



Being a fair sportsman

Ethical decision-making as a
chance for doping prevention?



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Final Report for the World Anti Doping Agency
Social Science Research Grant (2008-2011)

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Executive Summary

Background

Doping is becoming an increasing problem in elite sports, leading to more interest in anti-doping and prevention programs. However, current doping prevention programs that primarily involve pedagogical education in youth have not shown to be very effective (for a review see Backhouse, McKenna & Patterson, 2009). This study therefore focuses on a new sport psychological approach to doping prevention by targeting the individual ethical reasoning and the resulting decision-making process. The project aims to analyze if ethical training programs adapted to the field of sports and aimed at enhancing ethical competencies can change athletes' moral judgment abilities and attitudes toward doping. The effectiveness of an online doping prevention and ethical training program was evaluated in comparison to standard anti-doping education material. In order to test this, ethical dilemmas based on different ethical climates of sport contexts were presented. The athletes were confronted with dilemma situations in which they needed to create, evaluate, and rank arguments for and against the decision to dope. Through this reflective process the athletes were supposed to learn how they could personally (cognitively at least) resolve the doping situation, enabling them to make reflected decisions in the future. Two experimental groups (ethical decision making training vs. standard education/knowledge transfer) were compared with a waiting-control group in regard to moral judgment abilities and doping attitudes. Effects of a combined approach, in which elements of the ethical decision-making training were amended with standard knowledge transfer, were analyzed in a separate follow-up study.

The assumptions were that

- (1) ethical decision-making training would increase moral judgment abilities in adolescent athletes, whereas a classical knowledge-based training will not.
- (2) ethical decision-making training would change attitudes towards doping whereas knowledge transfer (standard anti-doping education) would not.

Methods

The sample was comprised of 69 young athletes aged (n=30 ethical-decision making training, n= 22 traditional knowledge training, n = 17 control) who were willing to complete the entire training program. Another 22 athletes agreed to participate in the evaluation study of potential effects of a combined training approach.

Training interventions

The ethical decision-making training was comprised of six 30-minute online sessions of increasing difficulty in which the participants had to work through a total of 18 ethical dilemmas related to doping in youth sports. The construction of the dilemmas is based on Lind's (2009) Konstanz Dilemma Discussion Method (KDDM) and therefore founded in Kohlberg's stages of moral development (1964). The standard education program (knowledge transfer) was also conducted in six online sessions of comparable length to the ethical training and its content was excerpted from the "High Five" brochure, the doping prevention program of the German Anti Doping Agency (NADA, 2010). The post-hoc combined training sessions included three sessions from each of the other two trainings.

Design of the evaluation study

The evaluation study was performed in a controlled pre- and post measurement design (two-week interval). Participants were randomly assigned to either the ethical decision-making training or the standard education/knowledge transfer group. Participants for a no-treatment control group and for the combined training group were recruited separately and not allocated randomly.

Instruments

Questionnaires were administered to measure the effects of the trainings on doping attitude (PEAS; Petroczi & Aidman, 2009) and moral judgment abilities (MJT; Lind, 2009). A measure of ethical climate (ECQ; Victor & Cullen, 1988) was included in order to statistically control (analysis of covariance) for this environmental variable.

Results

The results of the evaluation study indicate that the ethical training significantly changed explicit doping attitudes as measured by the PEAS (Petroczi & Aidman, 2009) while no change in attitude could be measured in either the group who completed the standard education/knowledge transfer program, or the combined training or the control group. A change in moral judgment abilities could not be detected in any of the groups. Both findings were unaffected by the ethical climate surrounding the participants in their sport training groups.

Conclusion

Only the ethical decision-making training was able to change stereotypical answering behavior in relation to doping attitudes. No significant changes could be observed in any of the other training conditions. The PEAS results before as well as after the ethical decision-making training indicate a negative attitude towards doping. But only after this type of training do athletes seem to reflect on the questionnaire items more deeply and thoroughly, which is indicated by more answering variation (“strictly agree/disagree” towards “agree/disagree”). An explanation for the missing effects of a combined approach might be that three ethical decision-making sessions are not sufficient in order to be effective.

Future Perspectives

The ethical decision-making training is available in German as well as in a translated English version. Further translations in order to secure more empirical evaluations of this program’s effects are highly recommended. We experienced a large drop-out rate of participants after the first few training sessions, limiting the statistical power of the study. Future research should further adopt additional measures for assessing doping behaviour that go beyond rating explicitly stated items in favour of or against doping in a self-report questionnaire. Self-report questionnaires might be affected by strategical responding.

Introduction

Most people in Western societies believe that participation in sport has pedagogical value (cf. Arnold, 1994; Arvaniti, 2006). However, this belief conflicts with the goal of winning at all costs, which is also an integral part of modern high-performance sports (see Volkwein, 1995). The World Anti-Doping Agency (WADA) defines the *spirit of sport* as “the celebration of the human spirit, body and mind which is characterized by the following values: ethics, fair play and honesty, health, excellence in performance, character and education, fun and joy, teamwork, dedication and commitment, respect for rules and laws, respect for self and other participants, courage as well as community and solidarity” (WADA 2009, 14). The *spirit of sport* embodies an ideal – perhaps a moral principle (Foot & Harrison, 1954) – which especially young athletes should be encouraged to seek. But this pursuit of a moral standard involves more people than just the athletes themselves. Contextual factors such as the pressure to win create a “sticky situation of sportsmanship” (May 2001, 372), so that winning can become the highest and maybe also the only value for young athletes. In this case other personal values are subordinated to the central goal of winning (see Pilz, 1995; Kavussanu & Roberts, 2001). This dilemma of wanting to win at all costs can lead to deviant behavior such as the consumption of illegal performance enhancing substances (doping).

What is doping?

According to WADA’s most recent definition, doping incorporates both a negative list of banned substances and a description of various behaviors related to them. The WADA formulated eight anti-doping rules (WADA, 2009). These rules describe, within bounds, how violations are penalized. The detection of a forbidden substance or method constitutes a direct violation of the doping rules, and the attempt to take, the possession of, and the circulation of doping substances are all regarded as offenses. Moreover, the WADA counts it an offense when a doping control is refused or dates for a control are not met. The manipulation of doping controls presents an offense against the anti-doping rules, as does any attempt to give an athlete forbidden substances or to try out forbidden methods on him or her (i.e., third-party involvement). The WADA annually specifies which substances and methods are forbidden in the respective year. Doping represents the abuse of performance enhancing substances and methods and includes all related actions.

Laure (e.g., 1997; 2000) translates doping using the term *conduite dopante* (doping behavior), a specific behavior that is shown in many aspects of life. This doping behavior encompasses all actions in connection with the consumption of performance enhancing substances (Laure, 1997). More precisely, *conduite dopante* refers to an individual's disposition that perhaps is better described as a *doping mentality* (Arndt, Singler & Treutlein, 2004). This comprehensive construct demands a theoretical description that is more encompassing than mere intention or a pattern of behavior. Various studies of addiction have shown that value-orientations have an effect on drug use (Brook & Whitehead, 1983; Castro, Stein & Bentler, 2009). The existing definition of doping is based on behaviors in connection with the legal or illegal use of drugs to enhance or maintain performance (Laure, 2002; Favre & Laure, 2002). This definition, however, neglects the fact that attitudes or intentions for a certain behavior can exist but do not necessarily immediately manifest themselves in actual behavior (e.g., Sheeran, 2002). The simultaneous existence of individual social-cognitive dispositions (Sniehotta, Scholz & Schwarzer, 2005) and situational opportunities (Ajzen, 1991) increases the probability that the behavior will occur. But it is a fact that individual predispositions for such a behavior exist (e.g., Tsorbatzoudis, 2009). Therefore, it is incomplete to define doping solely as an exhibited behavior. The underlying values and processes leading to this behavior must be taken into consideration as well.

A period during which personality characteristics and attitudes develop is adolescence. Therefore this period is suitable for programs that aim at enhancing personality development and instilling moral values in order to enhance ethical decision-making.

Why adolescents?

Adolescence, the decade between approximately one's 11th and 21st birthday, is often described as a time of turmoil, a time when power conflicts with parents develop, a time characterized by continuously changing relations to the peer environment (Oerter & Dreher, 2005). Following Erikson (1950) the main task of adolescence is to find one's identity and unity by exploring the values, morals and norms of society. By orientating oneself towards the grown-up world, one forms the "self" and takes a role in society. Furthermore, adolescence is the best period to develop dialectical reasoning (Darwin, 1871; Lind, 2009) and a time when young adults are receptive to moral and ethical education (Bette & Schimank, 1995). McNamee (2009, 115) points out that even though young athletes' self-determination grows during adolescence, they are still "vulnerable to

certain controlling influences that may undermine their rational and autonomous decision making.” Thus this time period is important for helping them understand the consequences of their self-determined decisions. And one last reason for targeting prevention programs at adolescents is of a very practical nature. Adolescents are much more easily accessible than sub-culturally organized elite sport groups.

Doping prevention programs for adolescents

For the above mentioned reasons most doping prevention programs target adolescents. The two most well-known US-American prevention programs are ATLAS (Athletes Training and Learning to Avoid Stereoids) and ATHENA (Athletes Targeting Healthy Exercise & Nutrition Alternatives) by Goldberg and Elliot (2005). In these programs an educated supervisor leads eight to ten 45 minutes sessions in which via role-playing, group work and interactive practice knowledge about anabolics, nutritional supplements and alcohol is taught. Additionally, the young athletes targeted by this method are expected to learn how to boost performance by natural means, such as nutrition. Other European prevention programs are “High Five” (Germany), “Mamma Parliamo di doping” (Italy), “100% Me” (Great Britain), “Be Fair, Play True” (Austria), “Cool and Clean” and “Real Winner” (Switzerland).

Doping prevention and other preventions programs (drugs, alcohol, AIDS, etc.) classically take the form of a knowledge-based approach (Hanson, 2009; Backhouse, et al., 2009). The basic idea behind such training is that if there is enough information on the risks and dangers of the deviant behavior, then this behavior will recede (Ajzen, 1991). The focus of most prevention programs is on conveying necessary knowledge in order to change doping attitudes and/or decrease the intention to dope (e.g., Goldberg et al., 2000; Laure & Lecerf, 2002).

Criticism of existing doping prevention programs

The current doping prevention programs described above that primarily involve pedagogical education in youth are being criticized for a number of reasons (for a review see Backhouse, et al., 2009). Additionally, there is only weak empirical evidence for the effectiveness of such knowledge-based prevention programs (Laure & Lecerf 1999; 2002). Hanson (2009) points out that it is insufficient to focus merely on teaching knowledge about doping if one wants to change behavior. The traditional way of education produces knowledge that is difficult to apply when the actual

situation arises. The theory that underlies the knowledge-based approach is a commonly applied model used to explain doping behavior, namely the Theory of Planned Behavior by Ajzen (1991). The majority of prevention programs assume that doping is a relatively “planned” action that can be prevented by knowledge about the consequences of such an action. The criticism of this underlying theoretical model is that the decision to dope is also characterized by spontaneous and weakly evaluated cognitive processes (Petroczi, Aidman & Nepusz, 2008). The prevalent approach in cognitive science is that the act of decision-making contains dual modes of processing (see Chaiken & Trope, 1999) which are not addressed in the Theory of Planned Behavior.

According to Backhouse, et al. (2009), the optimal prevention program according to modern standards is supposed to be a mixture of teaching knowledge, skill and adequate affection (values, self-awareness and self-worth). Singler and Treutlein (2010) define these skills as observing, reflecting, deciding and acting. They further state that a good prevention program should not take a moral high ground with the participant(s) or try to convince them by inducing fear. It should rather “empower” the existing resources and competencies of the young adult (Singler, 2011). Louveau, Augustini, Duret, Irlinger and Marcellini (1995) suggest including the discussion of opposing arguments in a prevention program in order to foster the development of one’s own opinion. Hanson (2009) suggests that interventions should be designed to question the validity of athletes’ existing beliefs.

A new approach to doping prevention programs: Ethical decision-making

Because health education based doping prevention programs show only weak, if any, effects, prevention programs should aim instead at changing cognitive structures to incorporate interpersonal control processes. One such process a prevention program can target is the decision-making process. The decision-making process is characterized by the interdependency between individual personality characteristics such as attitudes or values and contextual factors (e.g. peers and coaches) which then lead to certain behavior (figure 1).

This research project’s intervention focuses on the decision-making process, specifically on the process of making ethical decisions. The term ethics originates from the two Greek words *éthos*, meaning “character” or “custom” (Solomon, 1984), and *êthos*, which translates into “well-established or institutionalized practice” (Loland, 2002). Ethics relates to societal values of right and wrong (Singer, 1986). An ethical judgment is coherent with philosophical standards for ideal

human behavior (e.g., Kant’s Categorical Imperative; Gandz & Hayes, 1988). Moral judgment has shown to be an effective component of the ethical decision-making process (cf. Kohlberg, 1964; Colby, Kohlberg, Gibbs, Lieberman, Fischer & Saltzstein, 1983). Kohlberg (1964, 425) describes an individual’s moral judgment competence as “the capacity to make decisions and judgments that are moral (i.e., based on internal principles) and to act in accordance with such judgments.”

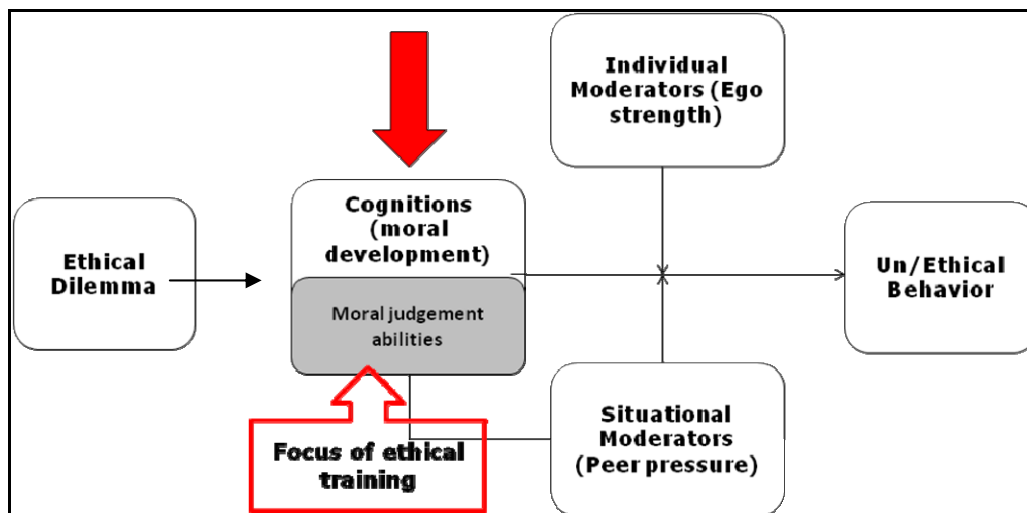


Figure 1: Ethical Decision-Making Process (Trevino, 1986).

According to Rupp (2008) the individual’s acceptance of the underlying moral principle is essential. An individual must consider the underlying norm to be valuable in order to assign moral importance to it. Nagin and Pogarsky (2003) emphasize that moral inhibition (i.e., insensitivity to moral values) plays an essential role in the decision-making process connected to criminal behavior. Paternoster and Simpson (1996) show that internalization of moral rules can have a decisive effect on criminal intention.

Decision-making is a trainable psychological entity (Weber & Glyptis, 2000) and ethical decision-making aims at producing actions of value and integrity (Niedermann, 1996). Ethical decision-making has to be dissociated from the moral term. Morality or morals reflects the appraisal of a behavior according to predominating ideas (Niedermann, 1996). Moral principles are rather inflexible and, set in their application, are comparable to crystallized intelligence and dependent on long-term context.

Ethical decision-making is more than the evaluation of behavior in terms of right and wrong. Usually, the result of such an evaluation process contains individually weighted decisions, which

are consistent with one's own actual activated values, ideals, or goals. Ethical decision-making is to be understood as the flexible use of moral principles to produce the right choice independent of long-term context but dependent on situational cues. It is assumed that the process of cognitive appraisal and the evaluation of supporting and opposing arguments require strong mental skills and capacities that may not be intuitively available. Moral abilities require a process of intensive learning and training (cf. Wright, 1995; Lind, 2002), which is enforced by the constant confrontation with everyday ethical problems. The question is how the development of these skills can be achieved?

The method of enhancing ethical decision-making

Kohlberg (1964) developed a model by which six different stages of moral development can be classified (see table 1). Blatt and Kohlberg (1975) further introduced the idea that moral development can be measured and trained with the help of dilemmas. Dilemmas are problem situations in which there is no obvious right or wrong solution due to opposing and incongruous moral principles. The effectiveness of dilemma discussions has been sufficiently shown (e.g., Lerkiatbundit, Utaipan, Laohawiriyanon & Teo, 2006). Based on Blatt and Kohlberg's work, Lind (2009) developed a comprehensive method for training moral abilities.

Table 1: Kohlberg's six stages of moral development (Kohlberg, 1996)

Stage	Label	Level	Description
1	Blind egoism	Pre-conventional	The motive is to avoid physical damage and injury.
2	Instrumental egoism	Pre-conventional	The motive is to gain advantage and bonus, even if disadvantages have to be dealt with in the process.
3	Social relationships perspective	Conventional	The motive is to avoid disapproval by others and/or gain their acknowledgement.
4	Social systems perspective	Conventional	The motive is to respect the law and the order of society, as well as support their maintenance.
5	Contractual perspective	Post-conventional	The motive is to follow the rules of democratic development of objectives (e.g. majority principle) and to abide by the conventions based on them.
6	Mutual respect as universal principle	Post-conventional	The motive is to respect each person's dignity and to measure one's own action in respect to the universal principles of justice, reason, and logic.

Based on the concepts of Blatt, Kohlberg and Lind, a training program geared towards doping prevention in sports was developed within our project. The basis of this *web-based decision-making training program* is the dilemma technique in which participants have to tackle different sport-specific dilemma situations. They are confronted with different ethical dilemma situations, which they have to resolve spontaneously. Following Barry's (1979) analytical framework for ethical decision-making, participants are confronted with (and/or have to produce themselves) pro and con arguments that are based on a cost-benefit analysis, on rules or norms that are culturally determined, and arguments that are characterized by focusing on specific ethical principles (for a review see Gandz & Hayes, 1988).

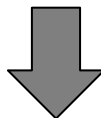
Our training entails six sessions with three dilemmas each. All dilemmas deal with fictitious young athletes in an early career stage. Each of the six training sessions include one dilemma focusing on a female athlete, one on a male athlete and one on a social group (e. g. team, athlete and coach, athlete and parent, athlete and physiotherapist, etc.). The 18 dilemmas are equal in length (5-10 sentences) and are presented in appendix I. Each session entails tasks of varying difficulty in order to motivate sustained attention. Tasks included in each individual session are 1) reading the dilemma 2) making a decision 3) creating individual arguments and 4) ordering them according to one's own liking. There is a progression in the six training sessions concerning (a) increasing difficulty of task, (b) increasing complexity of arguments and (c) increasing density of difficult tasks. Please see figure 2 for an example of the training.

Murat is one of the top talents in the minor league. From time to time he is nominated for the national U-16 squad. By now, almost every weekend in the year he has got a game or a training camp. Murat does not want to abandon his home club so he plays in all the games of the season. He feels close to his friends in the club, but he also wants to take his chances in the national team and so he wants to go through with both. However, the tight schedule is getting to him. There is little time to recover between events and going on vacation is almost impossible due to the long journeys, the training camp or the games for his home club. Similarly, some of the other players of the national team suffer from the practice load. One team member suggests taking a substance that increases the rate of recovery. Murat begins to think.



(1) Would you take the substance?

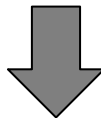
- Yes. No.



(2) Now please write down as many arguments as possible (to a maximum of 6), that support your decision. If the space is insufficient, just continue in the next row.

Murat should not take the substance, because ...

- 1) ...
- 2) ...
- 3) ...
- 4) ...
- 5) ...
- 6) ...



(3) Once more, here are your arguments, which you are now supposed to rank; those that you like the most go on the top, those that you like the least go on the bottom. Drag the arguments (keep the left mouse button pushed) from left to right. If needed, you can rearrange the arguments within the blue box.



BEST ARGUMENT

He's in the national team, not some circus show.

If he can't adjust, he is not strong enough. Doping won't change that

Why trust a teammate so easily?

He could try something else first. Altered nutrition for example.

This will only postpone a decision between career and friends.

His teammate might not know what he is talking about.

WORST ARGUMENT

Figure 2. Example of ethical decision-making training (screenshot)

Measuring the effect of this new training form

According to Hanson (2009) many prevention programs are conducted without any documentation of effects, results, or theoretical background. The aim of this project is to evaluate the effectiveness of the intervention in order to ensure that resources are not wasted and that theoretical conclusions can be drawn.

A methodological difficulty in doping research is the measurement of changes in doping behavior, especially stable changes, using reliable and valid instruments of substance abuse. The most commonly used dependent variables are knowledge about doping (e.g., Goldberg, Bosworth, Bents & Trevisan, 1990; Goldberg, MacKinnon, Elliot, Moe, Clarke & Cheong, 2000; Goldberg & Elliot, 2005), the attitude towards doping (e.g., Laure & Lecerf, 1999), and the subjectively assessed intention to dope (e.g., Goldberg & Elliot, 2005). Backhouse, McKenna, Robinson and Atkin (2007) comprehensively show that these factors have only little explanatory power in relation to actual doping behavior.

For this project the doping attitude was selected as the variable measuring change. In addition, moral judgment abilities were measured. Attitude has been shown to be the strongest predictor of the intention to dope (Tsorbatzoudis, 2009) and attitudes are often seen as more potent to reflect the prevalence of doping than sheer doping numbers taken from doping controls (Striegel, Ulrich & Simon, 2010). The stability of such attitudes, however, is strongly determined by the current context, making an individual's decision inconsistent (for a review see Backhouse et al., 2007). For this reason a context variable was included in the study namely the ethical climate.

Research Questions

The following assumptions lead our investigations:

- (1) Ethical decision-making training will increase moral judgment abilities in the adolescent athlete, whereas classical knowledge-based training will not.
- (2) Ethical decision-making training will change adolescents' attitudes towards doping whereas classical knowledge-based training will not.

Method

Ethical Approval

Ethical approval was granted by the University of Potsdam. All subjects declared their fully informed consent prior to their participation. They were informed about the goals and the necessary procedures of the study. Anonymous handling of their data, and especially their right to refuse participation at any time without consequences were formally guaranteed.

Recruitment of subjects

A nation- wide press release with a call for participation in the study and a link to the website was conducted in Germany in 2011. Additionally, personal contacts especially with German elite schools of sport and Olympic training centers were utilized in order to recruit participants. As a result 2,513 persons clicked on the project's website. However, only 112 individuals declared their willingness to participate in the training program (4.5% response rate).

The selection criteria for participation in the study were a) status as an elite youth athlete, with b) at least two sport training sessions per week, and c) regular participation in competitions.

Design of the study

The evaluation study was performed in a controlled pre- and post measurement design (two-week interval). Participants were randomly assigned to either the ethical decision-making training or to a comparison group, in which a standard anti-doping education program was to be completed (knowledge transfer group). Participants for a no-treatment control group were recruited separately and not allocated randomly.

Procedure

Training as well as measurement of the dependent variables was conducted in a fully automated online-setup. Participants began the study by (1) logging into the pre-test, (2) completing the informed consent form, and (3) completing the tests for measuring the dependent variables. In step (4) participants were randomly assigned to one of the three experimental conditions (see below). It

soon became clear, though, that there was an immense loss of participants in the control group (subjects that would simply not respond to the invitation of completing the post-test after the intervention period). It therefore was decided to concentrate on filling up the two training conditions first: then in a modified procedure (procedural step 4) subjects were randomly assigned to either the ethical decision-making training group (ET) or to the knowledge training group (KT). Control group (CG) members were recruited afterwards through personal contacts (e.g., at the elite schools of sport). The participants of the control group therefore were not randomly assigned.

After a sufficient number of participants were recruited for the ET, KT and CG a third intervention was conducted with a combined training (CT) group. This group received a combination of the ET and KT.

Participants in the three training conditions (ET, KT, CT) received invitation emails containing an online-link to their next session (training or post-test). Twenty-four hours after having completed a session, participants received their next invitation to the following session (and so on until the post-test session was reached after seven training sessions). Participants could decide whether they would work through the sessions day-by-day or choose their own rhythm. During the entire study there was continuous monitoring of study adherence by an operating investigator. Email reminders were sent to participants who did not log into the next session, encouraging them to continue with the training. Participants who did not continue with the training after having been reminded twice were considered to be study drop-outs. The control group members received their invitations to the post-test session two weeks after having completed the pre-test.

Sample

The resulting sample of our evaluation study including ET, KT and CG entailed 69 young elite athletes (34 male, 35 female; 15.5 ± 2.4 years old). About one half of them participated in team sports (50.7%; e.g., handball, soccer). Other larger groups of athletes came from track and field (18.8%; e.g. sprint, discus), racquet sports (5.8%; e.g. tennis, golf), or martial arts (4.3%; e.g., judo, karate). All other athletes were engaged in various other sports (20.4%; e.g. swimming, canoeing, or equitation). The majority of athletes (72.5%) competed at least on the national or cross-regional level (including 10 national team members, i.e. 14.5%; and 40 selected members for the regional elite junior squad, i.e., 58.0%). Subjects reported to be engaged in about four weekly training sessions in their respective sport, with cumulated $8.5 (\pm 5.0)$ training hours per week on average.

Allocation to study groups led to the distributions depicted in table 2. There were no significant age differences in/between subsamples (group \times gender), $F(5) = .081$, $p = n.s.$ However, gender¹ is not equally distributed in groups, $\chi^2(2) = 17.28$, $p < .01$.

Table 2. Sample descriptives for the experimental groups

	Male		Female		Whole group	
	<i>N</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>
ET	23	15.8 (2.2)	7	14.7 (1.8)	30	15.5 (2.2)
KT	8	14.8 (2.6)	14	15.9 (2.5)	22	15.5 (2.6)
CG	3	14.0 (0.0)	14	16.0 (2.7)	17	15.7 (2.6)
Whole group	37	15.4 (2.3)	35	15.7 (2.5)	69	15.5 (2.4)

Note. Data columns contain information on sub-sample sizes and age. ET: ethical decision-making training; KT: knowledge transfer; CG: control group.

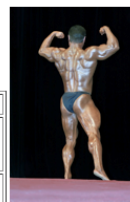
Description of the training program

Knowledge Training

The knowledge-based training contained six different parts that were each split into two subsections: (1) introduction (famous doping cases & frequently asked questions about doping), (2) precursors and consequences of doping (precursors & consequences), (3) forbidden substances and methods (forbidden substances & forbidden methods), (4) the doping control system (introduction to the control system & doping control procedure), (5) law, duty and punishment (law and punishment & personal rights and duties) and (6) doping on the internet (NADA online & other doping pages). In order to encourage reading and processing of the information, knowledge tests were conducted at the end of every subsection. Please see figure 3 for an example of the knowledge training.

¹ The unequal distribution is not only due to the uneven number of male/female athletes in the control group (to which subjects were not randomly assigned). Unequal gender distributions in the two other conditions (in which subjects were randomly assigned either to the ethical decision-making or to the knowledge transfer group) must be due to unequal gender distributions in the groups of athletes that were addressed for participation during the recruiting process.

1. Anabolic substances (Anabolics)



Origin	The word "anabolic" comes from the Greek language and means "displacement".
Effect	What is "displaced" is the protein manufacture in the body, that is increased by anabolic substances. The effect is a growth of muscle mass that results in increased strength and stamina.
Area of application	Anabolics are commonly taken in body-building, but also in strength depending sports such as weight lifting, shot-put, etc.
Prohibition in sports	Always.
Example	The most known anabolics are the steroid hormones, that resemble the male sexual hormone testosterone (that is why anabolics are detected by an abnormal increase in testosterone level) and that is why they have ...
... Side effects	The body hair is increased for example or the voice gets deeper, also in women. Moreover, the sexual organs of men and women can deform due to anabolic use (Men: Shrinkage of the testicles, female breast growth; Women: Enlargement of the clitoris). Also acne and water retention in the body are side effects. It gets more serious, when the liver damage, arteriosclerosis, heart and circulatory-system disease, heart attack, tumor growth or psychological disease (aggressiveness, lack of memory and concentration) occur.



8. Cannabinoids



Origin	Cannabinoids are won out of the plant hemp (Cannabis).
Effect	The substance THC has multiple THC-receptors in the human brain. Depending on where the substance docks, the effect is different. In the cerebellum (the lower-back part of the brain), the activity of THC receptors act on gait control. In the hippocampus, a region involved in consciousness and memory, THC results in relaxation, amusement dream-like states of consciousness. These are reasons why people consume cannabinoids. One reason why cannabis is relatively harmless compared to alcohol, XTC and heroin, is that there are no THC receptors in the brain stem, that part of the brain where life maintaining functions as heart and respiration are wired.
Area of application	Everywhere.
Prohibition in sports	During competition.
Example	Marihuana, pot.
Side effects	Even though it is not directly dangerous to life maintaining functions, also at high doses, the psychological side effects like psychosis or depression can alter the life course of a human life in such a way that he/she will never fully recover from cannabis consumption. Moreover, as with smoking tobacco, the lung and the blood system get damaged, which can lead to a dysfunctional heart and blood flow function in the long term.
Other	Marihuana is theoretically only prohibited during competition, but the metabolites are detectable in blood and urine for weeks. If it is found in a doping control, the athlete is guilty no matter what. Thus it is best for athletes not to smoke it at all.



This is the knowledge quiz 3.1 on the forbidden substances. Only one of the four answers is correct.



(1) Which of the following substances is prohibited outside of competition?

- Glucocorticoids.
 Stimulants.
 Narcotics.
 Anabolics.

(2) Biology: Which of the following statements is true?

- Agonists block, Antagonists support the effect of receptors. Receptors direct organ functioning.
 Agonists and Antagonists are both messengers with the same effect.
 Agonists support, Antagonists block the effect of receptors. Receptors direct organ functioning.
 Agonists block, Antagonists support the effect of receptors. Receptors are messengers.

(3) Which of the following substances are taken in order to make use of other doping?

- Narcotics and Hormone Antagonists.
 Diuretics and narcotics.
 Diuretics and Hormone-Antagonists.
 None of the answers is correct.

(4) As athlete you are not allowed to smoke cannabis (weed, pot, etc).

- Incorrect.
 Correct.
 I do not know.
 I do not care.

(5) Anabolics can have which of the following side effects?

- Enlargement of the clitoris in women.
 Shrinkage of the testicles in men.
 Female breast growth in men.
 All three.

Figure 3. Example of the knowledge training (screenshot)

Ethical Training

The ethical training involved six sessions with three dilemmas each. Please refer to Pages 13 and following and figure 2 for information on the ethical training. The 18 dilemmas are presented in appendix I.

Instruments

PEAS

Doping attitude was measured with a German version of the Performance Enhancement Attitude Scale (PEAS; Petrozci & Aidman, 2009). The translation was conducted using the translation / back-translation method (Brislin, 1970). The original PEAS is a unidimensional, 17-item questionnaire. Subjects have to rate 17 statements (sample item: “doping is necessary to be competitive”) on a 6-point Likert-scale from “1 = strongly disagree” to “6 = strongly agree”. The higher the total score the more positive the doping attitude. The score range is from 17 to 102, with a theoretical midpoint of 52.5. Most studies of athlete populations have shown to reach mean scores of around 35. The scale’s internal consistency varies between .71 and .91 in different samples. There is ample evidence for sufficient test-retest reliability ($r = .75$) and construct validity (see e.g. Petrozci & Aidman, 2009 for detailed information).

Confirmatory factor analysis (CFA) of the German PEAS version led to rather disadvantageous results (distorted unidimensionality, dramatically skewed response-distributions on several items). Subsequent analyses of the alternative 6- and 11-item versions as presented by Gucciardi, Jalleh and Donovan (2010) did not validate as well. Psychometric analyses of item response distributions together with an additional exploratory factor analysis of the 17-item set, led to the conclusion that an abbreviated 6-item version (see Appendix III) would best fit the necessary psychometrical requirements (e.g., item response distributions, internal consistency).²

In our study’s sample, before the intervention, the mean score of this 6-item PEAS version was 8.77 ($SD = 3.68$). Observed scores ranged from 6 to 24 (theoretical scale range: 6 to 36). The internal consistency of the scale was $\alpha = .70$.

² All calculations performed with 444 subjects (all athletes, different age groups) who have participated in a respective separate study. Detailed information available from the authors.

MJT

The moral judgment test (MJT; Lind, 2009) is composed of two dilemmas, two questions and 24 arguments. For each of the two dilemmas participants have to first judge a depicted behavior³ as being adequate or not in the light of circumstances, by responding using a 7-point rating-scale (ranging from “-3 = strongly disagree” to “3 = strongly agree”). After that, 12 pro- or con-arguments have to be judged using a 9-point rating-scale (ranging from “-4 = strongly reject” to “+4 = strongly agree”), with a certain configuration of arguments corresponding to one of the six Kohlberg stages of moral development (see table 1; Kohlberg, 1984). The resulting C-score ranges from 1 to 100, giving a theoretical midpoint score of 50 (Lind, 2009). Scores 1 to 9 are considered low, 10 to 29 medium, 30 to 49 high. Scores higher than the theoretical midpoint of the scale (> 50) are reached very seldomly (Lind, 2002, 2009). Test-retest reliability is reported to reach $r = .90$ (Lerkiatbundit et al., 2006). According to Lind (2002) other standard psychometric measures, above all internal consistency of the scale, cannot be reasonably applied and reported due to methodological reasons (i.e., the complex scoring algorithm).

The average MJT score in our sample was 16 ($SD = 10$), which is well within the normal score range of pupils in Germany (Lind, 2009).

ECQ

In order to measure covariate ethical climate the 36 item ethical climate questionnaire for the business context (Cullen, Victor & Bronson, 1993) was translated to German and adapted to the sport context (by replacing the word “company” with “sport club” throughout the questionnaire).

The original ECQ contains 36 items and requests participants to indicate their answers on a 6-point Likert scale (ranging from “0 = completely false” to “5 = completely true”). Its nine-factor structure is thought to represent nine types of ethical climate (self-interest, company profit, efficiency, friendship, team play, social responsibility, personal morality, rules and procedures, law and professional codes; see Victor & Cullen, 1988). There is no total ECQ-score. Instead, preference for a certain ethical climate can be derived from multiple mean score comparisons between the nine types.

³ For example, “Recently a company fired some people for unknown reasons. (...) Two workers then break into the main office and take the tapes that prove the managers were listening in.”

The translated sport specific 36-item version of the ECQ failed to validate by CFA (distorted factorial structure). Subsequent EFA led to the development of a two-dimensional 6-item short version of the questionnaire (see Appendix IV), with which subjects can indicate how strongly they experience a *climate of egoism* and a *climate of benevolence* in their sport group.⁴

In our study's sample, prior to the intervention, the average score describing the ethical climate "benevolence" was 11.74 ($SD = 3.16$), with scores ranging from 5 to 18 (theoretical score range from 3 to 18). A Cronbach's- α coefficient of .82 indicated good internal consistency. The respective average score describing the ethical climate "egoism" was 9.30 ($SD = 2.87$), with scores ranging from 3 to 17 (theoretical score range from 3 to 18). The internal consistency of this scale was $\alpha = .75$.

Statistical model for analysis

For main data analyses two separate analyses of covariance (ANCOVA), one with the dependent variable *doping attitude* the other with the dependent variable *moral judgment abilities*, were calculated. The experimental condition 'group' served as between-subject-factor (*ethical decision-making training vs. knowledge training vs. no intervention control group*), and 'time' as the inner-subject-factor (t_1 vs. t_2 ; instantly before and after the intervention period). Two dummy-coded 'ethical climates at t_1 ' (*low vs. high benevolence; low vs. high egoism*) were included as covariate factors.

Results

Main analyses

The total time from pre to post-test took 21 days ($SD = 13$) on average, and the average time per unit was 21 ($SD = 11$) minutes.

Descriptive group statistics for the dependent variable *doping attitude* are shown in table 3. ANCOVA results indicate a statistically significant group \times time interaction effect, $F(2) = 3.36$, $p < .05$, $\eta^2 = .10$, $1-\beta = .61$. Covariate effects of the two ethical climate variable are not statistically

⁴ A sample of 207 athletes from a different study was used to perform these analyses. Detailed information on this study available from the authors.

significant (ethical climate of benevolence: $F(1) = 1.67$, *n.s.*, $1-\beta = .25$; ethical climate of egoism: $F(1) = 0.11$, *n.s.*, $1-\beta = .06$).

Table 3. Means, standard deviations and sample sizes in the experimental groups before and after intervention (doping attitude; PEAS)

Time	Group	M	SD	n
t ₁	ET	9.17	4.15	30
	KT	8.73	3.91	22
	CG	7.53	1.97	17
t ₂	ET	11.83	5.51	30
	KT	10.05	4.52	22
	CG	7.12	2.00	17

Note. ET: ethical decision-making training; KT: knowledge training; CG: control group.

Prior to, as well as after the intervention, the mean doping attitudes of the young athletes are low to very low, indicating that doping is evaluated negatively in all groups (figure 4). Post-hoc contrast analyses (Scheffé) show that the observed interaction effect is driven by a significant increase of the doping attitude in the ethical training group (ET), compared with the control group (CG), $\Delta_{\text{mean}} = 3.18$, $SE = 1.11$, $p < .05$. All other contrasts do not show statistical significance. This gives evidence that an intervention effect was neither reached in the knowledge training group (KG) nor in the control group (ET vs. KT: $\Delta_{\text{mean}} = 1.11$, $SE = 1.02$, *n.s.*; KT vs. CG: $\Delta_{\text{mean}} = 2.06$, $SE = 1.18$, *n.s.*).

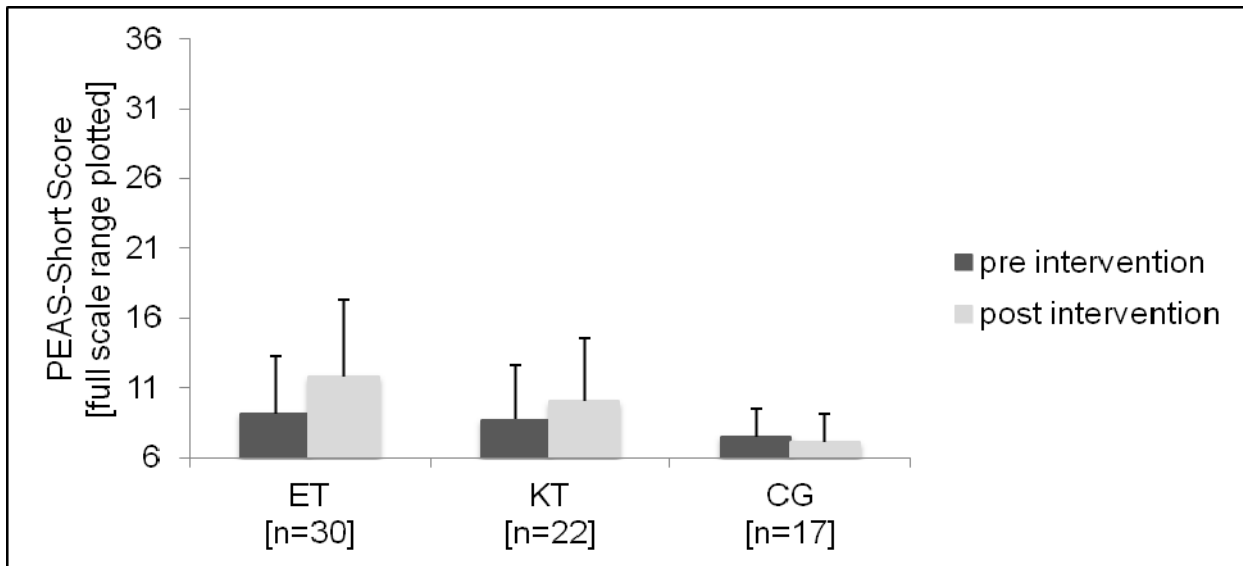


Figure 4. Illustration of results for the dependent variable doping attitude

Descriptive group statistics for the dependent variable *moral judgment abilities* are depicted in table 4. ANCOVA results indicate that there is no statistically significant group \times time interaction effect, $F(2) = 0.79$, *n.s.*, $1-\beta = .18$. Again, covariate effects of the two ethical climate variable are not statistically significant (ethical climate of benevolence: $F(1) = 1.75$, *n.s.*, $1-\beta = .26$; ethical climate of egoism: $F(1) = 1.95$, *n.s.*, $1-\beta = .28$). Figure 5 includes a descriptive illustration of these results.

Table 4. Means, standard deviations and sample sizes in experimental groups before and after intervention (Moral Judgment Test; MJT)

Time	Group	M	SD	n
t ₁	ET	15.27	9.54	30
	KT	18.89	13.23	22
	CG	16.89	10.23	17
t ₂	ET	17.92	12.62	30
	KT	15.49	12.38	22
	CG	16.42	12.28	17

Note. ET: ethical decision-making training; KT: knowledge transfer; CG: control group.

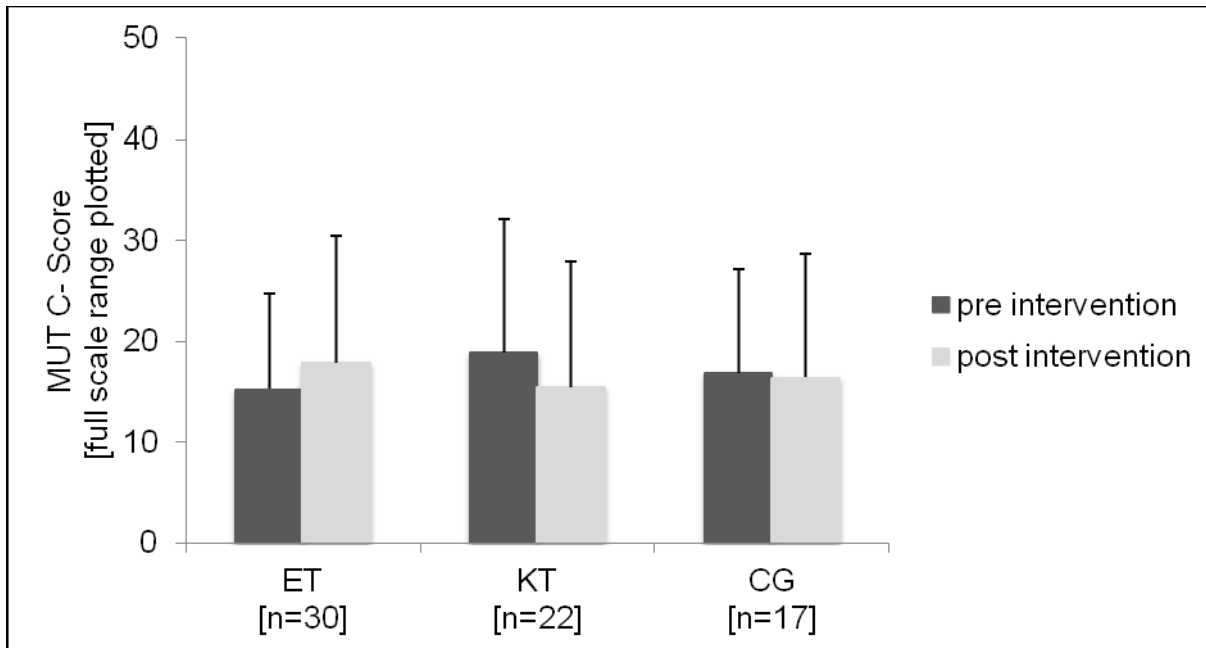


Figure 5. Illustration of results for the dependent variable moral judgment abilities

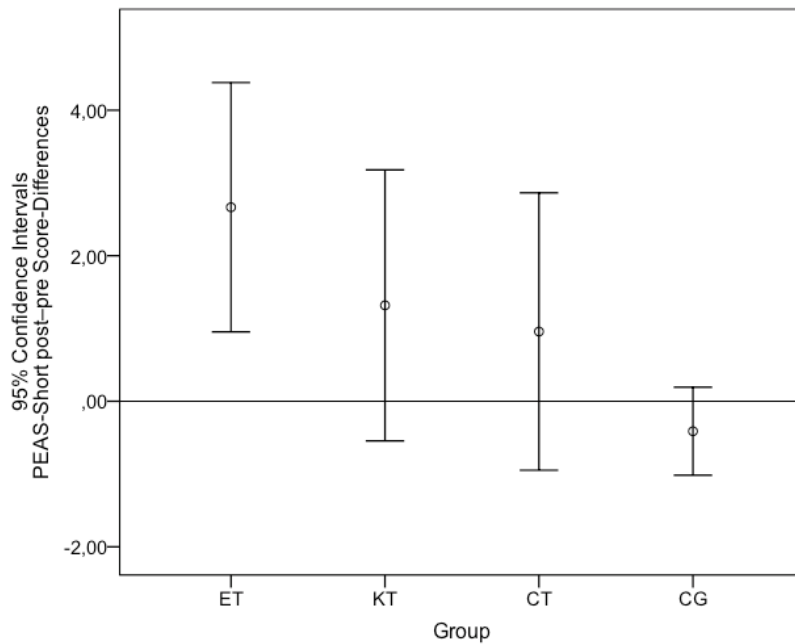
Post-hoc analyses

Accompanying the above described major analyses, it was decided to test whether an intervention strategy in which a training of ethical decision-making is combined with standard knowledge transfer (combined training) would have a comparable effect on young athletes' doping attitudes (PEAS).

This combined training (pre-test, 6 training sessions, post-tests) was made-up by training session 1 from the knowledge training (KT-1; Introduction to doping), followed by session 1 as presented to the ethical training group (ET-1; 3 dilemmas), followed by the KT-session on forbidden substances and methods, ET session 2 (3 dilemmas), the KT session on the idea and procedures of the doping control system, and a final session of ethical decision-making training (ET-3; 3 dilemmas). All other aspects of the training were identical to the trainings described in the previous sections.

Therefore an additional group of 22 young elite athletes (8 male, 14 female; mean age 15.5 ± 2.6 years) was recruited. Fourteen of them (63.6%) participated in team sports, three were track and field athletes ($n = 3$), two came from individual game sports and two from cycling and one from canoeing. They reported an average time of sport training of $7.1 (\pm 4.8)$ hours per week, and 15 of them (68.2%) were competing on a cross-regional level (selected members for the regional elite junior squad).

The mean PEAS scores were 8.73 (± 3.90) before the intervention and 10.05 (± 4.5) after the intervention. The main result is illustrated in figure 5. As the 95% confidence interval (95% CI) of the post-pre score difference in the combined training group includes the value “0” ($\Delta\text{mean} = -1.31$; lower bound = -3.1 , upper bound = 0.54) there is no intervention effect of this combined training (all other 95% CI are based on the data presented in table 4).



Note. ET: ethical training group; KT: knowledge transfer group; CT: combined training group; CG: control group

Figure 6. Illustration of the non-significant intervention effect in the combined training group

Discussion

Our study showed that ethical decision-making training had a significant and medium sized effect on the doping attitudes of young athletes, whereas the other groups that participated in knowledge training, in combined training or in the control group showed no significant change in their doping attitudes. The athletes' perceived ethical climate had no effect on the doping attitudes in any of the groups.

The significant increase in PEAS values (but values that can still be categorized as staying away from doping) could be an indication that the athletes' stereotypical answering behavior has been changed. It seems that through the training of decision-making with doping related dilemma situations the athletes have become aware that doping is not a clear yes or no issue but that many factors have to be considered when making the decision. This could be an indication of the improvement in their decision-making skills. The results could also suggest that the athletes have further developed their own opinions by questioning the validity of their existing beliefs. We therefore assume that the athletes, after having completed ethical decision-making training, are better prepared if/when they encounter a dilemma situation related to doping.

The decision-making training did not have an effect on moral judgment abilities. It could be that the intervention was too short in duration and too specific for the setting of elite sports to show an effect on general moral judgment abilities as measured by the MJT. Additionally, the perceived ethical climate did not show an impact on moral judgment abilities either.

There are some limitations to our study that need to be addressed. One limitation is that gender was not equally distributed in the different sub-samples; conclusions concerning the effect of gender on the results therefore can not be made. Furthermore, the randomization of participants was only conducted for the ethical training and knowledge training group. Due to difficulties in recruitment and the large drop-out rate of the training the control group and combined training group could not be randomized. A further limitation to our study was the high drop-out rate. The intervention poses demands on the athletes' limited amount of free time (six sessions of about 30minutes) plus the training requires effort. Furthermore, the difficulty of the tasks increases from session to session. All of this could be reasons for the high drop-out rate.

Future Perspectives and Recommendations

There are several aspects that future studies with this online tool should incorporate. We would like to recommend a repetition of this study using larger samples and ensuring equal distribution of gender in order to allow for an investigation of gender differences. The pure online recruitment of participants showed extreme difficulties in the participants' adherence to the full training program. It seems that the open space of the world wide web is not the ideal medium for conducting this type of intervention and we would recommend that it be conducted either in a more closed setting (e.g. classroom setting) or under the supervision of a coach or federation. It seems that athletes first of all need to develop an understanding for why such training is important before they participate in it. The explanation for the need and importance of such training can be communicated much more effectively in person than online.

Further studies could also investigate if effects can be achieved with shorter or fewer training sessions. A reduction of the time required might lead to less drop-out of study participants.

Furthermore, our study could be complemented by a qualitative study which investigates the underlying processes that lead to the change in doping attitude and which takes a closer look at the participants' experiences with the training.

Our study included direct measures of doping attitude. Self-report questionnaires, however, might be affected by strategical responding. We recommend that future studies also include measures of implicit attitude (Brand & Melzer, 2011; Brand, Melzer, & Hagemann, 2011; Petroczi et al., 2008; Petroczi, Uvacsek, Nepusz, Deshmukh, Shah, Aidman, et al., 2011) and direct doping related behavior (Musshoff et al., 2006) in order to more fully assess the impact of the intervention.

Also, we can recommend a follow-up of our study, for example, after six months or a year in order to determine the sustainability of the results we found.

And last but not least, in order to ensure widespread use of the training tool, we recommend translation to more languages. Currently the training tool is only available in German, English and Greek.

References

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour & Human Decision Processes*, 50, 179-211.
- Arndt, N., Singler, A., & Treutlein, G. (2004). *Sport ohne Doping! Argumente und Entscheidungshilfen* [Sport without Doping. Arguments and Decision making tools]. Frankfurt am Main: Deutsche Sportjugend (DSJ).
- Arnold, P. J. (1994). Sport and moral education. *Journal of Moral Education*, 23(1), 75-89.
- Arvaniti, N. (2006). Ethics in sport: The Greek educational perspective on anti-doping. *Sport in Society*, 9(2), 354-370.
- Backhouse, S., McKenna, J., & Patterson, L. (2009). *Prevention through education: A Review of Current International Social Science Literature*. Canada: World Anti Doping Agency.
- Backhouse, S., McKenna, J., Robinson, S., & Atkin, A. (2007). *Attitudes, Behaviours, Knowledge and Education - Drugs in Sport: Past, Present and Future*. Canada: World Anti Doping Agency.
- Barry, V. (1979) *Moral issues in business*. Belmont, CA: Wadsworth.
- Bette, K. H., & Schimank, U. (1995). *Doping im Hochleistungssport* [Doping in elite sports]. Frankfurt am Main: Suhrkamp.
- Blatt, M., & Kohlberg, L. (1975). The effect of classroom moral discussion upon children's level of moral judgment. *Journal of Moral, Education*, 4, 129-161.
- Brand, R. & Melzer, M. (2011). Doping Einstellungen messen [Measuring Doping attitudes]. *Doping*, 2(1), 46-49.
- Brand, R., Melzer, M., & Hagemann, N. (2011). Towards an implicit association test (IAT) for measuring doping attitudes in sports. Data based recommendations developed from two recently published tests. *Psychology of Sport and Exercise*, 12, 250 – 256.
- Brislin, R.W. (1970). Back-translation for cross-cultural research. *Cross Cultural Psychology*, 1, 185-216.
- Brook, R. C., & Whitehead, P. C. (1983) Values of adolescent drug abusers. *International Journal of the Addictions*, 18 (1), 1-7.

- Castro, F. G., Stein, J. A., & Bentler, P. M. (2009) Ethnic pride, traditional family values, and acculturation in early cigarette and alcohol use among latino adolescents. *The Journal of Primary Prevention, 30* (3-4), 265-292.
- Chaiken, S., & Trope, Y. (1999). *Dual process theories in social psychology*. New York, Guilford Press.
- Colby, A., Kohlberg, L., Gibbs, J. C., Lieberman, M., Fischer, K., & Saltzstein, H. D. (1983). A longitudinal study of moral judgment. *Monographs of the Society for Research in Child Development, 48* (1-2), 1-124.
- Cullen, J. B., Victor, B. & Bronson, J. W. (1993). The Ethical Climate Questionnaire: An assessment of its development and validity. *Psychological Reports, 73*, 667–674.
- Darwin, C. (1871). *The Descent of Man and Selection in Relation to Sex*. London: Murray.
- Erikson, E. H. (1950). *Childhood and Society*. New York: W.W. Norton & Company.
- Favre, A. & Laure P. (2002) Conduites dopantes: à quoi s’engage-t-on? [Doping behavior: what do you engage for?]. *Psychotropes, 8*(3-4), s. 23-29.
- Foot, P. R., & Harrison, J. (1954). When is a principle a moral principle? *Proceedings of the Aristotelian Society, Supplementary Volumes, 28*, 95-134.
- Gandz, J., & Hayes, N. (1988) Teaching business ethics. *Journal of Business Ethics, 7*(9), 657-669.
- Goldberg, L. & Elliot, D. L. (2005). *Prevention of Substance Use Among High School Athletes: The Atlas and Athena Programs*. In C. A. Maher (Ed.), *School sport psychology: Perspectives, programs and procedures* (pp. 63-88). USA: The Haworth Press.
- Goldberg, L., Bosworth, E. E., Bents, R. T., & Trevisan, L. (1990). Effect of an anabolic steroid education program on knowledge and attitudes of high school football players. *Journal of Adolescent Health Care, 11* (3), 210-214.
- Goldberg, L., MacKinnon, D. P., Elliot, D., Moe, E., Clarke, G., & Cheong, J. (2000). The adolescents training and learning to avoid steroids program: Preventing drug use and promoting health behaviors. *Archives of Pediatric and Adolescent Medicine, 154* (4), 332-338.
- Gucciardi, D.F., Jalleh, G., & Donovan, R.J. (2010). Does social desirability influence the relationship between doping attitude and doping susceptibility in athletes? *Psychology of Sport and Exercise, 11*, 479 – 486.

- Hanson, J.M. (2009). Equipping athletes to make informed decisions about performance-enhancing drug use: a constructivist perspective from educational psychology. *Sport in Society*, 12, 394-410
- Kavussanu, M., & Roberts, G. C. (2001). Moral functioning in sport: An achievement goal perspective. *Journal of Sport & Exercise Psychology*, 23(1), 37-54.
- Kohlberg, L. (1964). Development of moral character and moral ideology. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research* (pp. 381-431). New York: Russel Sage Foundation.
- Kohlberg, L. (1984). *Essays in moral development: Vol. 2. The psychology of moral development*. New York: Harper & Row.
- Laure, P. (1997) Médecins généralistes et dopage sportif: connaissances et attitudes [General practitioners and doping in sport : knowledge and attitudes]. *Santé Publique*, 9, 145-156.
- Laure, P. (2000). *Dopage et société* [Doping and society]. Paris: Ellipses.
- Laure, P. (2002). Les conduites dopantes: une prévention de l'échec? [Doping mentality: a prevention of failure?]. *Psychotropes*, 8(3-4), 31-38.
- Laure, P., & Lecerf, T. (1999). Prevention of doping in sport in adolescents: Evaluation of a health education based intervention. *Archive Pediatrics*, 6(8), 848-854.
- Laure, P., & Lecerf, T. (2002). Doping prevention among young athletes: Comparison of a health education-based intervention versus information-based intervention. *Science & Sports*, 17 (4), 198-201.
- Lerkiatbundit, S. Utaipan, P. Laohawiriyanon, C. & Teo, A. (2006). Randomized controlled study of the impact of the Konstanz method of dilemma discussion on moral judgment. *Journal of Allied Health*, 35, 101-108.
- Lind, G. (2002). *Ist Moral lehrbar? Ergebnisse der modernen moralpsychologischen Forschung (2. Auflage)* [Can morality be taught? Results of modern moral psychological research]. Berlin: Logos-Verlag.
- Lind, G. (2009). *Moral ist lehrbar. Handbuch zur Theorie und Praxis moralischer und demokratischer Bildung* [Morality can be taught. Handbook on theory and practice of moral and democratic education]. München: Oldenbourg.
- Loland, S. (2002). *Fair Play in Sport: A Moral Norm System*. London: Routledge.

- Louveau, C., Augustini, M., Duret, P., Irlinger, P., & Marcellini, A. (1995). *Dopage et performance sportive. Analyse d'une pratique prohibée* [Doping and Sports. Analysis of a prohibited practice]. Paris: INSEP-Publications.
- May, R. A. B. (2001). The sticky situation of sportsmanship: Contexts and contradictions in sportsmanship among high school boys basketball players. *Journal of Sport and Social Issues*, 25 (4), 372-389.
- McNamee, M.J. (2009). Beyond consent: The ethics of pediatric doping. *Journal of the philosophy of sport*, 36, 111–126.
- Musshoff, F., Driever, F., Lachenmeier, K., Lachenmeier, D. W., & Banger, M. (2006). Results of hair analyses for drugs of abuse and comparison with self-reports and urine tests. *Forensic Science International*, 156, 118-123.
- NADA (Hrsg.). (2010). High Five. Gemeinsam Gegen Doping – Ein Ratgeber für junge Sportlerinnen und Sportler. Bonn: NADA.
- Nagin, D. S., & Pogarsky, G. (2003). An experimental investigation of deterrence: Cheating, self-serving bias and impulsivity. *Criminology*, 41(1), 501-527.
- Niedermann, E. (1996). *Sportethik: Über die relative Absolutheit der Ethik im Sport*. Wien: Österreichischer Bundesverlag.
- Oerter, R., & Dreher, E. (2005). *Jugendalter*[Youth]. In R. Oerter & L. Montada, *Entwicklungspsychologie*. Weinheim: Beltz Verlag.
- Paternoster, R., & Simpson, S. (1996). Sanction threats and appeals to morality: Testing a rational choice model of corporate crime. *Law and Society Review*, 30 (3), 549-583.
- Petroczi, A., & Aidman, E. V. (2009). Measuring explicit attitude toward doping: Review of the psychometric properties of the Performance Enhancement Attitude Scale. *Psychology of Sport and Exercise*, 10, 390-396.
- Petroczi, A., & Aidman, E. V., & Nepusz, T. (2008). Capturing doping attitudes by self-report declarations and implicit assessment: A methodology study. *Substance Abuse Treatment, Prevention, and Policy*, 3(9), 1-12.
- Petroczi, A., Uvacsek, M., Nepusz, T., Deshmukh, N., Shah, I., Aidman, E. V., Barker, J., Tóth, M., & Naughton, D. P. (2011). Incongruence in Doping Related Attitudes, Belief and Opinions in the Context of Disconcordant Behavioural Data: In Which Measures Do We Trust? *PloS One*, 6 (4), 1-10.

- Pilz, G. A. (1995). Performance sport: Education in fair play? *International Review for the Sociology of Sport*, 30(3-4), 391-418.
- Rupp, T. (2008). Meta analysis of crime and deterrence: A comprehensive review of the literature. Unpublished doctoral dissertation. Downloaded on October 13, 2009 from http://tuprints.ulb.tu-darmstadt.de/1054/2/rupp_diss.pdf.
- Sheeran, P. (2002) Intention-behavior relations: A conceptual and empirical review. *European Review of Social Psychology*, 12, 1-36.
- Singer, P. (1986). *Applied ethics*. Oxford: Oxford University Press.
- Singler, A. (2011). *Dopingprävention – Anspruch und Wirklichkeit* [Doping prevention – claims and reality]. Aachen: Shaker Verlag.
- Singler, A. & Treutlein, G. (2010). *Doping - von der Analyse zur Prävention*. Aachen: Meyer & Meyer.
- Sniehotta, F. F., Scholz, U., & Schwarzer, R. (2005). Bridging the intention-behaviour gap: Planning, self-efficacy, and action control in the adoption and maintenance of physical exercise. *Psychology and Health*, 20 (2), 143-160.
- Solomon, R. C. (1984). *Ethics. A brief introduction*. New York: McGraw-Hill.
- Striegel, H., Ulrich, R., & Simon, P. (2010). Randomized response estimates for doping and illicit drug use in elite athletes. *Drug and Alcohol Dependence*, 106(2.3), 230-232.
- Trevino, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review*, 11, 601-617.
- Tsorbatzoudis, H. (2009). *Determinants of Doping Intentions in Sport*. Canada: World Anti Doping Agency
- Victor, B., & J. B. Cullen, J. B. (1988). The organizational bases of ethical work climate. *Administrative Science Quarterly*, 33, 101–125.
- Volkwein, K. A. (1995). Ethics and top-level sport - A paradox? *International Review for the Sociology of Sport*, 30(3-4), s. 311-321.
- WADA. (2009). *World-Anti-Doping-Code*. Montreal: WADA.
- Weber, J., & Glyptis, S.M. (2000). *Measuring the impact of a business ethics course and community service experience on students' values and opinions*. *Teaching Business Ethics*, 4 (4), pp. 341–358.

Wright, M. (1995). Can moral judgement and ethical behaviour be learned? A review of the literature. *Management Decision*, 33(10), 17-28.

Project Publications and Presentations

Publications

- Berding, A., Schlegel, M., Elbe, A.-M., & Brand R. (2011). Ein ethisches Entscheidungstraining zur Dopingprävention [An ethical decision-making training for doping prevention]. In J. Ohlert & J. Kleinert (Eds.), *Sport Vereint: Psychologie und Bewegung in Gesellschaft* (p.174). Hamburg: Czwalina.
- Berding, A., Schlegel, M., Elbe, A.-M & Brand R. (in press). *Doping – soll ich oder soll ich nicht* [Doping - should I or shouldn't I]. Neuer Sportverlag.
- Elbe, A.-M., Melzer, M., & Brand, R. (2010). Ethical Decision-Making: A Chance for Doping Prevention in Sports? In: Association for Applied Sport Psychology - 2010 Conference Proceedings (p. 128-129). Madison, WI: Association for Applied Sport Psychology.
- Elbe, A.-M., Melzer, M., Strahler, K., & Brand, R. (2009). Ethical decision-making as a chance for doping prevention? Abstract Volume [Electronic Version] to the 12th World Congress of the International Society of Sport Psychology (ISSP), Marrakesch, Marocco.
- Melzer, M., Elbe, A.-M., Brand, R., & Strahler, K. (2009). Ethisches Entscheidungstraining – ein neuer Weg in der Dopingprävention [Ethical decision making training – A new perspective in doping prevention]. In: I. Pfeffer & D. Alfermann (Hrsg.). *Menschen in Bewegung. Sportpsychologie zwischen Tradition und Zukunft* (p. 107). Hamburg: Czwalina.
- Melzer, M., Brand, R., & Elbe, A.-M. (2010). „Sauberer Sport“ – Moralisches Verhalten und Devianz im Sport [Clean sport – moral behavior and deviance in sport]. In G. Amesberger, T. Finkenzeller & S. Wuerth (Hrsg.), *Psychophysiologie im Sport- zwischen Experiment und Handlungsoptimierung* (p. 137). Hamburg: Czwalina.
- Melzer, M., Elbe, A.-M., & Brand, R. (2010). Ethisches Entscheiden in der Dopingprävention [Ethical decision-making in doping prevention]. In G. Amesberger, T. Finkenzeller & S. Wuerth (Hrsg.), *Psychophysiologie im Sport- zwischen Experiment und Handlungsoptimierung* (p. 138). Hamburg: Czwalina.
- Melzer, M., Elbe, A.-M., & Brand, R. (2010). Moral and ethical decision-making: A chance for doping prevention in sports? *Etikk I praksis. Nordic Journal of Applied Ethics*, 4, 69-85.

Melzer, M., Elbe, A.-M., Strahler, K. & Brand, R. (2010). To dope or not to dope: Doping prevention and ethical decision-making in sports. In G. Pfister, A.-M. Elbe, R. Jeppesen & U. Wagner (Eds.) *Abstract Book –Doping Conference 2010* (p.23). Copenhagen: University of Copenhagen.

Presentations

Brand, R. (2011). Ethical decision-making training as a chance for doping prevention in sports. Invited key-note at the Greece Conference for Physical Education Teachers in Thessaly, Greece.

Brand, R., Schlegel, M., Melzer, M., & Elbe, A.-M. (2011). Ethical decision-making: Evaluation of an online prevention tool against doping. Invited presentation at the 13th FEPSAC European Congress of Sport Psychology, Madeira, Portugal.

Elbe, A.-M. (2010). Ethical Decision Making as a Chance for Doping Prevention? Invited keynote lecture at the International Sport Psychology Conference in Bratislava, Slovakia.

Elbe, A.-M. (2011). Ethical Decision Making: A Chance for Doping Prevention. Invited Keynote Lecture at the 1st Congress of Sport Psychology (<http://officinadellamente.it>) in Andria and Trani (Puglia - Italy).

Elbe, A.-M., Schlegel, M., & Brand, R. (2012). Ethical decision-making training changes doping attitudes of young athletes. Invited presentation at the 3rd International Conference on the Fight Against Doping of the National Anti-Doping Agency and the National Olympic Committee of Tunisia, Tunis, Tunisia.

Schwarz, R. & Melzer, M. (2009). Soll ich oder soll ich nicht? - Grundlagen des ethischen Entscheidens beim Doping [Should I or should I not? Ethical Decision-making and Doping]. Presentation at the 19. Hochschultag der Deutschen Vereinigung für Sportwissenschaft (dvs), Münster, Germany.

Appendices

Appendix I – 1: Ethical Dilemmas in Sport Context (Session 1)

Maintaining Sponsorship

Liliana is a javelin thrower with body and soul. At the moment, she is supported by a sponsorship program for young athletes; this gives her the best opportunity to practice her sport. She receives weekly medical attention, a car, and \$1,000 spending money a month. Because of the full time schedule, Liliana rarely meets people besides her teammates, whom she naturally considers her best friends. During the last few months, Liliana has made very little progress in her javelin throwing. She has not shown signs of frustration, but instead she has been motivated to train even more intensively. Nonetheless, her coach has recently told her that the gap between her and her competitors is getting too large. Liliana will not remain in the sponsorship program if she cannot close the gap soon. Liliana cannot imagine leaving the group and going back to her old club. After another two weeks of competition and not meeting the standard, a friend asks if she wants to use a performance enhancing substance. Liliana desperately wants to keep the sponsorship. She starts thinking...

Quick Recovery

Christoph has been a keen cyclist since childhood. Last year he suffered a major injury, causing him to miss the Nationals.

This year he wants to participate no matter what, even if he occasionally suffers from the old wound. A teammate, who had similar problems, advises him to take a certain substance that speeds up the recovery process. Christoph disapproves of doping, but has confidence that that particular substance is legal. Since his coach thinks that it is still too early for him to start training harder, Christoph does not ask him for advice. Christoph uses the Internet to get more information about the substance, but only finds contradicting information.

In two weeks, the Nationals will take place. Christoph finds a place to buy the substance on the Internet.

Foul Play

Micha and Tobias have been training together for years. Canoeing is their life. They are friends and successfully compete in double boat at national and international competitions.

Since Tobias does not take training as seriously as Micha, they sometimes argue with one another. Recently, these arguments occur more often because Tobias' performance is lagging. The coach wants to split-up their team in order to increase Micha's chances of reaching the top. Tobias is disappointed because he does not want to lose his friend. He starts training harder, but his performance remains low.

Micha is aware that Tobias is considering taking performance enhancing substances. He knows that their coach is strictly against doping. Micha confronts Tobias and tells him to talk to the coach instead of turning to doping. Tobias does not listen. Micha starts debating whether or not he should tell his coach about Tobias' intentions.

Appendix I - 2: Ethical Dilemmas in Sport Context (Session 2)

Soothing Effect

Jan has competed at championships numerous times, but still gets shaky knees before a tournament. The people around him are aggravated by this, which doesn't help Jan convince himself that he is well prepared and that there is no reason to be nervous. Jan's friends are beginning to make fun of him and his nervousness.

This weekend there is an important international classification tournament. For weeks Jan has been terribly excited about it. The closer the tournament gets, the more sleepless he becomes.

Friday before the tournament there is a party at a friend's house. Jan attends the party to distract himself. He does not want to stay too long because he has to get up early in the morning. He also does not want to drink any alcohol so that he is in perfect condition for the competition. Alcohol would only cause a hang-over. At the party he is not able to relax because he is thinking about the tournament the whole time. Jan's friends tell him about the relaxing effect of a blunt and that he should take a puff to calm him down. No sooner said than done. A friend rolls a blunt and passes it around. When it's Jan's turn, he hesitates. Cannabis is on the doping list as far as he knows.

Weight Problems

For Caroline judo is everything. Weighing close to 50 kg, she has to be very disciplined before every tournament to reach her competition weight of 48 kg. It is her biggest goal to enter elite sport schooling, but there are many competitors in her weight class. In a higher weight class she would not stand a chance which is why she is bound to the 48 kg class. Once more, there is an upcoming classification tournament, but this time she does not manage to reach the necessary weight. She barely eats anything but she does not lose weight fast enough. On the internet, Caroline read that diuretics can quickly help with losing weight. She ignores the possible side effects, because she desperately needs to lose weight. Caroline knows that her grandmother is taking such substances. She snatches some out of granny's medi-kit and wonders, whether or not she should use them.

Difficult Choice

Nick has been a basketball coach for many years. He has led his current club to the top national level and was able to win several championships. However, lately talented players are missing; top performers have become rare. One of his players is such a promising trainee, but he rests too much on his talent. Nick continuously tells him to train regularly. During the last months, Nick has been surprised by the quickness of his trainee's growth in strength and weight. Nick does not believe that his nagging has suddenly worked and that the training has paid off. He suspects the player's change to be an unnatural one. The player ensures Nick that he is not taking any illegal substances. Nick wonders if he should nonetheless sign his player up for a doping control.

Appendix I - 3: Ethical Dilemmas in Sport Context (Session 3)

High Performance

Julia is a very gifted high jumper. She has always dominated her age group because of her height. Since competing with the adult athletes, it has become increasingly difficult for her to hold her own. She cannot repeat her time of dominance in the youth groups, because she has recently begun to battle injuries. Nonetheless, she has set her goal to qualify for this year's world championships to show everybody (coach, parents, sponsors) what she is capable of. Recently, rumors are spreading through the circle of top high jumpers, that there is a new substance on the market that can increase an individual's performance tremendously. The substance is supposedly not detectable since the body's metabolism decomposes it at a very rapid rate. Julia asks one teammate after another, until finally a friend provides the substance for her. Some days later, just before the qualifying tournament, Julia is getting changed in the dressing room and gets the tablets out of her bag. She hesitates. From outside, the coach is shouting for her to hurry.

Under Pressure

Murat is one of the top talents in the minor league. From time to time he is nominated for the national U-16 squad. By now, almost every weekend in the year he has got a game or a training camp. Murat does not want to abandon his home club so he plays in all the games of the season. He feels close to his friends in the club, but he also wants to take his chances in the national team and so he wants to go through with both. However, the tight schedule is getting to him. There is little time to recover between events and going on vacation is almost impossible due to the long journeys, the training camp or the games for his home club. Similarly, some of the other players of the national team suffer from the practice load. One team member suggests taking a substance that increases the rate of recovery. Murat begins to think.

Disappointed Entourage

Karsten has practiced track and field for over ten years. By far, he stands out the most on his team. Normally, he is the only one who competes for the podium during events. However, during the last competition his performance was way below average. His parents and coach were disappointed but commonly declared it a blooper. For the next competition, within a one month time frame, his teammates, coach and family rank Karsten on top. Karsten wants his family and supporters to be proud of him. To meet their expectations and not disappoint them, he wants to make sure that his performance in four weeks will be exceptional. Even though he trains intensely, Karsten is afraid to fail and that his bad performance will once more become the center of attention. He buys a substance from a friend that is meant to boost his performance during competitions. While doing the laundry, Karsten's mother, Heike, finds the substance in his pants pocket. Being a former top athlete, Heike immediately understands the whole situation, but is afraid to confront Karsten. What can she do?

Appendix I - 4: Ethical Dilemmas in Sport Context (Session 4)

Numb the Pain

Klim has struggled with a knee injury that he suffered in a bike accident. He has been training karate since childhood and almost won last year's Nationals. If he started training immediately, he could possibly have enough time to compete for the podium at this year's competition. During the first few training sessions his knee gave him a lot of pain, and the pain continues to worsen after the session. His coach orders some narcotics that are supposed to ease pain. Klim is instructed to slowly lessen the doses in hopes of reaching a point where he does no longer need the narcotics. Klim is unsure whether to follow the order.

No Pain, No Gain

Yen is a gifted gymnast, but still has not achieved the big success. She cannot understand this because she trains all the time and very hard. She wants to make the National Team, but her coach, her teammates and her family doubt whether she can actually make it. Yen wants to prove everyone wrong so she starts to train harder than ever before. Still the success she craves is missing. Another teammate makes the National Team. One day after practice, Yen witnesses this teammate injecting something into her stomach. Yen sees clearly now. Yen searches the internet and soon after purchases performance enhancing drugs. She desperately wants to make the National Team, but battles with the decision whether to do so by doping or not.

Just Headache Pills

Mary is a professional volleyball player who made the national team last year. She manages the full training schedule well, but recently she has suffered from severe headaches. When complaining to her mother about migraines, her mother suggests she take a headache tablet which works. Therefore, Mary begins to take the headache pills regularly and quickly gets used to the pleasant effect. She starts using them more and more. Little Pedro, who is a big fan of the Spanish women's national volleyball team, lives with his parents next to Mary's family. On TV and in the gym, Mary always seems so fit and powerful, but at home, she looks tired and worn out. He approaches Mary one day, and she tells Pedro about the headache pills. Pedro is disappointed and demands that Mary stop taking the tablets. However, Mary does not see her behavior as wrong. After all, these pills are a part of every household. Anyway, Pedro is in no position to give her advice. Pedro considers looking for another sport to support.

Appendix I - 5: Ethical Dilemmas in Sport Context (Session 5)

Base of Existence

Katja is desperate. In the single kayak she has been able to maintain the national and international level for years. She has won the Championships several times and came in third at the junior European championships. Recently, her competitors' performance has improved tremendously, and in such a short time! How can Katja keep up with this? She wants to stay on the national squad in hopes of remaining sponsored. Without being sponsored, Katja would have to step down from the professional level. Katja decides to talk to her coach. He suggests cancelling the international competitions and changing her training schedule. Moreover, Katja ought to take some performance enhancing substances to catch up on performance. With this, at the national level, Katja would regain her position on the national squad and after that the strategy could be readjusted. Katja thinks back and forth on whether or not to follow her coach's plan.

Difficulties Falling Asleep

Richard attends a sport school. Before the daily lessons, Richard completes an additional first training unit. When school is out in the afternoon another training unit follows. Additionally, Richard has private tutoring lessons since he is not doing well in school. Even though Richard is exhausted from his long day, there are too many thoughts going through Richard's mind at night to allow him to fall asleep. One night he goes to a club with some of his friends and one of them hands him two blue pills. Richard wants to party and let it all just go. But he hesitates. Ecstasy, Speed, LSD – are they not all on the doping list?

The Cost of Success

Susan is a young athlete who has accomplished a lot at only 17 years of age. She has been training figure skating since 4th grade. Numerous national and international titles mark her success over the years. The hard training has its consequences and Susan has to constantly deal with pain in her hips and knees. During a medical check "wear and tear" is diagnosed and the doctor advises Susan to quit figure skating. However, Susan does not want to quit and instead takes her physiotherapist Andreas' offer to undergo regular physiotherapy. After a while though, this does not help and Susan starts taking pain killers, recently with a very high dose. When hearing her joints crack during therapy, Andreas forces the truth out of Susan. He is shocked, and even more shocked when Susan does not seem bothered by the fact that an overdose of pain killers can kill her. Susan desperately wants to go to the Olympics; Andreas wants her to be able to walk when she is 20. He is contemplating whether or not to approach Susan's coach concerning the matter.

Appendix I - 6: Ethical Dilemmas in Sport Context (Session 6)

Patch of Bad Form

Carlos is puzzled. Even though he trains and trains, his performance has only been average. Carlos' teammates notice that he is continuously trailing his own demands and they begin making comments. Each day that things do not get better, Carlos gets more nervous. He does not have an explanation for his lack of performance and also has no idea of what to change. A weekend without practice also does not bring a change. A friend encourages Carlos to take a substance that has helped him in a similar situation. Taking the substance would not be permanent; it would only be to get back on track. Carlos considers taking the substance.

No Disadvantage

Sport is the most important thing in life for Arezu. She trains often and hard and sets ambitious goals. Arezu is ready to sacrifice a lot to develop her career. To prepare as well as possible, she maintains a strict training and nutritional schedule and adjusts her life to the training regime. Judging her skill and performance level, Arezu belongs to the upper third of her age group but has yet to make the top. Talking with her rivals, she overhears two of the top athletes talking about their experience with performance enhancing substances. Never has one of them tested positive. Arezu does not want to be a snitch and keeps the conversation to herself. She strongly disapproves of taking illegal substances, but also does not want to suffer a disadvantage due to competing honestly. Since Arezu really wants to achieve her goals and does not see her ranking improving on its own, she considers asking the two rivals to supply her with performance enhancing substances.

Frustration

For many years, Michelle and Jenny have been training together on the same team and have participated in the same competitions. In spite of their rivalry in snowboarding, they are good friends who spend a lot of time together outside of practice and competitions. Both are quite successful. Currently, Jenny is in very good form and is consistently achieving good scores. Michelle admires her development and increases her own training, but still does not reach her friend's high scores. After a day of practice, Michelle catches Jenny injecting something into her bottom. During the following discussion, Jenny reacts stubbornly and does not want to stop doping. Michelle remains unsure whether she wants to continue her friendship with Jenny.

Appendix II: Online links to the training units of ET and KT

Ethical Decision-Making Training

Session 1: <http://ww3.unipark.de/uc/WADATraining/Unit1E/>

Session 2: <http://ww3.unipark.de/uc/WADATraining/Unit2E/>

Session 3: <http://ww3.unipark.de/uc/WADATraining/Unit3E/>

Session 4: <http://ww3.unipark.de/uc/WADATraining/Unit4E/>

Session 5: <http://ww3.unipark.de/uc/WADATraining/Unit5E/>

Session 6: <http://ww3.unipark.de/uc/WADATraining/Unit6E/>

Knowledge Training

Session 1: <http://ww3.unipark.de/uc/WADATraining/Unit1K/>

Session 2: <http://ww3.unipark.de/uc/WADATraining/Unit2K/>

Session 3: <http://ww3.unipark.de/uc/WADATraining/Unit3K/>

Session 4: <http://ww3.unipark.de/uc/WADATraining/Unit4K/>

Session 5: <http://ww3.unipark.de/uc/WADATraining/Unit5K/>

Session 6: <http://ww3.unipark.de/uc/WADATraining/Unit6K/>

Pre-Test: <http://ww3.unipark.de/uc/WADATraining/Entry/>

Post-Test: <http://ww3.unipark.de/uc/WADATraining/Exit/>

Appendix III: Performance Enhancement Attitude Scale (Short version)

Below are statements showing what many people think and feel about sport and performance enhancing drugs. How strongly do you agree or disagree with the following statements? *Please read each item below carefully and mark the appropriate square after each statement, which shows the level of your agreement using the scale below:*

	Strictly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strictly agree
1. Legalizing performance enhancements would be beneficial for sports.						
2. Doping is necessary to be competitive.						
3. Athletes should not feel guilty about breaking the rules and taking performance enhancing drugs.						
4. Athletes are pressured to take performance-enhancing drugs.						
5. Doping is an unavoidable part of the competitive sport.						
6. Only the quality of performance should matter, not the way athletes achieve it.						

Appendix IV – Ethical Climate Questionnaire – Unvalidated Sport Version

We would like to ask you some questions about the general climate in your sports club, not how you would prefer it to be. Please be as candid as possible.

	Com- pletely false	Mostly false	Somewh at false	Somewh at true	Mostly true	Comple- tely true
1. Our major concern is always what is best for the other person.						
2. The most important concern is the good of all the people in the sports club as a whole.						
3. Our major concern is always set on the well-being of the athletes and their family.						
4. People are concerned with the sports club's interests – to the exclusion of all else.						
5. The most efficient way is always the right way in this sports club.						
6. Decisions here are first of all rated according to how much they contribute to success.						