíš pod slovem doping? Co podle tebe patří mezi doping?
- Jak často se podle tebe vyskytuje doping ve sportu? Jaká je v tomto ohledu situace ve [tvém sportu]? Proč si to myslíš?
- Znáš osobně někoho, o kom si myslíš že dopoval/dopuje? Co je to za člověka? Proč si myslíš, že to dělá? Co si o tom myslíš?

- (Víš o tom něco bližšího? O jakou formu dopingu se jednalo? Jak často dopoval? Kde doping získal? Jaké měl podle tebe doping dopad na jeho/její sportovní výkony? Měl u něj/ní podle tebe doping nějaké dopady na zdraví? Jak jeho/její doping vnímali lidé v jeho/jejím okolí?)
- Myslíš, že má sportovec v dnešní době šanci uspět bez dopingu na nejvyšší úrovni? Myslíš, že jsou sportovci pod tlakem užívat doping?
- Jaká jsou podle tebe rizika dopingu?
- Myslíš, že užití dopingu může být v některých případech oprávněné? V jakých? Proč si to myslíš?
- Uvažoval/a jsi ty sám/sama, že bys mohl/a někdy použít nějakou formu dopingu? Jakou? Proč ano/ne?
- Vzal/a by sis doping v případě, že by ti šlo o důležité vítězství a byl/a jsi jistá, že to nikdy nikdo nezjistí? Proč ano/ne?
- Vzal/a by sis doping v případě, že bys věděl/a že ti neublíží na zdraví a pomůže k úspěchu? Proč ano/ne?
- Vzal/a by sis látku, která by ti pomohla k úspěchu, není zakázaná, ale může mít nežádoucí zdravotní účinky? Proč ano/ne?

7) Doping
- Máš ty sám/sama nějako osobní zkušenost v této oblasti? Mohl/a bys mi o tom říct něco bližšího? (Pokud ne, tak přestoupit k bodu 8).

- (Pokud je předem jasné, že zkušenost měl/měla, tak formulace Mohl/a bys mi říct něco bližšího o tvojí zkušenosti v této oblasti?)
- co se přesně jednalo? Mohl bys popsat, jak to probíhalo?
- Jak jsi [doping] získal/a?
- Proč jsi se k užívání rozhodl/a?
- Splnilo užití dopingu tvá očekávání? Jaké byly podle tebe pozitivní/negativní efekty užívání?
- Věděl o tom někdo další? Jaké byly reakce okolí? Jak myslíš, že by se na to dívali druzí lidé (rodiče, trenéři, přátelé, ostatní sportovci)?
- Přistoupil/a bys k užití dopingu znovu? Proč? (Proč ne?)

8) (pokud daný člověk doping neužíval) Nabídl ti někdy někdo možnost dopingu? (Pokud ne, tak ukončení.)

- koho se jednalo? O jakou formu dopingu se jednalo?
- Popiš prosím situaci, za které ti doping nabízel? Proč myslíš, že ti doping nabízel? Proč jsi na tuto nabídku nepřistoupil/a? Co by se muselo stát, abys na ni přistoupila?

Ukončení, poděkování.

Appendix IV. Informed consent for the participation in qualitative interviews

INFORMOVANÝ SOUHLAS pro účast ve výzkumu

Název: Doping in the Czech adolescents: Prevalence, correlates and experiences
Pracoviště:Fakulta tělesné výchovy a sportu, Universita Karlova v Praze
Řešitel projektu: prof. Pavel Slepička
Členové řešitelského týmu: Dr. Jiří Mudrák, doc. Irena Slepičková, Mgr. Radka Hlaváčková, Mgr. Kateřina Novotná
Adresa: Jose Martího 31, Praha 6
E-mail: mudrak@ftvs.cuni.cz

Děkujeme za tvou ochotu účastnit se výzkumu!

Účast v tomto výzkumu je zcela **dobrovolná**. Svou účast můžeš odmítnout nebo ji kdykoliv v průběhu přerušit.

Jaké jsou cíle výzkumu?

Cílem tohoto výzkumu je blíže porozumět zkušenosti sportujících mladých lidí, jejich motivaci ke sportu a postojům k některým kontroverzním jevům ve sportu, jako je porušování pravidel či doping.

Kdo se účastní výzkumu?

Této fáze výzkumu se účastní přibližně 50 mladých sportovců a sportovkyň a budou s nimi provedeny rozhovory týkající se výše uvedených témat.

Jak dlouho bude trvat tvoje účast ve výzkumu?

Tvoje účast ve výzkumu zahrnuje **1 rozhovor** v rozsahu **60 - 90 minut**. Délku rozhovoru přizpůsobíme Tvým časovým možnostem.

Co bude následovat, pokud se výzkumu rozhodnete zúčastnit?

Pokud se rozhodneš našeho výzkumu účastnit, některý ze členů našeho řešitelského týmu s Tebou provede rozhovor týkající se tvého sportovního vývoje, motivace ke sportování a postojů a zkušeností souvisejících s porušováním pravidel a dopingem ve sportu.

Abychom mohli přesně zaznamenat Tvoje výroky, rádi bychom rozhovor nahráli na diktafon. Nahrávka bude sloužit pouze k přepisu rozhovoru do textové podoby a bude okamžitě po přepisu trvale vymazána. Přepis rozhovoru bude důkladně anonymizován, tj. z přepisu rozhovoru budou odstraněny všechny informace, které by mohly identifikovat Tebe nebo kohokoliv, koho zmíníš. Nahrávání na diktafon můžeš odmítnout, a to jak nahrávání celého rozhovoru, tak jeho úseků. V takovém případě si osoba realizující rozhovor bude dělat pouze písemné poznámky.

Vyznač prosím svou volbu týkající se nahrávání rozhovoru:

_____ **Souhlasím** s nahráváním rozhovoru na diktafon.

_____ **Nesouhlasím** s nahráváním rozhovoru na diktafon.

Jak budou mnou poskytnuté informace chráněny?

Všechny Tvoje odpovědi v rozhovoru jsou **přísně důvěrné**. Aby byla ochrana Vašich dat co nejvyšší, provedeme následující opatření:

- Ve výzkumu nebudeme zaznamenávat žádné informace, které by mohly vést k Tvojí identifikaci nebo k identifikaci lidí, které zmíníš. Rozhovor bude zaznamenán pouze pod **pseudonymem** a Tvoje jméno ani jména ostatních lidí se v žádném záznamu neobjeví.

- Přepis nahrávky bude důkladně **anonymizován**, tj. veškeré případné identifikační údaje budou vymazány. Po přepisu bude nahrávka trvale vymazána. Analýzu dat budeme provádět již pouze na anonymizovaných přepisech.

- Je samozřejmostí, že Tvoje jméno ani jména jiných lidí se neobjeví v žádném publikačním výstupu.

Máš další otázky týkající se výzkumu?

V průběhu celého výzkumu máš právo se ptát a dostat odpověď na jakékoliv otázky týkající se výzkumu (s výjimkou otázek, které by ohrozily anonymitu ostatních účastníků). Pokud budeš mít jakékoliv dotazy, obrať se s nimi, prosím, na výše uvedený kontakt.

Souhlas s účastí ve výzkumu:

Prohlašuji, že jsem přečetl/a všechny výše uvedené informace o výzkumu. Na základě poskytnutých informací dobrovolně souhlasím se svou účastí v tomto výzkumu.

_____ _____
Podpis účastníka/účastnice výzkumu Datum

_____ _____
Podpis člena řešitelského týmu předkládajícího informovaný souhlas Datum

_____
Jméno člena řešitelského týmu předkládajícího informovaný souhlas

II. STATEMENT OF EXPENDITURE

GENERAL SUMMARY OF PROJECT EXPENDITURE

EXPENSE CATEGORY	BUDGET in USD	BUDGET revised in USD	BUDGET revised in CZK	ACTUAL SPENT In USD	ACTUAL SPENT in CZK	UNSPENT in USD	UNSPENT in CZK
I. Research Assistants	5000	**4000**	**97486,40**	3999,98	97486	0,02	0,40
II. Equipment	1000	**1000**	**24371,60**	894,98	21812	105,02	2559,60
III. Supplies	6500	**7500**	**182787**	7828,85	190801,69	-328,85	-8014,69
IV. Travel expenses	1900	1900	**46306,04**	1676,46	**40858**	223,43	5445
V. Overhead	3600	**3600**	**87737,76**	3599,09	87731,11	0,27	6,65
VI. Amounts received from other sources	0	**0**	**0**	0	0	0	0
TOTAL	**18000**	**18000**	**438688,80**	**18000**	**438688,8**	**-0,11***	**-3,04***

Note:

1) Rate used in all tables: 1USD= 24,3716 CZK

2) * differences caused by rounding

The budget had to be revised the research team. The reason for this revision was given by the necessary adjustment of working plan for smooth running of the second year of the project.

I. RESEARCH ASSISTANTS

Stipend (scholarship)

No. of document in FPES accounting	Name of assistant	Spent in CZK	Spent in USD
1445	Hlaváčková	15000	615,47
1446	Novotná	15000	615,47
3562	Hlaváčková	15000	615,47
3563	Novotná	15000	615,47
5630	Hlaváčková	18743	769,05
5631	Novotná	18743	769,05
TOTAL		**97486**	**3999,98**

Accounting Department of Faculty of Physical Education and Sport, Charles University in Prague, confirms total payment 97486,00 CZK i.e. 3999,98 USD for scholarship.

II. EQUIPMENT

Attached 5 pages with invoices and/or internal forms

No. of document in FPES accounting	No. of invoice	Type of item	Spent in CZK	Spent in USD
	4160900	PC Lenovo	17999	738,52
1092	2161404488	ALZA – SAMSUNG CLT K406S	2586	106,11
1889		Electromaterial	1227	50,35
TOTAL			**21812**	**894,98**

III. Supplies

Attached 26 pages with invoices and/or internal forms

No. of document in FPES accounting	No. of invoice	Type of item	Spent in CZK	Spent in USD
	6160007	Books - Karolinum	591	24,25
910		Office stationery	2168	88,95
	160074	Translation Rogalewicz	8603	352,99
	3160230	KubaLibri books	18381	754,19
1592		Book publishing – Conference proceedings	9500	389,80
1731	10162080	NBServis - small material	2259	92,69
1732	10162014	NBServis – small material	1189	48,78
1733	Z8FR88TRJ51W	Dropbox service	2743	112,55
	1/2016	Translation Zábrodská	9990	409,90
	336	Office stationery for printer	12169	499,31
	397	Office stationery for printer	16326	669,88
	160096	Translation Rogalewicz	11997	492,25
	BRUSTU-792-1025044933	American Journal Experts (502USD)	12472,69	511,77
2055	2163013145	Phone equipment	219	8,98
2055		Office stationery	2532	103,89
	2/2016	Translation Zábrodská	19610	804,63
	242/2016	Consulting and legal editing	21780	893,66
	PAB000034	PLOS	38272	1589,02
TOTAL			**190801,69**	**7828,85**

IV. Travel expenses

Attached 12 travel documents by following list

No. of document in FPES accounting	Travel expenses for person	Spent in CZK	Spent in USD
769	Slepičková	5262	215,92
768	Slepička	378	15,51
1091	Slepičková	438	17,96
1100	Slepička	7420	304,46
1856	Slepičková	2152	88,31
1857	Slepičková	249	10,22
1918	Slepička	11363	466,27
2005	Slepičková	1580	64,83
2084	Slepička	5396	221,41
2085	Slepičková	402	16,49
2128	Slepičková	1970	80,83
2174	Slepička	4248	174,31
TOTAL		**40858**	**1676,46**

V. OVERHEAD

Overhead	**Spent in CZK**	**Spent in USD**
Project promotion, phone calls, bank taxes, other project support activities	87731,11	3599,09
TOTAL	**87731,11**	**3599,09**