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"Knowledge, attitudes and temptation to use doping in sport: An examination in a sample of Norwegian junior elite athletes"

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“I see young kids coming up with the goal to stay 100 per cent true and clean. This goal needs to be fostered by all of us. What I want to see is clean riders working with coaches, becoming mentors, managing teams, and helping to develop the future of the sport.”

- Will Routley, professional cyclist -

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1.0 Introduction

In modern times, the history of doping in sports has shown to be a great problem among competitive elite athletes (3, 4, 24). As many may be aware of, doping in sports is illegal, threatening to the athletes health and a violation of the sport`s reputation (1).
The health consequences of using prohibited substances are many and can cause harmful effects to those who chose to dope (45, 48, 49, 50, 51).
Doping use is not only limited to athletes on an elite level, they are also used by adolescent athletes in competitive sports at various levels (51), as well as it have seen to be common among other levels of sport and exercise (46, 47). Even in pre-adolescent athletes, doping has shown to exist, and that it tend to increase with age (42, 47).

There are several studies that have looked into adolescent and the use of drugs. In a Swedish study (43) on a representative sample of adolescent and the prevalence use of anabolic steroids, 2, 9% of male adolescent admitted to drug use, and mainly stated that it was to improve their appearance, for females the answers were 0,0 %. Using anabolic steroids to improve appearance have been seen in other studies as one of the main reasons to why adolescent chose to use prohibited substances (13,46,). In a study by Lucidi et al. (54) on Italian adolescent, 2, 1 % admitted to have used a doping substance. In this study, male adolescent were more likely to use doping then female adolescent, and this is something that have been seen in other studies as well (37, 43,53, 55, 56, 71).

In contrary, there are very few specific studies targeting junior athletes and their knowledge and attitudes toward doping, as this can still be defined to be in the beginning phase (18). One French study (20) have looked at adolescent athletes and their attitude and drug consumption , and in Germany (19) and Austria (18) there have been studies looking into adolescent athletes knowledge and attitude toward doping . When it comes to knowledge about doping, one study (10) found that most athletes knowledge about doping are in self- education, meaning gathering information from the internet, through other athletes or the media, which are consistent with a previous study (76). And concerning attitude, a recent study points out that anti-doping attitude are in some cases shaped by relations the athletes have to coaches, teachers, family members and other teammates (10).

Using Ajzens Theory of Planned Behavior (8) to predict doping intentions have been used with success in earlier studies among elite athletes (25), adolescent athletes (36) and among

adolescents (54). Other theories that may predict doping intentions is a relatively new theory concerning passion, which can be divided into Harmonious (HP) and Obsessive Passion (OP), suggested by Vallerand et al. (14). So far there are no known studies on HP and OP on the prediction of doping behavior, but it has been suggested that there can be a link between OP people and doping behaviour among athletes (35).

So far in Norway, there are no known studies targeting junior athletes, or junior athletes at a high (national/international) level, with regards to knowledge and attitude toward doping. Therefore, by using the Theory of Planned Behaviour (8), and also adding descriptive norms (62), anticipated regret (58) and situational temptation (self- efficacy)(96), and HP and OP (14), in this thesis I examine predictors of temptation to use doping among Norwegian junior elite athletes using the attitudes as a conceptual umbrella concept. Moreover, I will also look into the athletes' general knowledge about doping.

1.1 Aims of the study

The following aims for the study is:

- *to look into the Norwegian junior elite athletes' general knowledge about doping*

- *to examine theory informed predictors of self- reported temptation to use doping in sport among Norwegian junior elite athletes.*

2.0 Theory

2.1 What is doping?

Doping is referred to as supplements that are intended to result in enhanced performance (1). According to the Norwegian antidoping agency (ADN), when we look at the word doping in a sporting perspective, there are many different criteria`s that cover this term (1);

- The presence of prohibited substances in a doping test
- The use of substances and methods on the doping list
- Failure to meet the control of a doping test
- Breaking requirements for athlete information / availability
- Falsifying, interchange or destroy a doping test
- Possess substance or prohibited method on the prohibited list
- Manufacture, import, execute, sell, distribute, acquire, transmit or transfer the materials or methods on the prohibited list
- Prescribe or provide a prohibited substance or method

All of this can be considered as violations of the doping rules

Figure 1: Criteria's that cover the word doping according to ADN (1).

It is the World Anti- Doping Agency (WADA) that decides which substances and methods that are going to be a part of the prohibited list (1). The list are renewed every year, and when it comes to adding new substances or methods on the list, WADA are looking if there is an performance enhancing in the new substance/method and/or if it involves a health risk for the athlete (24).

2.1.1 A brief history of modern doping in sports

In modern times, different types of doping were in use already in the mid-19th century and during the start of the 20th century different kinds of doping were used among athletes (3). It wasn`t until the summer Olympics in Rome in 1960, when the Danish cyclist Knut Enemark Jensen died on the first day of the Olympics, from the use of amphetamine, that the International Olympic Committee (IOC) decided to take action (4). And in 1967 (after another death in cycling due to doping) the IOC for the first time set up a prohibited list and this lay the foundation for the first doping- tests for the summer games in Mexico City the year after (3). The death of 18 European cyclist at the end of the 1980 `s have been thought to be because of the abuse of EPO (24), and after the doping scandal in the 1998 Tour de France,

where several teams, their doctors, physicians and support staff all were a part of a system that contributed to doping, new concern against doping raised as this showed that something had to be done. Therefore, the year after, in November 1999 the World Anti -Doping Agency (WADA) was established as an independent international agency (5).

2.1.2 **Why is doping illegal in sports?**

There are several reasons why doping is illegal in sports. Doping is threatening to the athlete's health and the different substances uses by athletes are not always tested for and approved in medical use, and therefore it can be very harmful and dangerous for those athletes taking illegal substances to enhance their performance (2). Another thing is that doping is cheating and wrong in sports and doping also threatens the integrity of sports. Doping does not only affect the professional athletes, but young athletes as well, as they are influenced by their role models (2).

Reasons for why a substance or a method is put on the doping list:

1) Substances or methods which have the potential to improve performance.
2) When it involves a health risk for the athlete.
3) A violation of the sport`s reputation.

Figure 2: 2 out of 3 criteria`s that need to be met for a substance to be on the doping list (1).

2.2 The psychology behind doping and possible consequences

Ehrnborg & Rosèn (44) have looked into the psychology behind why some choose to use doping. As for athletes, the drive towards improving performance, becoming famous and the economical reward (high prize money, and in some cases money just for participating, once an athletes is world famous) might be more important than the ideals of the sport. This can lead to the temptation to take "short- cuts", engage in the use of doping, regardless of the true spirit of the sport and fair- play, but with a wish to achieve money and becoming a star (44). This is also mentioned as a reason to why athletes might chose to dope in another study, where the pressure in elite sports may lead to the temptation of taking "short- cuts", and how it sometimes can be difficult to resist for some athletes, considering the huge advantage doping can be in so many different sports (69). When it comes to using anabolic steroids it is not always used as a way of performing better in sports, but is often used as a way of improving appearance (46). Concerning recreational drugs and the risk of using such drugs, a

systematic review article (45) that looked at the risk of cannabis use, found that people who used cannabis had an increased risk of psychotic symptoms, and they further mention that they believe there are evidence to support that the use of cannabis increase the risk of psychotic illnesses later in life. Other possible consequences on taking doping is also mentioned in a study from 2008 by Beaver and co- workers, in which they used data from the National Longitudinal Study of Adolescent Health to look into if the use of anabolic steroids would lead to make a person more violent in behavior. Based on self- reports, the use of anabolic steroids among lifetime and previous year users showed that young adults had a higher chance of getting involved in violent behaviors (29). In a British study (78) in English professional football, 6% of the respondents answered, through an anonymous questionnaire, that they knew of other football colleagues who used doping but had never been caught. This can be looked at as a warning, as those footballers who use doping are not being tested or are able to avoid detection (78), and in addition, believing that others are doping, can in some cases lead to that oneself can be tempted to use doping (64). If we look at another question in the British study (78), concerning attitude, 5% of the footballers admitted they would take the "magic pill" if it could take them to the World Cup.

A "new" attitude toward doping

While a former doper in professional cycling claims that it is impossible to win races, such as the Tour de France (TdF), without using doping, he also claims that practically all who chose to dope, run no risk of getting caught (22). To a certain extent this seems to be verified from a recent book published, and written by a former Norwegian employee of the Norwegian Antidoping Agency, who states that it is extremely easy to dope and get away with it (23). It seems like it`s difficult for the doping hunters to catch up with the doped athletes (23) as the dopers adapt and figure out new ways to avoid testing positive as they have shown by shortening the detection window, the time where they risk getting caught (24). However, there seem to be a change when it comes to attitude on doping among the athletes growing up these days, as in the study by Lentillon- Kaestner (2013), who interviewed 8 former professional cyclists and 8 young present cyclists, who mentions the "old" and the "new generation". One of young cyclists of the "new generation" points out that the anti-doping work done have made the current and upcoming cyclists think that it is possible to win without using performance enhancing substances, and that the "new generation" have a different attitude when it comes to doping then the "old generation" of cyclists (91). The "new generation" of

cyclists also points out that the way the anti-doping controls are carried out today, with out-of-competition tests and with the opportunity to test at ant time, really is a good way of doping prevention (91).

A study that looked at protective factors toward doping in sports, used an interview of 10 athletes, 5 male and 5 female, that claimed to have never doped, in the age group between 18 to 30 years old (10). The findings in this study showed that the majority of the athletes looked at doping as morally wrong, and mentioned what an unfair advantage it would give to those who choose to dope. The athletes point out the importance of doping prevention programmes that have a strong focus on fair-play, the values of the sport, and with that avoid the shame after being caught using banned substances. Another protective factor mentioned in this study, is that if one can maintain a life beyond sport, the temptation to use doping seem to be less (10). A former world class elite athlete and former doper, says that one of the most important things when we talk about the prevention of doping is to target young athletes (adolescents), to help them understand the consequences of taking prohibited substances, and make them believe that it is possible to perform at the top level without doping (17). This is a way of making sure that the next generation of athletes won't go down the wrong road (17). It is therefore important to learn athletes' about the side effects of doping in order to refrain them from going down that road, and it is important that the sport has sporting ideals, that shows fair-play and good attitude, both on and off the sporting arena, which can be looked as an important role in the fight against doping (21).

2.3 Studies on doping among adolescents

In Sweden, a study by Kindlundh et al. (37) among high school students, showed that 2,7% of the boys and 0, 4% of the girls had used doping in their lifetime. In another Swedish study (43) who looked at the prevalence of anabolic steroids among of a representative sample of almost 6000 adolescents (about half male and half female), age 16 and 17, found that the prevalence was 3,6 % and 2, 8% among those two age groups, for males. Out of the female adolescent, both 16 and 17 year olds, the result was 0, 0 %. When giving the reason for why they chose to use anabolic steroids, most of the users wanted a better appearance, and some stated also that they though girls preferred boys with large muscles. A few users also believed that using anabolic steroids was not harmful. Their results also showed that the boys who used anabolic steroids, also tended to use other prohibited doping substances. The study points out

that the use of anabolic steroids is clearly a male problem. This seems also to be the case in a Finnish study on adolescents, where boys reported a higher use of anabolic steroid use then girls (68). In a study among non- competing athletes (11), with a wide age range, 15 to 60 years old, those who had thought of using anabolic steroids, also showed a more lenient attitude toward using them, compared to athletes who never had considered using anabolic steroids, and the study also revealed that the attitude toward using anabolic steroids decreased as they got older. It has to be mentioned that most of the athletes were against the use of anabolic steroids. When it comes to doping use among Italian adolescents in a study by Lucidi et al. (2004), male adolescents reported a higher use of doping substances then women (67). In a Polish survey on 3687 people (71), mostly adolescent and young adults, over twice as many males (6,2%) compared to women (2,9%) admitted to the use of anabolic- androgenic steroids, which according to the authors of the article can be looked at as a serious health concern in that age group.

In a longitudinal study among students (74), almost 900 Italian adolescents, 1- 2,1% reported to have used doping, and when it came to supplement use, the answer was around 15,2 – 15,4 %. The study revealed that adolescent who had a positive attitude towards doping and also thought that people close to them would approve of their use, the higher intention they actually had of using doping in the future. It has to be mentioned that the majority of the adolescent students were opposed to doping and showed a healthy attitude towards doping (74).

A study among talented young British athletes who looked at attitudes toward doping and how to better understand the choices an athlete make in choosing, or not choosing to dope, found that a clear majority of the athletes were against doping (81). To see the results of hard work and through "natural ability" and danger to own health was mentioned as reasons not to dope, along with guilt and shame. The athletes didn`t feel any pressure to dope, put up to hypothetical situations, and when asked about the "magic drug", under 1/3 of the athletes in this study (n=40) would take it when the chance of getting caught was non existing (81).
In another British study on talented young athletes and their attitude towards doping and supplements (88), using a questionnaire, male athletes showed to have a more liberal view then female athletes when it came to the use of doping substances. In this study the athletes were also asked the hypothetical question if they would have taken "the magic drug". Less the 10% of all the athletes (n=403) answered yes, but when asked the same question and adding that it would shorten their life with 10 years, less than 1% answered yes (88).

It is interesting to see that Laure & Binsinger (2007) have focused in an even younger group then adolescent, namely preadolescent athletes and doping prevalence, in a period of 4 years, with a number of 2199 participants at the last year of the study. Their results showed that the use of doping significantly increased through the 4 year period, from 1, 2% to 3%. As much as 44% of the athletes that had used doping also had at least one victory in a competition. This study was set to a specific region in France, but shows nonetheless, that even in very young athletes, the use of prohibited substances are present (42).

Supplements

An Australian study on adolescent boys found that there could be a link between body image, supplements and attitude towards doping (82). In a study by Bell et al. (2004) on supplement use among boys and girls (age 13- 19), their results showed that boys had a higher use of supplements, both present use and planning on future use, then girls had (83).
Dietary supplements, bought over the counter (or on internet) can contain prohibited substances, often just called contaminated supplements (84). The study found that 1 in 5 supplements are contaminated, and that this is not declared on the label of the supplement purchased /ordered (84). In a survey among UK track athletes during the Junior World Championship in 2004 on supplement use, the results showed that those athletes not taking supplements did so because they thought it could be a health risk (86). The reasons athletes used supplements were mostly because of health, enhanced immune system and improved performance. The study also found that 3/4 of the athletes felt they needed more knowledge when it comes to supplement use (86). A study among adolescents in the US who looked at the use of herbal products, found that over 1/4 of the adolescents answered that they were using herbal products. The study found that there seemed to be a link between herbal products use and the use of drugs (85). It is important to know that when it comes to supplements, not all of them are regulated, and it can therefore be at a significant risk for the athlete consuming such products (80).

Studies on adolescent`s knowledge and attitude towards doping

There have been a few studies that have looked into adolescents athletes with regards to attitudes toward doping and knowledge about doping (18, 19). One of the most recent studies by Furhapter et al. (2013), done on 408 West- Austrian junior athletes in 2010, was aimed to look at their knowledge and attitudes in regard to doping. Their attitude toward doping was shown to be very good, with 92,4% stating that doping is unfair, with also over two thirds of them agreeing that taking doping is each person`s own responsibility. However, their knowledge toward doping was set to moderate, but poor when it came to the subject of negative side effects of doping (18). Some similarities can be drawn toward a German study on the same subject by Wanjek et al. (2007). Knowledge about doping was set to poor, with an average of less than 60% answering correct about general knowledge on doping. Although this was a study among three different groups of adolescents; non- athletes, recreational athletes and competitive athletes, it revealed that competitive athletes had a higher knowledge than recreational athletes on knowledge about doping, which can be due to the fact that competitive athletes are (or need to be) more aware of the prohibited list (19). What was also interesting to see here was that the adolescent who had a high use of substances of the prohibited list, also had a very good knowledge about doping in general, and this could mean that they are in fact aware of the consequences on taking prohibited substances (19). Low knowledge about doping was also seen in a study on young Italian elite cyclists (age 19 – 23 years), but among the substances well- known was erythropoietin (EPO) (66).

Knowledge about consequences about taking doping/drugs has shown in one study from Turkey (39) on athletes and non- athletes (mean age 21, 8 ± 3, 7), not to be very good. Further on, the study concludes that it is the young athletes who will suffer most negative health consequences by involving or getting involved in doping, and that more attention toward these youngsters should be done. According to one study, it is not a surprise that there is a lack of knowledge and education towards doping among athletes, but that it is more of a concern (10). In a French study by Laure et al. (2004) concerning doping use and attitudes on doping among 1459 high school athletes, between 93 – 94 % stated that using doping can be harmful and dangerous towards one`s health and that it is against the spirit of sport. When it comes to ethical concerns, 6% stated that using doping in sport is not cheating, and 5% goes on to say they would try doping if offered by one of their best friends (20).

2.4 Norwegian studies on doping and drugs

In 1994, a Norwegian survey (9) looked at the extent of doping abuse in gyms and training institutes in one selected county, Telemark. They had a representative selection of 432 persons to fill out an anonymous questionnaire. Their results showed that 2% admitted to use doping. In a study that looked at the prevalence use of anabolic androgenic steroids (AAS) among a nationally representative sample of Norwegian youths, age 15- 22 years, found a "life- time" prevalence of anabolic androgenic steroids use to be 0,8% (15). In addition, the study also found that those who admitted to recent use of AAS were also more likely to use cannabis at the current time (15). A longitudinal study that came out in 2008 (12) looked at the use of cannabis among adolescents and young adults in a representative sample of Norwegians from 1992 to 2005. The results of this study showed that less than 10% had used cannabis between the ages 15 to 16, but that most had started in their late teens. A survey (13) among older adolescents in 2008, age 18-19, who was on a military session (uptake for the Norwegian army, first enrolment), was asked to participate in completing an anonymous questionnaire regarding the use of doping. Their results showed that those who used or had used doping was 2, 6%. They had a high number of participants, 5331, but only 1 out of 7 (15, 7%) were women. The survey showed that the main reason for using doping was a wish to have a better looking body. It also showed that those people with doping experience had more knowledge about how doping works, the negative consequences and physiological processes related to the use of doping. It has to be mentioned that a great majority of the participants look at the use of doping substances as something negative. The motives for those using doping in this survey was linked up towards heaving a great body and feeling well, and very little toward winning or performing in any kind of sports, which may seem reasonable since this is not a group of solely competitive athletes but rather a representative sample of older adolescents (13). In a Norwegian study on attitude towards doping, a comparison between elite athletes (n=234) and the general population (n=428), they found there was a zero tolerance towards doping among the Norwegian elite athletes, and among the general population, very few seem to find doping acceptable (90). The study also found that when it comes to sports, close to 60% of the general population would like to have an increase in the anti- doping work, and among the elite athletes, 31,6% wanted an increase in the anti-doping work (90).

2.5 Doping tests among junior athletes in Norway

Since the Norwegian Antidoping Agency was founded in June 2003, they have been in charge of the doping tests among Norwegian athletes. From 2003 until 2013, they had taken a total of 30 208 doping tests (16), which gives an average of 2752 doping tests each year.
How many of these tests that were of junior athletes are not known. But in the period from 2005 until the end of the year 2013, Antidoping Norway has made available all the positive doping tests which also include the athlete's birth year (the positive doping tests dating from the year 2000 to 2004 are also available, but they are without the birth year, making it impossible to check if any of them were junior athletes). This shows us that there were 13 positive doping cases on junior athletes in the age between 16-19 years, with the majority of them, 8, concerning cannabis use (16).

3.0 Theory & framework

Reasons for engaging in doping behaviors are not explained easily, and there are many different factors at play when it comes to the prediction of doping (99). A way of better understanding what lays behind a person's choice of engaging in doping behaviour is mentioned in the study by Barkoukis et al. (2013), on how one can use theoretical models for help in explaining the different predictors toward doping and looking at different risk factors that can influence an athlete`s choice in engaging in doping activity (25). One of the most used theories in trying to explain the psychosocial mechanisms when it comes to the prediction of doping behavior is the Theory of planned Behaviour (8), which have been used in several studies on the prediction of doping (25,36,38,87). There are also many studies that have used aspects from the TPB in trying to explain psychosocial reasons for engaging in doping behaviour (98). I will build my framework on this theory coupled with aspect from supplementary theoretical models that may help inform the understanding of what facilitates doping behavior (in this thesis; the temptation to use doping/ability to resist using doping).

3.1 The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was first proposed in 1985 by Icek Ajzen (6) and it was developed through another theory, proposed by Fishbein and Ajzen in 1975, namely the theory of reasoned action (7). One of the most important things in the Theory of Planned Behavior is towards a person's intention to perform a given behavior (8). It is said to be a

motivational factor toward the behavior of the individual, and how much one a person is willing to try and put in the effort in order to perform the given behavior (8). Further on, it is said that the stronger an intention to engage in a behavior, the more likely one will perform such behavior (8).

The TPB (figure 3) consist of three different and independent determinants, namely attitudes, subjective norms and perceived behavioral control which can be moved toward influence intention, and in addition, perceived behavior control can also move directly on to influence behavior (8).

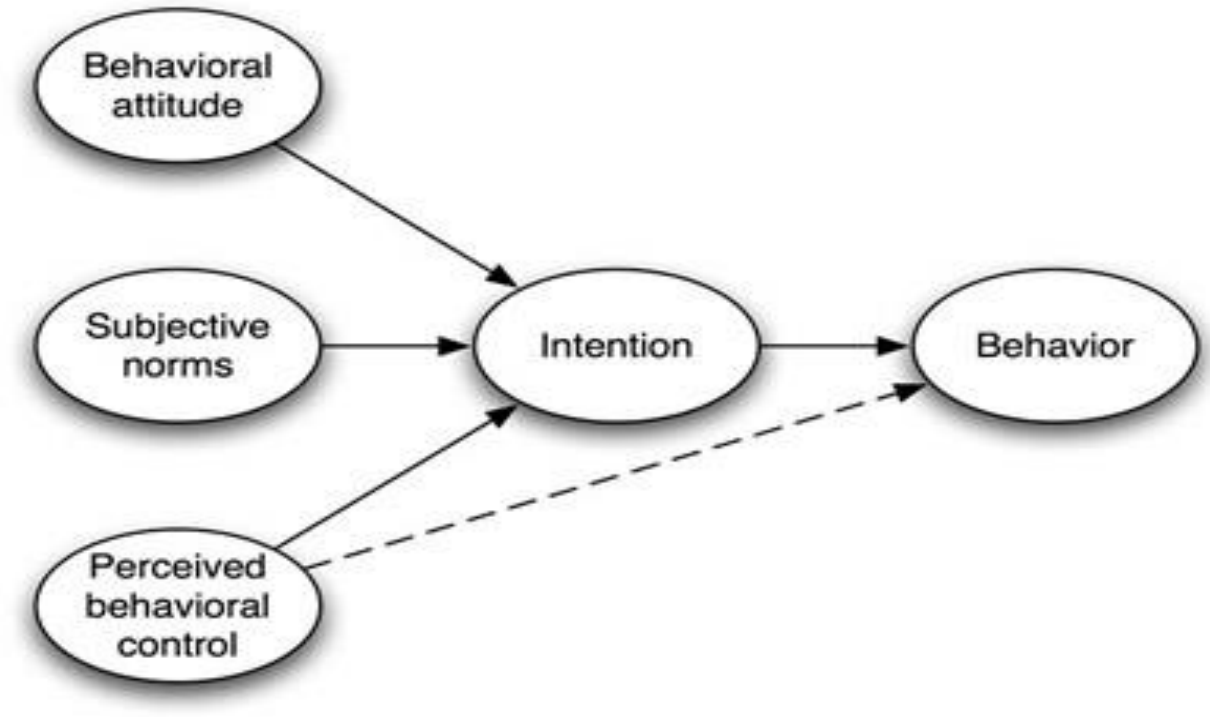

Figure 3: The Theory of Planned Behavior, Ajzen (1991).

The Theory of Planned Behavior (TPB) have shown a good validity when it comes to predicting behavior, as in the study by Armitage (2005) on the prediction and maintenance of physical activity (40), and in the prediction of anabolic steroid use (87). Though the TPB consist of attitude, subjective norms, perceived behavioral control and intentions, which ultimately is said to predict behavior, there is according to Ajzen (1991) possible to add other predictors as an extension of the Theory of Planned Behavior (8). Predictors such as Bandura`s (1977a) self- efficacy theory (situational temptation), Wiefferink et al.`s (2008)

descriptive norms and Bell`s (1982) anticipated regret, have been used in other studies within the framework of the TPB (25, 57, 61, 62).

A description of each predictor is as follows:

3.1.1 Attitudes

Is referring to a person's beliefs and consequences toward a given behavior, and if it gives a favorable or unfavorable outcome in doing that particular behavior asked (8).It has been used with success in previous studies when it comes to the prediction of doping intentions (25, 73). In a recent study by Barkoukis et al. (in press), attitudes was found to be predict doping intentions directly (73).

3.1.2 Subjective norms

Is referred to as how significant others would approve or disapprove of a given behavior, such as parents, friends, coaches or other family members. This can be looked at as a form of social pressure toward a given behavior (8). In a study by Lucidi et al. (2008) on Italian adolescents, it was seen that if they believed that significant others approved of their use towards doping, the stronger their own intentions were to actually use doping substances (54). In another Italian study (74), subjective norms were seen as a contributor for adolescents' prospective intentions toward doping use.

3.1.3 Perceived behavioral control

One of the most important parts of the TPB is the perceived behavioral control. Perceived behavioral control is referred to as a way to predict an ease or a difficulty toward a behavior of interest (8). Perceived behavioral control showed to be a significant predictor on doping intentions in the study by Barkoukis et al. (2013).

3.1.4 Intentions

One of the central factors in the TPB is "Intention". The influence on a behavior, the motivation to perform toward a given behavior and eventually how hard people are willing to try in order to perform their behavior, will give an indication of how much a person is willing to perform that behavior. In other words, if a person has a strong intention toward a certain behavior, the more likely the person will go through with that behavior (8).

3.2 Studies on the Theory of Planned Behavior and doping

According to the study by Barkoukis et al. (2013) there are different reasons to why people engage in doping, and in order to understand these reasons, the process that can lead up to using doping, specific theory driven approaches are needed. In their study on elite athletes in Greece (n=750), they used self- determination theory, achievement goal theory, sportsperson ship and the Theory of Planned Behaviour, as predictors to measure doping intentions. Their results showed that within the Theory of Planned Behaviour, one of the strongest predictors towards doping use among the athletes that had doped before, and also those never doped before, was toward situational temptations (25). This can be looked at as an important protective factor for the athlete when they are faced with hypothetical situations toward temptation toward doping, meaning the ability to say no and the willingness to withstand pressure in specific situations toward doping (25). Also within their study, and within the Theory of Planned Behaviour, attitudes and perceived behavioral control were the two other variables that significantly had an effect on the prediction of doping among those athletes that had never used doping before (25). A Canadian study by Goulet et al. (2010) on young athletes, (average age of 15, 5 years) showed that using the TPB is a good way to predict doping intentions. It also showed that attitudes alone was not a factor in predicting doping intentions, but subjective norms seemed in this study to be an influence on the use of doping. Therefore, this study shows that persons that are close to the athlete (parents, teammates, coaches), can have an influence when it comes to the athlete saying yes or no to engage in doping. The interesting in this study, was that 25% admitted to have used at least 1 banned substance in the 12 months before filling out the questionnaire, which is seen as a high number (36). A study among Iranian adolescents (38) used the TPB to predict drug abusing behavior, and found that subjective norms and attitude showed best the prediction toward the intention to use drugs. In another Iranian study (87), they used the TPB to find out young gym users intention to use anabolic steroids. One of the conclusions was that the TPB can help explain the use of anabolic steroids among gymnasts in Iran. In a study by Petroczi (2007) on male college athletes in the US, looking at attitudes and doping, one of the models used, was the TPB. The findings in this study showed a strong and significant relation between beliefs and behavior (41). A study by Lucidi et al. (2004) on Italian adolescent found in their results while using the Theory of Planned Behavior model, that attitudes was seen as a strong predictor for doping, subjective norms was seen as a moderate predictor and perceived behavioral control showed a very small prediction toward the intention to use doping (67).

3.3 Descriptive norms

According to Ajzen (8), it is possible to add other predictors as an extension to the original Theory of Planned Behaviour, which has been done in previous studies (100, 103, 104), and one of them is descriptive norms. Descriptive norms is referring to how one think others attitude and behaviors are toward something, which again can influence one`s own opinion in deciding how to act toward the given behaviour (63).

3.3.1 Studies on descriptive norms

There are some studies that have, with success, been able to show that descriptive norms can be used as a predictor for intentions toward using doping (61, 62). Petroczi et al. (2008) also showed that if one believe other are doping, it is more likely that oneself will use doping (64). The results from a South – African study among male adolescent high school athletes (65), showed that 47% believed that the use of performance enhancing drugs had risen the last five years, and 35% agreed to that they believed there was a problem within their sport when it came to prohibited substances. In a British study (88) on talented young athletes, less than 10% answered yes to taking the "magic drug", but when asked if they believed others athletes would take the "magic drug", a very high number, 72,6% answered yes.

Another extension of the Theory of Planned Behavior is the concept of anticipated regret.

3.4 Anticipated regret

Anticipated regret makes people look at a decision they would have made, and then look at how their choice could have been felt if they had acted differently, which then can lead to a feeling of regret or acceptance of the decision made. Then, over time, thinking back to the decision made, will become anticipated during future choices, so that the person will try to reduce the future feelings of regret (58).

3.4.1 Studies on anticipated regret

Sandberg & Connor (2008) did a meta- analysis to look at anticipated regret as an addition to the TPB. Their review of the literature found support in several studies when it comes to anticipated regret and intentions using the TPB variables, and when it came to behavior and anticipated regret, the literature revealed that anticipated regret had a significant impact on prospective behavior (89). In a study from 2012 (59), anticipated regret was used as a part of

the TPB to predict motorcyclists intention of speeding. In 2 out of 3 scenarios, anticipated regret was seen as a significant and direct predictor for speeding. Among 18-24 year olds who reported greater anticipated regret, where more likely not to have used marijuana within the last 30 days (79). And in a study among elite athletes who admitted using doping, was tested for with the anticipated regret measure, and it showed that anticipated regret was shown the be a significant predictor to doping intentions (73).

In former studies on TPB and its extension, intention of a particular behaviour (such as intention to use doping) has been widely used (25, 36, 61, 87). While this seems understandable as intention is considered an important outcome prediction in turn behaviour according to TPB, there is also clear evidence that intention is often a weak predictor of behaviour (105). Thus it seems worthwhile to examine other candidates that might be closer related to and more strongly predictive of actual behaviour, such as doping. One important candidate is indications of self-efficacy to resist conducting a behavior. In the current case, in which doping is the focus, the ability to resist doping seems worthwhile to include as indicant of actual us of doping. There is strong evidence according to self-efficacy theory that self-efficacy to perform a behavior is strongly predictive of actual behaviour (96). Parallel then, the ability to conducting a behavior should then be a strong predictor of refraining from conducting the behavior that is not using doping. The concept of self-efficacy in the format of perceived ability to resist using doping is presented.

3.5 Situational temptations (Self- efficacy)

Self- efficacy theory was first proposed by psychologist Albert Bandura (1977a) and refers to a person's believing in the ability to perform a task successfully (96). The theory has been used in many different levels of psychology within sport, and self- efficacy can be looked at as how one would act under specific situations with self- confidence (97). Situational temptation alone is referred to as how one would act or behave when asked about certain hypothetical situations (60). Given that ability to resist using doping was used instead of intentions to use doping as the outcome variable, we decided to not include the concept of behavioral control in our model. This is due to the fact that perceived behavioral control conceptually overlaps with self-efficacy (101, 102) and as such as predictor would seem too conceptually close to the outcome variable used.

3.5.1 Studies on situational temptation

Situational temptation has been used in previous studies on doping and with success in the prediction of doping among adult elite athletes (25, 61). In a recent study, situational temptation has been showed to serve as an individual factor when it comes to doping use and as a direct effect when it comes to behaviour (73).

Another extension that would be interesting to look at, and which there are to our knowledge no known studies on with regards to doping, is passion.

3.6 Harmonious and Obsessive Passion

While not a new concept in itself, passion is a relatively new term used within psychology, and particularly so in sport psychology (14). The definition of passion is described by Vallerand et al. (2003) as *"a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy"* (p.757). It is proposed that passionate people have a certain drive toward their activity, that passion gives them great motivation, and allows them to continue doing their sport for several years, even though it means a lot of hard practices, but that this is what eventually will help them to achieve and keep a high level of performance (32). This can be drawn toward the Self- determination theory (SDT) by Deci & Ryan (2000), where humans seek out the three basic psychology needs, namely autonomy, competence and relatedness, in order to feel satisfaction (33). Vallerand et al. (2003) then propose to divide passion into two parts; obsessive passion (OP) and harmonious passion (HP). This is based on how a person is passionate toward an activity which is internalized into one`s own self and identity (14). A good example of this is how passionate people present themselves, as a "runner" or a "footballer", instead of a person that enjoy running or enjoy playing football. Passionate people and the activity they are passionate about are an important part of who they are (14). The distinctions between the two are as follows;

Harmonious passion (HP): A person that are HP toward one`s activity are said to have an autonomous internalization, meaning they participate in their activity freely and without any feeling of coercion to it, as this activity is a part of the person's identity. This type of autonomy originates from the Self- Determination Theory (SDT) developed by Deci & Ryan (2000), where autonomy is an important factor in one of the three basic needs of SDT, along

with relatedness and competence, and these three will give a person a form of satisfaction while being involved in different behaviors (33). HP people are motivated of doing their activity by participating freely and because they choose to do so, without any form of feeling forced by oneself. The activity is important, but don't have a negative impact on the person, as it goes well with other aspects of the person`s life. HP people are said to have more control of their own activity, experiencing more positive than negative effects, decide themselves to participate or not to participate and at the same time, their main activity, does not come in conflict with other activities in their daily life (14).

Obsessive passion (OP): Persons that are OP toward their activity have a controlled internalization within themselves, an internal pressure toward their main activity, social pressure to perform in given situations and the feeling of excitement toward that activity (14). OP people can at times find themselves in a situation where they get an uncontrollable urge to participate in an activity they find important (31). They do enjoy performing their main activity, but the internal control kind of forces them to engage in the activity, as it controls them. This can lead to conflicts in other aspects of the person`s life as the internal pressure leads the person to engage in the activity at times when he or she should not do so, due to other things that might be of more importance in that person`s life. This again can lead to negative emotions when he or she must stop, or are being prevented, from doing one`s passionate activity. Further on, if OP people are denied to perform their activity, they will become frustrated and feel distracted on others tasks they are performing (14).

Behavioral persistence is another difference between the two types of passion, and since passionate people invest a lot of time and energy, and can identify themselves with their activity, it is a great chance this passionate activity is something they will continue with throughout their lifetime (14, 30). So the difference in this case it toward flexibility on one`s passionate activity. HP people have the ability to quit their activity, or reduce time with it, if they feel it has become a negative factor in its life, or they don't get the same positive experience from it. While OP people who may find and experience their activity giving them negative factors into life, may feel the need to continue, as the activity controls them, and this again can affect personal attachments, such as work or relationships (14). It is important to mention that that both HP and OP are suggested to lead to deliberate practice, and then further on leading to performance (32).

HP and OP have been used and tested for in several studies (14, 26, 27, 28), such as on gambling (14, study 4, 26), on acting (32, study 1) and in activities and sports (14, study 1, 2 and 3, 27, 28), and they have done so by using the Passion Scale. The Dualistic Model of Passion (DMP): Vallerand et al. (2003) and Vallerand (2008, 2012) have developed a passion scale to be able to measure and to validate their theories of passion, thus to make it possible to use them in psychology studies (14, 30, 31). The passion scale consisted of 34 questions regarding the two types of passion (14, study 1, 2 and 3), and where each question was given a 1 to 7 scale, where 1 = do not agree at all and where 7 = completely agree. The passion scale used by Vallerand et al. (2003, study 4), only consisted of 10 items, half consisted of questions regarding OP and half on HP. In a study by Rousseau et al. (2002) that looked into passion and gambling, they measured HP and OP with 5 questions on each form of passion (26). They used the gambling passion scale (GPS), which is adapted from the Passion Scale by Vallerand et al (2003), and revealed that this is a reliable and valid method for measuring the two types of passion.

3.6.1 The relevance of types of passion on use of doping

The reason for adding this theory in this thesis is that according to a report from the World Anti- Doping Agency from 2011 by Piffaretti (35), it is suggested that there may be a link between obsessive passion (OP) and doping behaviour. There are no known studies that have tried out HP or OP on doping intentions (or behaviors) among athletes, or adolescent athletes for that matter. However, in the mentioned report by Piffaretti (2011) who are looking at psychological determinants of doping behavior, it is suggested that among the two types of passion, OP athletes might be more driven toward doping behavior, as it has shown that OP persons are taking bigger risks, even if it means it`s a higher chance for injuries/health risks while doing their main activity (35), such as an example from the study by Vallerand et al (2003, study 3) on cyclist on icy roads in the winter (14). Hence, we included types of passion in our research model. Types of passion is considered more stable dispositions and would seems differentially related to use of doping and in the current case – to the ability to resist using doping. We expected types of doping to be differentially related to efficacy to resist using doping, both directly, as well as indirectly, mediated by the aforementioned concepts emanating from TBP including the extensions of the models accounted for (which is anticipated regret and descriptive norms).

3.7 Own Research Model

On the background of the above written theory, I have therefore put together an own research model in focusing on potential predictors of Norwegian junior elite athletes self- reported temptation to resist use of doping. The model is put together by Vallerand et al.`s (2003) theory on passion; harmonious and obsessive passion (14), Ajzen`s (1991) theory of planned behaviour; using only attitudes and subjective norms (8), Bell`s (1982) anticipated regret (58), Wiefferink`s (2008) descriptive norms (62) and Bandura`s (1977a) self- efficacy (situational temptation) (96), as outcome given, this concept would seem more closely related to actual use than intention.

Though intention is said to be an important part of the TPB when it comes to actual behavior (strong intention = more likeliness to perform a given behavior) (8), it is still important to mention that intentions doesn't always predict behavior. In the study by Barkoukis et al. (2013), situational temptation was found to be the strongest predictor when it came to doping intentions, and what this indicates, is that situational temptation therefore is one of the most important protective factors when it comes to the ability to resist doping in specific situations (25). This may indicate that situational temptation may have a stronger link to actual use then intentions, and therefore, I decided to use situational temptation as the main variable in this model. Finally, to our knowledge we could not find any studies that have been done on gender differences when predicting doping intentions. According to Erickson et. al (in press) a common limitation in the literature is that there are made no distinction between the attitudes between males and females within different sports (10), thou we in this thesis are not breaking it down to gender and different sports, we thought it could be very interesting to have one path model for boys and one path model for girls.

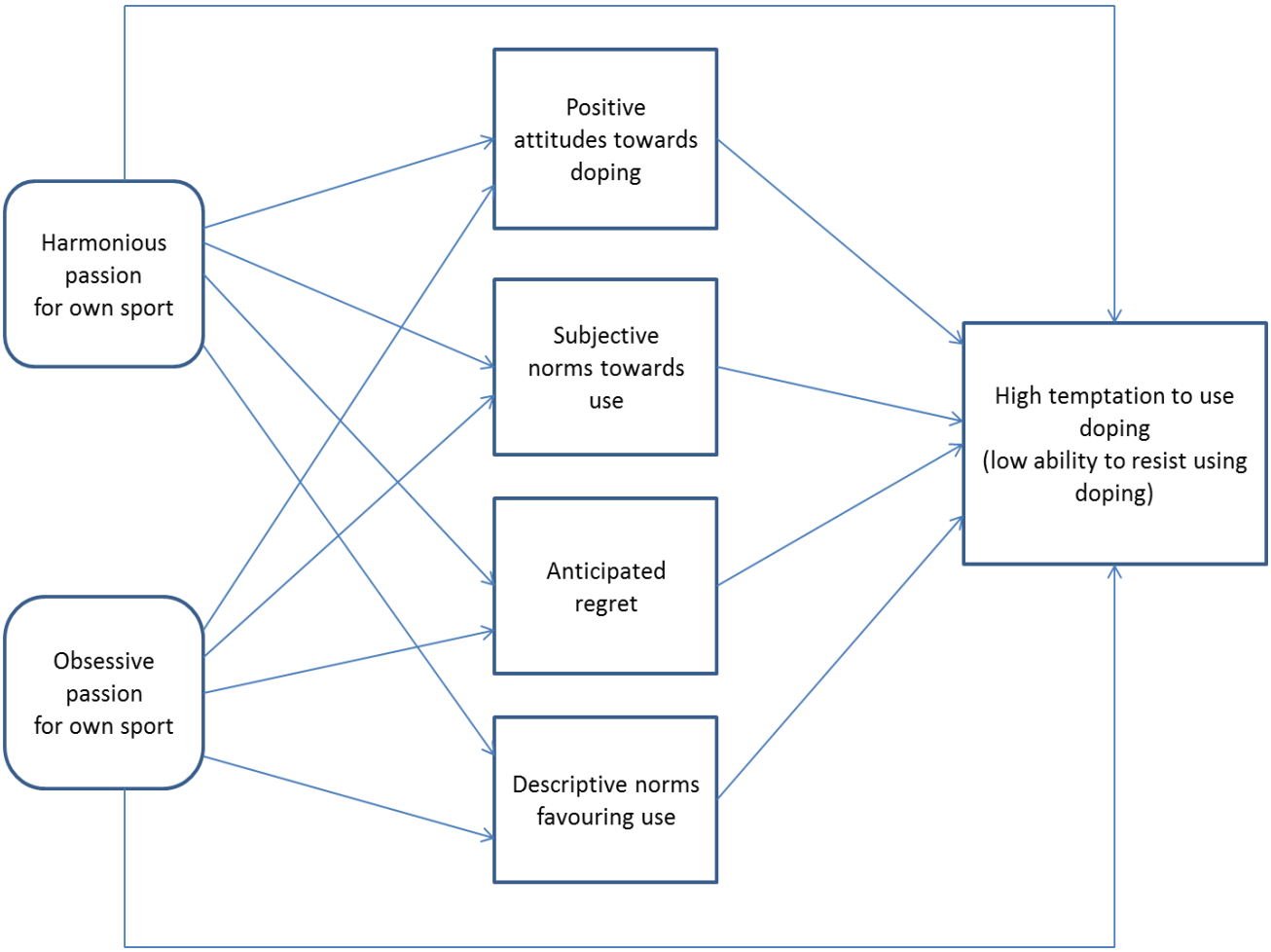

Figure 4: Path model

4.0. Methodology

4.1 Sample

The sample within this cross- sectional study consists of 147 active junior athletes. 60, 5% of the athletes were males and 39, 5% of the athletes were females, with an age range from 16 to 19 years, within football, handball, cycling, track & field and other sports. An anonymous paper questionnaire regarding junior athletes' knowledge and attitude toward doping took place in February and March 2014. The sample was selected on the background that the participants had to be competitive junior athletes. Selected sporting high schools were contacted along with selected sports clubs in the eastern part of Norway. There were 3 Norwegian elite sport high schools; Wang Toppidrett (Oslo), Norges Toppidrettsgymnas (one in the county of Akershus and one in the county of Hedmark) and 1 elite sports club (the county of Akershus) that agreed to participate.

4.2 Measures

Main measures consisted of the following:

Knowledge about doping

First, the athletes filled out their age, sex and sports. Then the questionnaire was divided into two parts. The first part of the questionnaire consisted of general knowledge about doping, with close- ended questions. The questions regarding knowledge have been used in a previous study on adolescents' knowledge and attitude about doping (18) and were directly translated into Norwegian. Not all the questions from this study were included, but a selection of the most common and known doping substances, when thinking about side effects and consequences. In addition to this, some questions were modified, meaning adding or withdrawing an answer on the multiple- choices.

Table 1: Example of question 5 on the questionnaire, regarding general knowledge about doping.

"The use of doping substances…" (check the answers you think are correct)	
…are generally prohibited	**O**
…are prohibited only for top athletes	**O**
…are prohibited only for amateur athletes	**O**
…are prohibited only for bodybuilders	**O**
…are only prohibited if it involves a health risk	**O**
…are allowed to take only after consulting with a doctor (physician)	**O**
…do not know	**O**

The part concerning general knowledge of doping consisted of 12 questions, 8 of the questions could be answered by multiple responses, and are examples like *"the use of anabolic steroids…"* followed by multiple choices with one or several correct answers about consequences of taking anabolic steroids. And; *"The use of doping substances…"* followed by multiple choices with one or more correct answers (table xx), as well as if the athletes where aware of the prohibited substances and methods on the WADA`s doping list for 2014, table xx.

Table 2: Example of question 2 on the questionnaire.

"Are you informed about the prohibited substances and methods on WADA`s (World Anti-Doping Agency) doping list for 2014"?	
Yes	**O**
No	**O**
Don`t know	**O**

On the questions 3 through 12, it was given points for each correct answer, which would determine the athlete's knowledge about doping. A correct answer was given 1 point, and an incorrect answer was given 0 points, making it possible to achieve a total of 23 points. When answering a question "don`t know" along with other answers concerning the same question it

was assessed with 0 points. After adding up all the points, they were divided into three groups: Poor knowledge (0-13 points = <60%), moderate knowledge (14-19 points = 61-84%) and good knowledge (20-23 points = >85%).This point scale has been used in a previous study to measure adolescent's knowledge about doping (19).

Predictors of doping

The second part of the questionnaire consist of questions 13 through 29 and is about the athlete's attitudes towards doping and the temptation to resist using doping in sport. Question 13 -28 is the same questions used in the study by Barkoukis et al. (2013), which are directly translated into Norwegian for this thesis, but only here using the Theory of Planned Behavior; intentions, attitudes, perceived behaviour control (PBC), subjective norms, and also adding descriptive norms, Wiefferink et al. (2008), self- efficacy (situational temptation), Bandura (1977a) and anticipated regret, Bell (1982), as background for the questions. While the questionnaire also included measurements of intentions and perceived behavioral control, for this thesis, the following measures were prioritized; attitudes, subjective norms, anticipated regret descriptive norms and self- efficacy (situational temptation). And lastly, question 29 reflects harmonious passion (HP) and obsessive passion (OP), Vallerand et al. (2003). The scale consists of 6 questions on each passion, giving an insight into the athletes` passion towards their main sport (14).

<u>*Attitudes*</u>: Consist of 1 question, but are divided into four items, a) – d). The main question was: *"The use of prohibited substances to enhance my performance during this season is… (circle the number that best describes your answer and circle <u>ONE</u> number on <u>EACH</u> line)". The four* items were scored on a 7- point scale, ranging from 1 to 7. The alternatives on the scale was as follows in example a): *1= bad* and *7= good*, and in example d): *1= unethical* and *7= ethical*. Barkoukis et al. (2013). Cronbach`s α = >.69.

<u>*Subjective norms*</u>: Consists of 4 items, two examples are; *"Most people who are important to me would want me to use prohibited substances to enhance my performance during this season"* and ; *"Most people I know would approve of me using prohibited substances to enhance my performance during this season*". The items were scored on a 7-point scale,

ranging from 1 to 7, were the alternative on the scale was as follows; *1= strongly disagree* and *7= strongly agree*. Barkoukis et al. (2013). Cronbach`s α = >.60.

Anticipated regret: Consist of 1 question, but are divided into 4 items, two examples are as follows: *"If I use prohibited substances to enhance my performance during this season, I will…"* a) *"…regret it"* and b) *"… be disappointed with myself".* Items were scored on a 7-point scale, ranging from 1 to 7, were the alternative on the scale was as follows: *1= definitely not* and *7= definitely yes.* Taken from Sheeran & Orbell (1999); measure based on Barkoukis et al. (2013). Cronbach`s α = >.80.

Descriptive norms: Consists of 3 open ended questions/items. One example is; *"Out of 100%, how many athletes at your competitive level, do you believe engage in doping to enhance their performance"?* Leaving an open line for the participants to give an answer in %. Based on Caldini et al. (1990) with scale made use of by Barkoukis et al. (2013). Cronbach`s α = >.70.

Situational temptations (self- efficacy): Consist of 1 question, but are divided into 4 items, two examples are as follows*: "How much would you be tempted to use prohibited substances if…"* a) *"your coach suggested it to you"*?, and b) *"you believed that most of your colleagues of yours use prohibited substances"?* Items were scored on a 5- point scale, ranging from 1 to 5, were the alternative on the scale was as follows; *1= not at all, 2= a little, 3= don't know, 4= a lot* and *5= very much*. Based on Bandura (1977a) with measure taken from Barkoukis et al. (2013). Cronbach`s α = >.70.

Harmonious and obsessive passion: Question 29 is divided into 12 items, ranging from a –l; with 6 items reflecting harmonious passion and 6 items reflecting obsessive passion. The stem for the passion scale is as follows; *"While thinking of your favorite activity and using the scale below, please indicate your level of agreement with each item"*. Two examples are; c) "*The new things that I discover with this activity allow me to appreciate it even more"*, and d) *"I have almost an obsessive feeling for this activity"*.

The Passion Scale ranges the answer on a 7-point scale, from 1 to 7, were *1= do not agree at all, 2= very slightly agree , 3=slightly agree , 4= moderately agree, 5= mostly agree, 6= strongly agree* and *7= very strongly agree.* Based on Vallerand et al. (2003: ÷ Norwegian version based on translation by Christensen (2009). For harmonious passion, Cronbach`s α =

>.80, and for obsessive passion, Cronbach`s α = >.70.

4.3 Data collection

At the end of January 2014, an e-mail containing two information letters, one for the club/coaches and one for the parents/guardians, regarding this thesis, was sent out to 16 selected clubs in Oslo and Akershus, in addition to 3 sport high schools, one located in Oslo, one in Akershus and one in Hedmark, all in the eastern part of Norway, asking if they wanted to participate in this project. Among the sports high schools, all 3 schools agreed to participate, and out of the 16 selected clubs, only 1 agreed to participate. All the participants were given an information letter explaining the nature of the thesis. At one of the schools, the information letter was sent out to all the parents by e- mail from the principle. In the two other schools, the information was given out on paper by the project leader after a first meeting with the students, so those under the age of 18 could bring the information letter to their parents/guardians. From here it was up to the students themselves if they wanted to participate in this project. When the clubs and sport high schools had agreed to participate in the study, two meetings took place (with exception of one of the sport high schools, where the information letter was sent out on e-mail to all the parents by the principal). The first meeting was to give a short oral presentation and to give out the information papers, one to the club, coaches, school coaches, and the second to the athletes.

Then, at the second meeting, each participant was asked to fill out an anonymous paper questionnaire with close ended questions, with the exception of 3 (descriptive norms), before practice, or in the classroom, with only the project leader present. The length of the questionnaire was set to be around 15min to complete. It was pre-tested on 5 students from the Norwegian School of Sport Sciences, to make sure all the questions were understandable and to measure the length of the questionnaire. Before handing out the questionnaire, I presented myself as the project leader, and again explaining the nature of the project. Informing that it`s an anonymous questionnaire, that it was voluntary, that the project leader is the only one present with the participants, and, were also available if there was any questions that were unclear or not understandable in the questionnaire, they were asked to contact me for help in explaining the question. The last thing that was said before handing out the questionnaire was that if anyone wanted not to participate or withdraw, they could do so.

When the athletes had finished the questionnaire, I immediately collected them and put them in a closed folder.

Athletes under the age of 18 needed consent by their parents/guardians to participate. By using passive consent it was up to the parents/guardians to contact the project leader by e-mail or phone only if they didn't want their child (children) to be a part if this project. All of the parents were either given the information letter by e-mail, or on paper from their child/children after they had received it from a first meeting with the project leader.

An application was sent to the Norwegian Social Science Data Services (NSSDS) with information about this project and asking them for approval to conduct the questionnaire. Their assessment was that there was no need for their approval since this was an anonymous questionnaire, and since there are no questions regarding personal information that can be directly traced back to the individual and the questionnaire is not marked with any numbers that can also not be traced back to the individual.

4.4 Statistical analysis

The data were put into Microsoft Excel 2010 (Microsoft Corporation, Redmond, Washington, USA) and IBM SPSS Statistics for Windows, version 21.0 (Armonk, NY: IBM Corp.) and analyzed. Figures were made by using Microsoft Power Point 2010 (Microsoft Corporation, Redmond, Washington, USA) and tables made by using Microsoft Excel 2010.

Pearson's correlation within the different variables was done with a 2- tailed test, in SPSS, boys and girls separately. Significant level was set at *=p <.05 and **=p <.01.

Regression analysis in SPSS was used to examine the predictors of temptation to use doping. To investigate the possible mediating effects of the set of variables in the research model, I made use of path analysis informed by Byron & Kenny (1986). The standardized coefficients were set for a β between + 1.0 and ÷ 1.0. Significant level was set at p = .05.

5.0 Results

5.1 Descriptive Statistics

The sample consisted of a total of 147 junior athletes answering the anonymous questionnaire, and the sample was collected from 3 elite sport high schools and one elite sports club in the eastern part of Norway. Mean age and the number of athletes within each sport, divided by gender, can be found in table 3.

Table 3: An overview of the number of athletes within the different sports divided into gender and with mean age, ± SD.

Gender	Mean age	Football	Handball	Cycling	Track & Field	Other Sports	Total
Boys	17 ± 0,94	n = 44	n = 0	n = 28	n = 13	n = 4	n = 89
Girls	17,2 ± 0,95	n = 23	n = 14	n = 4	n = 8	n = 9	n = 58
Total	17,1 ± 0,95	n = 67	n = 14	n = 32	n = 21	n = 13	n = 147

Table 4: Overview of the sum scores for boys and girls concerning questions used in the path model.

		Sum scores divided by gender				
		N =	Minimum	Maximum	Mean	Std. (±)
Boys	Attitudes – Sum question 16, b-d	86	1.00	6.00	1.6783	1.14498
	Obsessive Passion - Sum question 29, b,d,g,i,k,l	86	2.33	6.50	4.3314	1.07512
	Harmonious Passion - Sum question29, a,c,e,f,h,j	84	3.33	7.00	5.8452	.73258
	Anticipated Regret - Sum question 28, a-d	89	1.00	7.00	6.4101	1.26539
	Situational Temptation - Sum question 27, a-d	89	1.00	4.25	1.4045	.66839
	Descriptive Norms - Sum question 24 - 26	89	.00	23.33	4.7491	4.93065
	Subjective Norms - Sum question 20- 23	89	1.00	5.00	1.1798	.55518
	Valid N (list wise)	82				
Girls	Attitudes - question 16, b-d	57	1.00	4.33	1.2339	.62667
	Obsessive Passion- Sum question 29, b,d,g,i,k,l	56	1.33	6.33	3.9435	1.18759
	Harmonious Passion - Sum question29, a,c,e,f,h,j	56	1.83	7.00	5.7500	.97649
	Anticipated Regret - Sum question 28, a-d	58	3.25	7.00	6.6810	.77203
	Situational Temptation - Sum question 27, a-d	58	1.00	3.00	1.4138	.50773
	Descriptive Norms - Sum question 24 - 26	58	.00	38.33	8.4080	8.23889
	Subjective Norms - Sum question 20- 23	58	1.00	2.50	1.0603	.22610
	Valid N (list wise)	55				

5.2 Correlation analysis

Pearson`s correlation (r) within the 7 different variables, using a 2- tailed t-test, are shown in table 5 for boys and table 6 for girls.

Table 5: Correlation (r) between the different variables for boys.

Measure	1	2	3	4	5	6	7
1. Δ High temptation to use doping (low ability to resist)	-						
2. Δ Harmonious Passion (n=84)	-.028	-					
3. Δ Obsessive Passion (n=86)	.084	.394**	-				
4. Δ Positive Attitudes Toward Doping (n=86)	.575**	-.050	.057	-			
5. Δ Subjective Norms (n=89)	.311**	.050	.284**	.162	-		
6. Δ Anticipated Regret (n=89)	-.596**	.047	-.025	-.444**	-.407**	-	
7. Δ Descriptive Norms Favoring Doping (n=89)	-.152	- .140	-.077	.050	.198	-.064	-

Values are mean ± SD * = p< .05. ** = p< .01 (2-tailed).

Table 6: Correlation (r) between the different variables for girls.

Measure	1	2	3	4	5	6	7
1. Δ High temptation to use doping (low ability to resist)	-						
2. Δ Harmonious Passion (n=56)	-.172	-					
3. Δ Obsessive Passion (n=56)	-.106	.485**	-				
4. Δ Positive Attitudes Toward Doping (n=57)	.438**	-.215	.022	-			
5. Δ Subjective Norms (n=58)	.113	- .128	-.015	.668**	-		
6. Δ Anticipated Regret (n=58)	-.329*	.200	.081	-.428**	-.422**	-	
7. Δ Descriptive Norms Favouring Doping (n=58)	.295*	-.128	-.195	.005	-.051	-.302*	-

Values are mean ± SD * = p<.05. ** = p<.01 (2-tailed)

Correlation boys

The correlation between positive attitudes toward doping and high temptation to use doping (low ability to resist) was moderate and significant. Anticipated regret and high temptation to use doping (low ability to resist) was moderate inverse and significant. Anticipated regret and positive attitudes toward doping was weak inverse but significant. Anticipated regret toward subjective norms was weak inverse, but significant. All the correlation results can be found in table 5.

Correlation girls

The correlation between positive attitudes toward doping and high temptation to use doping (low ability to resist) was weak but significant. The correlation between subjective norms and positive attitudes toward doping was moderate and significant. Anticipated regret and subjective norms was weakly and inversely correlated, but significant. All the correlation results can be found in table 6.

5.3 Main results

5.3.1 Study aim 1: General knowledge about doping

On the question of how many of the athletes are informed of the prohibited substances and methods on the World Anti- Doping Agency`s (WADA) doping list for 2014, 22,4% of the athletes answered "yes", and 55,8% answered "no", the rest, 21,8%, responded with "do not know". When it comes to social drugs, 15,6% answered "no" when asked if hash/marijuana was on the doping list, while mostly, 84,4% answered correctly that it was listed on the prohibited list. The question when it comes to if one can get addicted to the same drug (hash/marijuana), 88,4% answered "yes", 4,8% answered "do not know", while 6,8% crossed "no" on this question. On the question of whether supplements can be harmful, 56,5% answered correctly that it can be, while 33,3% "did not know", and 10, 2% answered "no". 51, 7% answered correctly that doping is generally prohibited, crossing of this as the only alternative. Also, 32% answered that it was generally prohibited, but also crossed off other answers as well. 9,5% of the athletes were convinced that doping substances are allowed to take only after consulting with a doctor (physician). Almost all the athletes, 95, 9%, knew that anabolic steroids are listed on the doping list, while 4,1% believed that it wasn't. The same can be said about stimulants (such as amphetamine), where 93,9% knew that stimulant are prohibited, while 6,1% answered "no". On the question whether caffeine is on the doping list, 89,1% answered "no", which is the correct answer, while 10,9% believed that it was on the doping list. Caffeine is not on the doping list, but is on the "watch list" for 2014. All 147 athletes knew that protein and carbohydrates are not on the doping list.
Concerning the question whether the use of anabolic steroids threatens the health, 70,1% believed that it did, while 29,9% of the athletes believed that it didn't. And regarding the question if taking anabolic steroids will increase your muscle mass, 95,2% answered that it would, while 4,8% answered that it wouldn't.

The scores concerning general knowledge about doping divided between boys and girls can be found in table 7.

Table 7: Overview of the general knowledge about doping, divided into gender.

	General knowledge about doping among boys and girls; mean score out of a score of maximum 23p (=100%)		
	Poor knowledge <60%	Medium knowledge 61 - 84%	Good knowledge >85%
Boys	n=26 10,7p ± 1,7 46,50 %	n=55 16,3p ± 1,5 70,90 %	n=8 20,4p ± 0,5 88,70 %
Girls	N=25 10,4 ± 2,7 45,20 %	n=31 15,6p ± 1,3 67,80 %	n=2 20p ± 0 87 %

Looking at knowledge about doping all together, the 147 junior athletes answered with an average of 62,8% correct (medium knowledge), which gives an average point score of 14,4 points (SD= 3,5) out of a possible maximum score of 23 points. Total score divided between gender, boys had an average of 65,4% correct answers and girls had an average of 58,8% correct answers.

5.3.2 Study aim 2: Predictors of temptation to use (low ability to resist) doping. Regression Analysis – Path Models

Path models were examined using a regression analysis for the TPB variables comprising attitudes and subjective norms supplement by variables from other models: Self- efficacy theory, regret theory, comprising, anticipated regret, descriptive norms and situational temptation, and harmonious and obsessive passion. Split on gender, direct effects of passion on temptation to use doping were examined together with indirect/mediated effect through attitudes, subjective norms, anticipated regret and descriptive norms. To test for direct effects (path c) of types of passion on ability to resist doping, regression analyses was conducted in two steps: First, ability to resist doping was regressed on harmonious passion, controlling for obsessive passion in a first step. When testing for the effect of the effect of obsessive passion, harmonious passion was controlled for in a first step. When regressing each of the mediators on types of passion (paths a), the same procedure was employed. When testing for mediator effects on ability to resist doping (paths b), all mediators was put into a first step in order to

tease out their relative influence on ability to resist using doping. In order for mediation to occur, the following requirements must be fulfilled: a significant path between the predictor and the outcome (c-path), a significant relationship between the predictor and the mediator (a-path), and finally a significant path from the mediator to the outcome (b-path; (Baron & Kenny, 1986).

Path Model Boys (figure 5):

As shown in figure 5 harmonious passion did not directly predict situational temptation (high temptation to use doping), β = -.05, p = n.s. Further, obsessive passion did not directly predict situational temptation (high temptation to use doping, β = .08, p = n.s. Positive attitudes towards doping clearly predicted situational temptation (high temptation to use doping), β = .36, p = .000. Subjective norms, β = .05, p = n.s, and descriptive norms, β = .13, p = n.s, did not predict situational temptation (high temptation to use doping). Anticipated regret was found to be inversely predictive of situational temptation (high temptation to use doping), β = -.35, p = .001. Harmonious passion did not predict positive attitudes toward doping, β = -.08, p = n.s, subjective norms, β = -.07, p = n.s, anticipated regret, β = .06, p = n.s and descriptive norms, β = -.13, p = n.s. Further, obsessive passion did not predict positive attitudes toward doping, β = .08, p = n.s, anticipated regret, β = -.03, p = n.s and descriptive norms, β = -.02, p = n.s. On the other hand, obsessive passion predicted positive subjective norms in terms of doping use, β = .31, p = >.005.

Path Model Girls (figure 6).

As shown in figure 6, harmonious passion was found to be inversely and directly predictive of situational temptation (high temptation to use doping), β = -.31, p = <.05. Although the beta coefficient should not be considered marginal, obsessive passion, in contrast did not predict situational temptation (high temptation to use doping), β = .26, p = .10. Positive attitudes towards doping clearly predicted situational temptation (high temptation to use doping), β = .56, p = .001. Subjective norms was found to be inversely predictive of situational temptation (high temptation to use doping), β = -.32, p = <.05. Anticipated regret did not predict situational temptation (high temptation to use doping), β =.-13, n.s. Descriptive norms did predict situational temptation (high temptation to use doping), β = .26, p = <.05. Harmonious passion was found to be inversely predictive of positive attitudes towards doping, β = -.30,

clearly approaching a significance level of >.05 (p = .06*). Harmonious passion did not predict subjective norms, β = -.18, p = n.s, anticipated regret, β = .24, p = n.s and descriptive norms, β = -.07, p = n.s. Further, obsessive passion did not predict positive attitudes toward doping, β = .18, p = n.s, subjective norms, β = .08, p = n.s, anticipated regret, β = -.04, p = n.s and descriptive norms, β = -.15, p = n.s.

Mediation effect

In the current case the requirements for mediation were only fulfilled in the case of harmonious passion – temptation to use for girls (c-path beta =.31, p<.05); a-path; beta = .30, p=.06*); b-bath; beta = .56, p<.05) . For the path model for girls, the results revealed that when we added positive attitudes towards doping in a second step in the model, the original direct preventive effect of harmonious passion on temptation to use doping (beta = -.31, p<.001) were reduced and became no longer significant (beta = -.19, p = n.s.). Moreover, the role of attitudes towards doping on temptation to use doping was upheld (beta = .39, p<.05) when harmonious passion was controlled for. This finding indicate that the preventive effect of harmonious passion on lowered temptation to use doping (higher ability to resist use) is due the fact that harmonious passion is negatively related to a favorable attitude to doping, a factor which in turn seem to predict a stronger temptation to make use of doping (that is; lower their ability to resist using).

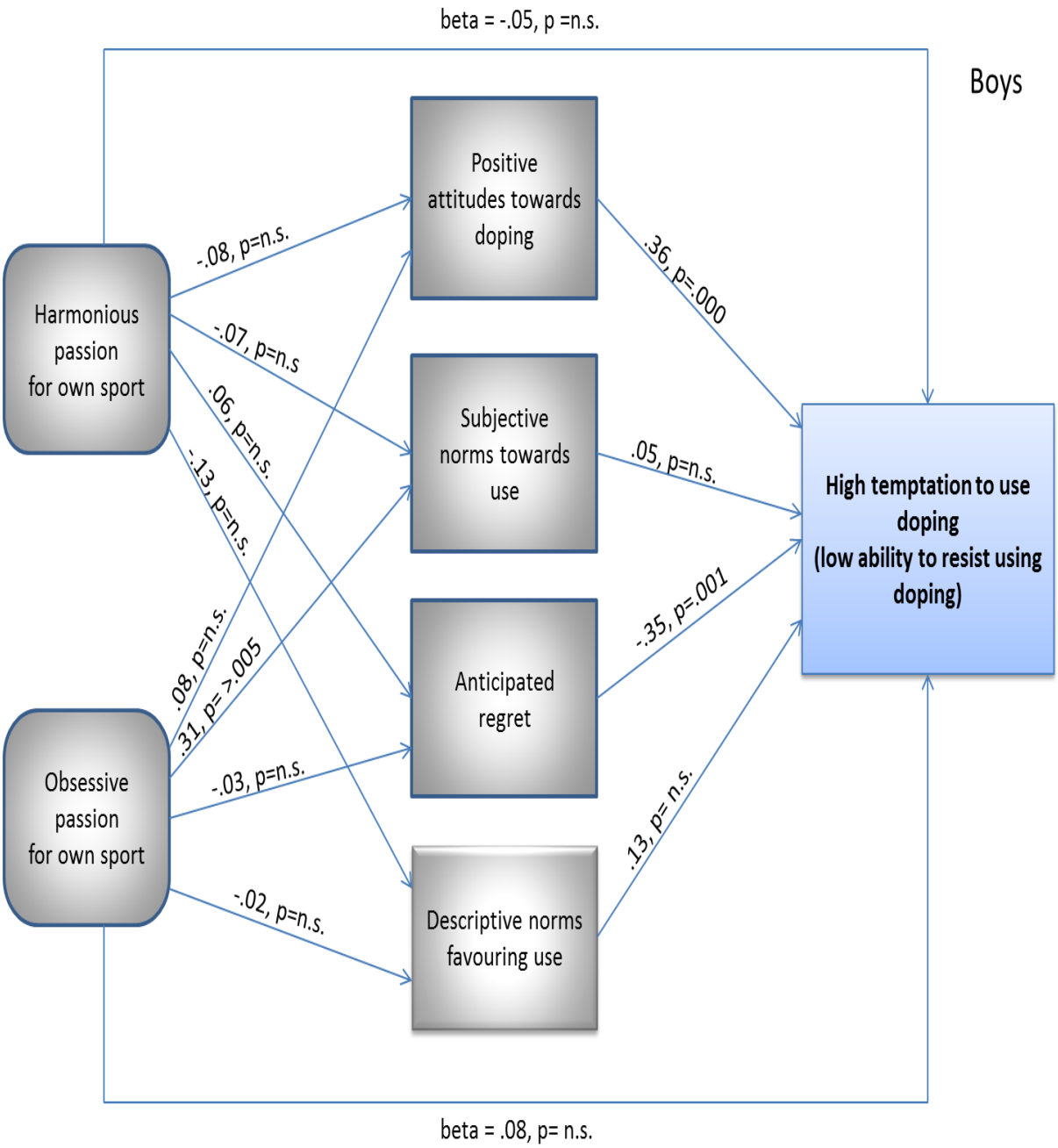

Figure 5: Path model for boys

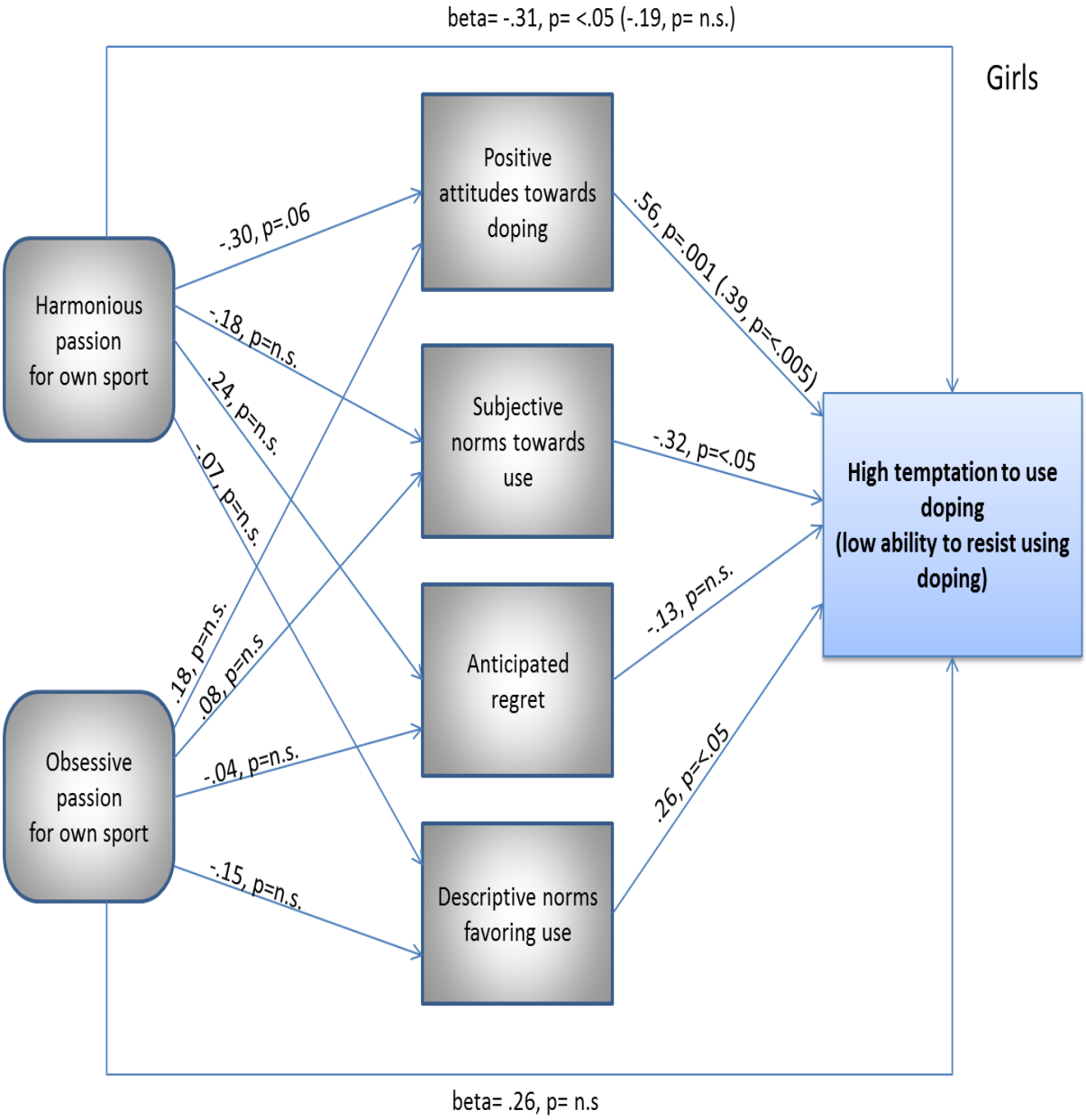

Figure 6: Path model for girls

6.0 Discussion

Norway has claimed the position as a nation with a strict antidoping policy, and has been looked at as a pioneer within anti- doping work, early on asking for an increase in testing among the athletes, as well as tests outside of competition (69). Nevertheless it has to be mentioned that Norway cannot be seen as a "perfect" country when it comes to antidoping attitudes. Irrespective of Norway being a country where the attitude against doping is very strong (69), there will always be athletes that make their own choices to use doping, based on their own interests. Therefore, in this thesis I wanted to get an insight into attitudinal insights among Norwegian junior elite athletes with regards to doping by using theory informed predictors of self- reported temptation to resist use of doping. In addition, I wanted to focus on aspects including their general knowledge about doping; what substances do they think are defined as doping and are on the prohibited list, as well as side- effects of different doping substances.

To my knowledge, it is the first time a study/thesis targeting junior elite athletes with respect to doping has been carried out in Norway.

Study aim 1: General knowledge about doping

When it comes to questions concerning general knowledge on doping, all of the questions in this thesis were also used in the Austrian study by Fürhapter et al. (2013) on adolescent athletes (18). I didn't use all of them, but decided to take advantage of using the questions concerning some of the most common and known doping substances/methods, such as anabolic steroids, EPO, hash/marijuana (recreational drugs) and even alcohol. The reason why I didn't use all of the questions concerning doping knowledge from the Austrian study was because of the matter of time it would have taken to finish the questionnaire, making it longer, which I thought would have made it more difficult to get athletes to participate, yet along approval of teachers/coaches to use time in class or before/after practice. Even though the knowledge part in the questionnaire is not that big, I still think it covers the most well-known doping substances. Given the fact that all of the questions concerning knowledge are taken from a previous study (18), and some of the questions also have been used in another study on knowledge about doping (19), I am in the position to compare some answers from those studies against the athletes` answers concerning knowledge in this thesis.

WADA`s prohibited list

If we look at the question concerning how many athletes are informed about the prohibited substance and methods on the World Anti- Doping Agency`s (WADA) doping list for 2014, the athletes in this study, of all the athletes, only 22,4% answered that they knew the prohibited list. This is a lower number compared to the Austrian study (18), were 38, 2% answered that they knew the WADA prohibited list for 2010. How much anti-doping education the different sports schools and/or sports clubs are teaching is not known to me and have not been a question in this thesis. But what has been shown in a study by Peters et al. (2009), is that 40,2% of the coaches suggests that doping information (anti-doping education) for athletes should start as early as the age between 10 -15 years, while 36,3% of the coaches are in the opinion that it should start between 16- 18 years of age (72). In a recent study by Erickson et al. (in press), the athletes admitted to not have gotten any formal anti- doping education (10). How many % of the athletes in this thesis should know the WADA`s doping list is difficult to give an exact answer to, but when close to only 1 in 5 of the athletes in this thesis are known to the prohibited list, that has to be said is a low number.

Supplements

Concerning the question whether supplements can be harmful, 56, 5% of all the athletes answered that it could be, while 10, 2 % answered that is wasn`t and 33,3% answered don`t know. It is important to let athletes know that supplements can be harmful, meaning contaminated; containing prohibited items listed on the WADA prohibited list, because the declaration doesn't always show the full content on the label and one need to be careful so not to avoid misuse of such products (84). One of the main reasons for athletes getting caught for a violation of the doping rules is according to former athletes that have tested positive, the contamination in supplements (69). One study found that 1 in 5 supplements were contaminated and was even not declared for on the label when purchased (84). Athletes who believe that supplements can be a health risk, have been one reason to why some athletes chose not to use supplements (86), and it is important to let athletes know that not all supplements are regulated, and that it therefore can be a risk for the athletes using such products (80), and this is something the athletes should be aware of.

Knowledge about prohibited substances

It is no surprise that all the athletes in this thesis answered that protein and carbohydrates are not a part of the doping list, and a very high number answered the same for caffeine (89,1% answered that it was not), which are quite similar results to the answers from the Austrian study where the adolescent athletes stated correctly that proteins (96,8%), carbohydrates (98,8%) and caffeine (84,3%) are not a part of the prohibited list (18). Also to no surprise, close to 96% answered that anabolic steroids are prohibited, and compared to the Austrian study by Furhapter et al. (2013) 85,5% answered the same (18). While concerning the question if anabolic steroids are threatening to the athlete's health, just over 70% of the athletes in this theses believed that it was, while almost 30% believed that it wasn`t. Being that anabolic steroids is one of the most well- known and used doping substances (48) it is therefore worrying when just under 1/3 of the athletes in this thesis believe that it`s not a health risk involved. Taking anabolic steroids can lead to severe health damage, and have numerous side-effects (107), and this is something that athletes should most definitely be aware of. In the study by Wanjek et al. (2007), among competitive athletes and recreational athletes, there were only 28,3% that were aware of the harmful side effects of using anabolic steroids (19). A more widespread result can be seen in the Austrian study (18), where 30-70% showed to have a good knowledge to side effects of using doping, but when looking at anabolic steroids and stimulants, the study mentions there is a further lack of knowledge about side effects concerning these specific doping substances (18).

When it comes to recreational drugs, or social drugs, such as the question concerning if hash/marijuana is on the doping list, 84,4% correctly answered that it was, while 15,6% believed that it was not on the doping list. It can be discussed weather hash/marijuana is performance enhancing in sports, but nevertheless, it is damaging to the athletes health and a violation to the sports reputation, thus meeting 2 out of the 3 criteria`s for a substance to be put on the prohibited list (1). When close to 1 out of 6 athletes in this thesis answered that recreational drugs are not prohibited, it may raise some concern. There can be different reasons to why some athletes believed hash/marijuana was not a part of the doping list. It could be either lack of knowledge, or that they are not seeing that type of doping (recreational drug) as actual doping, meaning using it for performance, and therefore they don't consider, or believe it to be a part of the prohibited list, but it is indeed, and this is something the

athletes should be aware of. It is therefore interesting to see that among the 13 positive doping tests among adolescent athletes (16-19 years of age) in Norway from 2005 to 2013, 8 (61,5%)of them were because of cannabis use (16). The reason why the majority of those positive tests reflected recreational drug use is difficult to tease out, but the above mentioned reasons could be possible explanations.

Close to 52% of the athletes answered that doping is generally prohibited, while 9, 5% answered that doping substances are allowed to take when consulting with a physician. When close to 1 out of 10 athletes believe they are allowed to take doping substances if consulting with a physician, it should raise some concern. It could be possible that some of the athletes believe that if given on prescription, like in the case of getting an exemption for asthma medicine, it is allowed. As reported in a study by Laure et al. (2004), 27% of the adolescent athletes answered that consulting with a physician was thought to not lead to a health risk in the consumption of taking doping and 7% stated that athletes over the age of 18 were not always in danger of one`s health when taking doping (20. It is important to know that taking doping leads to health risks for those who are willing to use them (45, 48, 49, 50, 51).

Overall knowledge

To be able to determine if the junior athletes had a good, moderate or poor knowledge about doping, I decided to use the same score classification as used by Wanjek et al. (2007) in their study among adolescent competitive athletes, recreational athletes and non- athletes (19). As mentioned in the methodology chapter, answering 60% or less, is considered poor knowledge, between 61 – 84% is considered moderate knowledge, while 85% or more is considered to be good knowledge (19).

Divided into gender, table 7 gives an overview of the scores of the general knowledge for the junior athletes in this thesis, rating them into three categories; poor, medium or good knowledge. Among the 89 boys, 8 (9%) athletes had good knowledge, 55 (61,8%) athletes had medium knowledge and 26 (29,2%) athletes had a poor knowledge. Among the 58 girls, 2 (3,4%) athletes had a good knowledge, 31 (53,5%) had a medium knowledge and 25 (43,1%) athletes had poor knowledge regarding general knowledge about doping. Based on these results, there is not a huge difference between boys and girls, thou boys seem to have a slight more knowledge about doping then girls. In the study by Furhapter et al. (2013), there were

no significant difference between boys and girls when it came to general knowledge about doping, but it was seen that knowledge tended to increase with age (18).

Overall, the 147 junior elite athletes in this thesis answered with an average score of 14, 4 (±3, 5) points out of a score of 23 points (100%). 10 (6, 8%) of the athletes had good knowledge, 86 (58, 5%) had medium knowledge and 51 (34, 7%) of the junior elite athletes had poor knowledge. In the study by Wanjek et al. (2007), which had a total of 2319 adolescent students (athletes, recreational athletes and non-athletes), a much higher number then in this thesis, overall, 1,3% of the students had good knowledge about doping, 43,2% students had a medium knowledge and 55,5% had poor knowledge about doping (19). It is difficult for me to compare these results, based on the large number of adolescents in the mentioned study, the fact that not all of them are athletes and that the questions differ from this thesis. Nevertheless, it gives an insight into this specific group of athletes and their general knowledge on doping. A little over 1/3 of all the athletes in this thesis have a poor knowledge when it comes to general knowledge about doping, and this is something which can be said not to be satisfactory, thou low knowledge about doping is something that have been seen in previous studies among young athletes (39, 66). I think it is important to make sure adolescent athletes have some sort of anti- doping education, either in school or in the sports club, or both, to make them more aware of the most common and known doping substances and their different side- effects.

Study aim 2: Predictors of – self- reported temptation to use doping

According to Alaranta et al. (2006), it is essential to perform studies concerning factors potentially inhibiting and facilitating doping, as this information will better the work when it comes to health promotion and anti-doping work within sports (70). Studies that have been carried out in Norway, shows that there is a strong attitude against doping, both in the general population and among elite athletes (69). The same can be said if we look at another Nordic country; in a study among Finnish elite athletes (70) on attitudes towards doping (average age of 23 years), as many as 96, 9% believed that it is possible to compete at an international elite level without using doping.

In order to look at inhibiting factors with respect to self- reported efficacy to resist using doping among the Norwegian junior elite athletes, I used the framework of Theory of Planned

Behaviour, adding also anticipated regret and descriptive norms to the framework. Moreover, extending previous research I found it to be very interesting to also include the concept of passion, divided into harmonious and obsessive passion, as it has been suggested a link between obsessive passion and doping (35), whereas harmonious passion would seem unrelated to or negatively related to doping behaviour.

Path model - predictors

Harmonious passion on situational temptation: In the path model for boys, there was no direct link between harmonious passion and situational temptation (high temptation to use doping). Among girls however, harmonious passion was inversely predictive of situational temptation (high temptation to use doping), which indicates that girls that are harmonious passionate about their sport, seems less apt to be tempted to use doping. The finding is in line with Vallerand et al. (2003) who hold that harmonious passionate people have more control of their own activity and whereas the activity is regarded personally important and internalized into their identity, their activity is perceived as being done so freely; that is without coercion (14).

Obsessive passion on situational temptation: For the boys, obsessive passion did not predict situational temptation. This result ran counter to our prediction. Indeed, there have been suggestions for a link between obsessive passionate people and doping (35). Inspecting the results gender specifically though, there was a tendency, while not statistically significant, towards obsessive passion predicting high temptation to use doping among girls ($\beta = .26$, $p = .09$). Hence, among female athletes, also an obsessive type of passion seems related to the temptation to use doping in accord with theoretical predictions. Indeed, the beta weight, while being considered marginally significant, it is not marginal in itself, and a higher level of statistical power (increased N) might have made this link as well significant for female athletes in line with prediction. The gender- specific results regarding passion and temptation to use doping might reflect that girls in athletics at this age & competitive level are more dedicated towards their sport than are the boys. This being said, such a line of reasoning is partly not supported in terms of passion by the fact that boys revealed higher mean score for obsessive passion than did the girls, whereas girls was shown to be a bit more harmoniously passionate than did the boys. Clearly, future research is necessary to further examine gender-

specific aspects of types of passion when it comes to consequences regarding doping specific cognitions.

Positive attitudes towards doping on situational temptation: Both among the boys and the girls, positive attitudes toward doping clearly predicted situational temptation (high temptation to use doping). Having positive attitudes toward doping has been shown to be a predictor for doping in several previous studies (25, 54, 61, 73). However, it has to be mentioned, most studies show that adolescent have a healthy attitude and beliefs when it comes to the use of performance enhancing drugs (74) and that the majority is against doping (10,81). The results indicate that efforts to change young athletes` attitudes toward the use of doping may prove efficient in raising their resistance towards actual use of doping. Both female and male athletes may take advantage of initiative to change their attitudes.

Subjective norms on situational temptation: In the path model for boys, favorable subjective norms towards use did not predict situational temptation (high temptation to use doping). However, if we look at the correlation between subjective norms and situational temptation for boys, it was positively correlated and significant. In the path model for girls, subjective norms favoring the use of doping were negatively and significantly predictive of situational temptation (high temptation to use doping). While this result is not readily explainable, it might be that in particular female athletes who are met with a sense of pressure to use dope from people close to them in social setting, increase their awareness of the negative aspects of using doping and react in the opposite manner. This would be in line with reactance theory from Brehm & Brehm (1981), which reflects a reaction that is especially common when individuals feel obligated to adopt a particular opinion or engage in a specific behavior (106). Reactance, for example, often encourages individuals to espouse an opinion that opposes the belief or attitude they were encouraged, or even coerced, to adapt. As a consequence, reactance often augments resistance to persuasion (106).

Anticipated regret on situational temptation: For the boys, anticipated regret inversely predicted situational temptation. This means that for boys who are able to experience anticipated regret it can works as a protective factor when it comes to the temptation to use doping. By thinking over the consequences of taking doping and have the feeling of regretting it, boys may be prevented from using doping. For the girls, anticipated regret did not seem to predict situational temptation towards doping, but if we look at the correlation between anticipated regret and situational temptation it was inversely correlated and significant.

Apparently, boys, more so than girls, seem triggered by bad consciousness when anticipating themselves in the situation of taking prohibited drugs to enhance their performance. Whether this reflects that such a scenario would seem less hypothetical among boys than girls, we can only speculate.

Descriptive norms on situational temptation: Among the boys, no link was found between descriptive norms and situational temptation. However, the path model for girls revealed that descriptive norms favoring use of doping did predict situational temptation. This means that girls who think others (teammates, opponents) dope, might have a higher chance of being tempted to use doping themselves. It has been found in the literature that believing that others dope, or overestimating others` doping use, can lead to doping (64). Bloodworth and McNamee (2010) mention the "danger" attached to thinking that our competitors dope. Such thought might be a trigger for clean athletes to feel the pressure to dope, making them choose the "necessary evil" (81). The gender specific differences in this respect cannot be explained by the fact that male athletes, more so than female ones, operate in an athletic environment in which they think others dope. In fact, females were more apt than males to report others in their athletic environment make use of doping.

Harmonious passion on positive attitudes toward doping: Harmonious passion did not predict positive attitudes toward doping among the boys. Among the girls however, harmonious passion was inversely, although marginally significantly predictive of positive attitudes toward doping ($\beta = -.30$, $p = .06$). This indicates that girls who are harmonious passionate are less apt to report positive attitudes toward doping. A psychological approach toward sport as being a part of their life, but not their entire life (that is being harmonious passionate), could be looked at as a protective factor towards doping (10). Having the ability to maintain a life outside of sports, seem to be an important factor to resist doping, or the pressure to dope, as well as to have the ability to enjoy sport, which can help to maintain a healthy balance between being an athlete and to the demands of being a competitive athlete (10). As seen in a study concerning harmonious passion on gambling from Rousseau et al. (2002), it seems that those people who are harmonious passionate when it comes to gambling, have more positive experiences, and are also able to understand the consequences of gambling, and this is something that can be seen in other context of the life was well (26). It is therefore possible to think that in this case, harmonious passionate girls are able to withstand from situations that may lead to doping, as they are better to understand the consequences of this, and are able to avoid this becoming a conflict in other aspects of their life (14).

Harmonious passion was not found to be a significant predictor toward subjective norms, anticipated regret or descriptive norm for boys. Among the female athletes, while not significant, the pattern of results was in the expected direction regarding links between harmonious passion and subjective norms as well as anticipated regret. Hence, among girls, there is a tendency that being harmonious passion counteracts norms facilitating doping and increases feelings of regret, both aspects that seem preventive of the temptation to use doping.

Obsessive passion and subjective norms: Among the boys obsessive passion positively predicted subjective norms favoring use of doping, whereas for the girls, there was no such link. Obsessive passion has been shown to be facilitative of health- risk behaviours, such as addictive training patterns and gambling behaviour (14, study 3 and 4, 26). In the current case, obsessively passionate male athletes reported a high subjective pressure or strong social norm towards doping use. While no mediation link was found towards enhanced temptation to use dope, being obsessively passionate about ones` sport may still represent a risk factor in terms of social pressure to use doping. It might be the case that obsessively passionate male athletes perceive fellow athletes and other people around them to have a "winning at all cost" mentality (31), which may potentially elicit such a mentality among themselves paving the way for use of prohibited substances. It is believed that when obsessive passionate persons are not able to reach their goals or they are performing poorly, it can give them a feeling that their identity are at stake, which further on can lead to bad behaviour (27), such as for example aggression, as it has been seen that obsessive passionate boys are more likely than girls to behave in aggressive behaviour in sport (27). Therefore, it could be that obsessive passionate athletes, as in this case for the boys with respect to favorable subjective norms are more likely to make way of the pressure from significant others when it comes to engaging in doping.

Obsessive passion was not found to be a predictor towards; positive attitudes toward doping, anticipated regret or descriptive norms for both boys and girls. However, for boys and girls, the pattern of results are in the expected direction, but not significant, when looking at obsessive passion and positive attitudes toward doping. As mentioned, it is suggested that there could be a link between obsessive passion and doping behaviour (35), and therefore it is not unlikely to think that having positive attitudes towards doping might actually lead to diminished ability to resist using doping.

Study limitations:

Questionnaire data is one of the most used methods to collect data among large groups of participants, with a low cost and in a standardized systematic way (75). It is clear that the use of self- reported questionnaire have limitations, as the answers given by the athletes can be affected by systematic as well as unsystematic error variance (70). Athletes` may not always understand some of the questions being asked and then either not answer or simply just cross off a random answer. However, I have tried to avoid bias answers in this thesis, and hopefully athlete` have been giving honest responses. Indeed, this questionnaire concerning attitude toward doping are asking about hypothetical situations towards doping, and not asking about actual use or previous use of doping. The athletes were also encouraged to answer truthfully before handing out the paper questionnaires, as a last reminder to provide honest responses. Anonymity was guaranteed for, both in writing and orally, and in addition, there were no names or numbers of any kind on the paper questionnaires, which made it impossible to know which athlete had answered which questionnaire. To make the questionnaire even more "secure" in avoiding bias answers (or athletes answering questions they didn't understand), the questionnaire was piloted by means of a pretest on 5 students at the Norwegian School of Sport Sciences, to make sure all the questions were understandable and also to estimate the time it would take to finish the questionnaire. Another thing worth mentioning, is that the questions themselves have been validated in previous studies, both the questions concerning knowledge (18) and the questions concerning the Theory of Planned Behaviour, and with that the questions on descriptive norms, anticipated regret and situational temptation (25) ,and the questions on harmonious and obsessive passion (14).

On studies concerning adolescent athletes' knowledge and attitude towards doping, I found that most are done by using questionnaires (18, 19, 20). I also found one study that has used both questionnaire and interview (66). Aspects of attitudes towards doping have also been measured in studies by means of interviewing adolescent athletes. Such data may give more in depth ("richer") data (81), but even when using interview there is no guarantee to obtaining honest answers, as questions regarding doping can be seen as a "touchy" subject to discuss (81).

It has to be mentioned that this thesis consisted only of Norwegian junior athletes (age 16-19) from the eastern part of Norway. Also, the sample of N= 147 is a low number compared to what the last years studies on adolescent athletes in other countries have carried out (18, 19,

20). The current study sample may have led to insufficient power to detect some of the hypothesized relationships within the research model. Moreover, the sample was too small to be divided by specific sports. The sample should also be considered non- representative within the population of Norwegian junior athletes as the sample was not drawn at random, hence not leaving room for generalization of the findings. Whether results would have been different for sports other than the one represented in this thesis, we can only speculate.

7.0 Conclusion

This thesis have examined general knowledge about doping, attitudes and self- reported temptation to resist using doping among Norwegian junior elite athletes, age 16 -19 years within different sports.

Altogether, on the part concerning general knowledge about doping, the junior elite athletes showed a medium knowledge, but divided by gender, boys (65,4% correct) scored a little higher than girls (58,8% correct). In terms of types of passion (distal factors in the model), when examined in isolated regression analyses not including testing of mediation effects, results among girls revealed that harmonious passion was inversely predictive of situational temptation to use doping, whereas the opposite tended to be the case for obsessive passion. In contrast, among male athletes, there was no sign of direct effects of types of passion on temptation to use doping, or ability to resist using doping. In terms of the set of proximal factors predicting doping in the research model (mediators), positive attitudes towards doping clearly predicted high temptation to use doping, both among boys and girls, whereas among boys, but not girls, anticipated regret seemed to inhibit enhanced temptation to use doping. Among the female athletes, descriptive norms favoring use of doping seem facilitative of enhanced temptation. Few mediation findings were revealed. Only in the case of harmonious passion among girls, results revealed that harmonious passion acted to prevent self- reports of temptation to use doping by means of counteracting girls` positive attitudes towards doping use. While no mediation findings regarding obsessive passion were found for boys, indeed, obsessive passion among boys seemed to be related to their perception that they were surrounded by positive subjective norms regarding doping use.

The set of findings may inform efforts to prevent the use of prohibited performance enhancing drugs among Norwegian male and female junior athletes. In particular, steps may be taken to secure harmoniously passionate sport involvement, in particular so among female athletes. Moreover, efforts to counteract positive attitudes towards doping use may prove effective for both young male and female athletes. Such efforts may also be important in order to reduce a perception that others around them are willing to make use of prohibited doping. Indeed, such efforts seem important given that perception of descriptive norms seem facilitative of temptation to use it.

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Attachments

Infoskriv til klubb/treningsansvarlig

Forespørsel om å delta i et mastergrad prosjekt:

«En undersøkelse av kunnskap og holdninger til doping i idrett i et utvalg norske junior idrettsutøvere».

Mitt navn er Erling Hisdal. Jeg er masterstudent ved Norges Idrettshøgskole ved seksjon for Coaching og Psykologi i Oslo. Jeg er for tiden i gang med gjennomføringen av min masteroppgave. Formålet med oppgaven er å undersøke kunnskap om og holdninger til doping blant aktive junioridrettsutøvere på gutte- og jentesiden innen ulike idretter i Oslo-området.

Bakgrunn og hensikt

Doping er et kjent problem i idretten rundt om i verden, og hvert år blir det gjort avsløringer på både nasjonalt og internasjonalt nivå. Både WADA (verdens antidopingbyrå) og tidligere dopingtatte toppidrettsutøvere peker på nødvendigheten av å drive forebyggende antidopingarbeid også blant unge idrettsutøvere for å ivareta dere helse og velvære i idretten. Det er gjort noen få europeiske studier vedrørende holdninger og kunnskap til doping blant junioridrettsutøvere. Det er lite forskningsbasert kunnskap om dette blant yngre konkurranseidrettsutøvere i Norge. Jeg ønsker derfor å gjennomføre en spørreskjemabasert undersøkelse blant junioridrettsutøvere i din klubb.

Utøvernes deltagelse er viktig

Deltagelse i undersøkelsen er viktig da den kan gi økt innsikt vedrørende kunnskap om og holdninger til doping blant norske junioridrettsutøvere. Juniorutøvere blir spurt om å delta fordi de er aktive idrettsutøvere og deltar i konkurranser, og de er i en aldersfase hvor den idrettslige satsingen og presset på å prestere gjerne er økende. Jeg ønsker å få tilgang til gutte- og jenteutøvere i alderen 16-19 år (status som junioridrettsutøver).

Hva innebærer deltagelsen for utøverne?

Om utøvere i din klubb takker ja til å delta, vil de få utdelt et spørreskjema enten før eller etter trening (alt etter avtale med meg som prosjektleder). Jeg vil være tilstede under utfyllingen, og samle inn skjemaene umiddelbart etterpå. De skal fylle ut spørreskjemaet alene uten trener eller andre i klubben tilstede. Det vil ta ca.15 minutter å besvare spørreskjemaet.

Dette er en undersøkelse om utøvernes kunnskap og holdninger knyttet til doping. I spørreskjemaet inngår derfor ingen spørsmål knyttet til reell dopingbruk. I forbindelse med spørsmål knyttet til holdninger til doping vil de imidlertid bli bedt om å ta stilling til spørsmål knyttet til risikovillighet og egne intensjoner med hensyn på dopingbruk.

Undersøkelsen er anonym

Utøverne besvarer spørreskjemaet anonymt, ingen navn skal fylles inn, og hva hver enkelt utøver svarer forblir derfor anonymt og kan ikke spores av noen. Det er kun undertegnede samt min veileder som vil ha tilgang til spørreskjemaene/dataene, og vi kan heller ikke spore svarene tilbake til enkeltutøvere.

Frivillig deltakelse

Det er helt frivillig å delta, og utøverne kan når som helst uten å oppgi noen grunn trekke seg fra å delta i prosjektet.

Samtykke fra foreldre/foresatte

Er utøveren under 18 år og ønsker å delta, må han/hun ha tillatelse fra foreldre/foresatte. Foreldre/foresatte for sønn/datter under 18 år som etter gjennomlesning av informasjonsskrivet ikke vil at sønn/datter skal delta, gir tilbakemelding til meg som prosjektansvarlig via e-mail eller via mobiltlf. (se kontaktinformasjon til slutt i skrivet, nederst). Utøvere som er fylt 18 år trenger ikke samtykke av foreldre/foresatte. Utøvere som er over 18 år, men selv ikke ønsker å delta, melder selv i fra om dette til meg via deg som klubb/treningsansvarlig. Er utøver under 18 år må foreldre/foresatte melde fra til meg via e-mail eller mobiltlf. om at deres sønn/datter ikke ønsker å delta. Utøveren trenger da ikke møte opp for å besvare spørreskjemaet.

Prosjektadministrasjon

Ansvarlig for prosjektet er undertegnede. Veilederen min er professor Yngvar Ommundsen, ved seksjon for Coaching og Psykologi ved Norges idrettshøgskole.

Min plan for veien videre i datainnsamlingen

Via deg som klubb/treningsansvarlig er planen min å avtale tidspunkt med hver enkelt klubb, enten før eller etter trening, der jeg møter opp på en eller flere treninger, slik at jeg kan få informert utøverne om prosjektet og delt ut informasjonsskrivet til utøverne og til foreldre/foresatte for de av utøverne som er under 18 år. Jeg vil deretter avtale nytt tidspunkt ca.1-3 uker senere der jeg møter opp på trening, etter avtale med deg, enten før eller etter trening for å dele ut spørreskjemaet til utøverne som ønsker å delta.

Det er mitt mål å gjennomføre datainnsamlingen (besvarelsen av spørreskjemaet) i løpet av **februar** måned. Skulle det være noen spørsmål er du velkommen til å ta kontakt.

Kontaktinfo:

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Erling Hisdal, masterstudent — Professor Yngvar Ommundsen, veileder

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Infoskriv utøvere og foreldre/foresatte

Forespørsel om å delta i et mastergradsprosjekt:

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Bakgrunn og hensikt

Doping er et kjent problem i idretten rundt om i verden, og hvert år blir det gjort avsløringer på både nasjonalt og internasjonalt nivå. Både WADA (verdens antidopingbyrå) og tidligere dopingtatte toppidrettsutøvere peker på nødvendigheten av å drive forebyggende antidopingarbeid også blant unge idrettsutøvere for å ivareta deres helse og velvære i idretten. Det er gjort noen få europeiske studier vedrørende kunnskap om og holdninger til doping blant junioridrettsutøvere, men det er lite forskningsbasert kunnskap om dette temaet blant yngre konkurranseidrettsutøvere i Norge. Jeg ønsker derfor å gjennomføre en spørreskjemabasert undersøkelse blant junioridrettsutøvere i ulike idretter i Oslo-området.

Deltagelsen er viktig

Deltagelse i undersøkelsen er viktig da den kan gi økt innsikt vedrørende kunnskap om og holdninger til doping blant norske junioridrettsutøvere. Jeg spør deg som junioridrettsutøver om å delta fordi du er aktiv idrettsutøver og deltar i konkurranser, og det i en aldersfase hvor den idrettslige satsingen og presset på å prestere gjerne er økende. Jeg ønsker din deltagelse dersom du er gutt eller jenteutøver i alderen 16-19 år (status som junioridrettsutøver).

Hva innebærer deltagelsen for deg som utøver?

Om du som utøver takker ja til å delta, og dine foreldre/foresatte gir sitt samtykke (gjelder dersom du er under 18 år), vil du bli bedt om å besvare et spørreskjema enten før eller etter klubbtreningen din på et nærmere angitt tidspunkt i avtale med klubb/treningsansvarlig. Jeg vil være tilstede under utfyllingen av skjemaet, og jeg vil samle inn skjemaet umiddelbart etterpå. Du besvarer spørreskjemaet alene sammen med de andre i din gruppe uten trener eller andre i klubben til stede. Det vil ta ca. 15 minutter å besvare spørreskjemaet.

Dette er en undersøkelse om din kunnskap og dine holdninger knyttet til doping. I spørreskjemaet inngår derfor ingen spørsmål knyttet til reell dopingbruk. I forbindelse med spørsmål knyttet til holdninger til doping vil du imidlertid bli bedt om å ta stilling til spørsmål knyttet til risikovillighet og egne intensjoner med hensyn på dopingbruk.

Undersøkelsen er anonym

Du som utøver besvarer spørreskjemaet anonymt, ingen navn skal fylles inn. Hva du svarer forblir derfor anonymt og kan ikke spores av noen. Det er kun undertegnede samt min veileder som vil ha tilgang til spørreskjemaene/dataene, og vi kan heller ikke spore dine svar tilbake til deg som enkeltutøver.

Frivillig deltakelse

Det er helt frivillig å delta, og som utøver kan du når som helst uten å oppgi noen grunn trekke deg fra å delta i prosjektet.

Samtykke fra foreldre/foresatte

Er du under 18 år og ønsker å delta, må du ha tillatelse fra dine foreldre/foresatte. Til dere foreldre/foresatte for sønn/datter under 18 år: Om dere etter gjennomlesning av informasjonsskrivet ikke vil at din sønn/datter skal delta, må dere gi tilbakemelding til meg som prosjektansvarlig via e-mail eller via mobiltlf. (se kontaktinformasjon til slutt i skrivet, nederst). Utøvere som er fylt 18 år trenger ikke samtykke av foreldre/foresatte. Men dersom du som utøver er over 18 år og selv ikke ønsker å delta, melder du selv i fra om dette til meg via klubb/treningsansvarlig. Er du under 18 år må dine foreldre/foresatte melde fra til meg om at du ikke ønsker å delta via e-mail eller mobiltlf. Du trenger da ikke møte opp for å besvare spørreskjemaet.

Prosjektadministrasjon

Ansvarlig for prosjektet er undertegnede. Veilederen min er professor Yngvar Ommundsen, ved seksjon for Coaching og Psykologi ved Norges idrettshøgskole.

Min plan for veien videre i datainnsamlingen

Planen min er å avtale tidspunkt med hver enkelt klubb via klubb/treningsansvarlig og møte opp i klubben før eller etter trening for å dele ut og samle inn spørreskjemaet blant de som ønsker å være med.

Det er mitt mål å gjennomføre datainnsamlingen (besvarelsen av spørreskjemaet) i løpet av **februar** måned. Skulle det være noen spørsmål er dere velkommen til å ta kontakt.

Kontaktinfo:

Erling Hisdal, masterstudent ved Norges idrettshøgskole
e-mail: erlingh91@hotmail.com
mobiltlf: 46 48 27 93

Erling Hisdal, masterstudent	Professor Yngvar Ommundsen, veileder
……..	……..

NORGES IDRETTSHØGSKOLE

Spørreskjema

«En undersøkelse av kunnskap og holdninger til doping i idrett i et utvalg norske junior idrettsutøvere»

Kjønn (kryss av)**:**

Gutt___ Jente___

Alder (kryss av)**:**

16___ 17___ 18___ 19___

Idrett (kryss av)**:**

Fotball___ Håndball___ Langrenn___ Sykkel___ Friidrett___

Annen idrett:___ (spesifiser:)_____

Del 1: Kunnskap om doping

1. Hvor ofte har du hørt eller lest om disse substansene? (sett kun ett kryss på hver linje)

	Aldri	Sjelden	Noen ganger	Ofte	Veldig ofte
Snus	O	O	O	O	O
Anabole Steroider	O	O	O	O	O
Sigaretter	O	O	O	O	O
Smertestillende	O	O	O	O	O
Diuretika	O	O	O	O	O
Veksthormoner	O	O	O	O	O
Alkohol	O	O	O	O	O
Kokain/Heroin	O	O	O	O	O

EPO	O	O	O	O	O
Hasj/Marihuana	O	O	O	O	O
Stimulerende midler	O	O	O	O	O
Kosttilskudd	O	O	O	O	O

2. Er du informert om de forbudte stoffene og metodene i WADA (World Anti- Doping Agency) sin dopingliste for 2014?

Ja	Nei	Vet ikke
O	O	O

3. Hvilke av disse stoffene er dopingmidler satt opp på doping listen? (kryss av for de du mener er satt opp).

Koffein	O
Anabole Steroider	O
Karbohydrater	O
Proteiner	O
Hasj/Marihuana	O
Stimulerende midler (som for eksempel amfetamin)	O
Vet ikke	O

4. Bruk av anabole steroider kan gi følgende konsekvenser: (kryss av for aktuelle konsekvenser).

Hjerteinfarkt	O
Vekstforstyrrelser	O
Leverskader	O
Økt aggressivitet	O
Potensproblemer	O
Vet ikke	O

5. Bruk av dopingmidler…… (kryss av for svaralternativer du mener er korrekte).

… er generelt forbudt	O
… er kun forbudt for seriøse idrettsutøver	O
… er kun forbudt for mosjonister	O
… er kun forbudt for kroppsbyggere	O
… er kun forbudt om de innebærer en helserisiko	O
… skal tas kun i samråd med lege	O
… vet ikke	O

6. Bruken av anabole steroider… (kryss av for svaralternativer du mener er korrekte).

… truer helsen O

… øker selvbevisstheten O

… gir økt effekt kun til toppidrettsutøvere O

… anvendes for å øke prestasjonen O

… vet ikke O

7. Ved å ta anabole steroider… (kryss av for svaralternativer du mener er korrekte).

… øker muskelmassen O

… reduseres muskelmassen O

… øker viljestyrken O

… vet ikke O

8. Kan en bli avhengig av hasj/marihuana?

Ja ___ Nei ___ Vet ikke ___

9. Bivirkningene ved bruk av hasj/marihuana kan være … (kryss av for svaralternativer du mener er korrekte).

… tretthet, sløvhet og søvnighet O

… redusert prestasjonsevne O

… konsentrasjonsvansker O

… redusert hukommelse og læringsevne O

… vet ikke O

10. Kan kosttilskudd være skadelig?

Ja ___ Nei ___ Vet ikke ___

11. I hvilken av disse idrettene er alkohol kun forbudt under konkurranse? (kryss av for svaralternativer du mener er korrekte).

Sykling O

Bueskyting O

Motorsport (bil/motorsykkel) O

Karate O

Ishockey O

Vet ikke O

12. Bivirkninger ved bruk av bloddoping (som EPO) kan være … (kryss av for svaralternativer du mener er korrekte).

… at blodet blir tykkere, noe som øker risikoen for blodpropp og hjertesvikt O

… at en utvikler høyt blodtrykk O

… at en utvikler diabetes O

… vet ikke O

Del 2: Holdninger

13. Jeg har tenkt å bruke forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar)

Veldig sannsynlig						**Veldig usannsynlig**
1	2	3	4	5	6	7

14. Jeg har planer om å bruke forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar)

Veldig uenig						**Veldig enig**
1	2	3	4	5	6	7

15. Jeg forventer at jeg kommer til å bruke forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar)

Definitivt tilfelle						**Definitivt ikke tilfelle**
1	2	3	4	5	6	7

I neste del, er vi interessert i å vite om dine holdninger til bruk av forbudte stoffer. Sett ring rundt det tallet som best beskriver ditt svar.

16. Bruk(en) av forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen er ... (lag en sirkel rundt det tallet som best beskriver ditt svar og sirkle rundt kun ett tall på hver linje)

.

a) **Dumt**	1	2	3	4	5	6	7	**Klokt**
b) **Unyttig**	1	2	3	4	5	6	7	**Nyttig**
c) **Skadelig**	1	2	3	4	5	6	7	**Fordelaktig**
d) **Uetisk**	1	2	3	4	5	6	7	**Etisk**

I den neste delen, er vi interessert i hvor mye kontroll du selv har over bruk av forbudte stoffer for å forbedre ytelsen i løpet av denne sesongen.

17. Hvor mye kontroll har du når det kommer til bruk av forbudte stoffer for å forbedre prestasjonen din i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar)

Veldig liten kontroll						**Full kontroll**
1	2	3	4	5	6	7

18. Hvis jeg ønsket det, kunne jeg bruke forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar).

Sterkt uenig						**Sterkt enig**
1	2	3	4	5	6	7

19. Jeg føler jeg har fullstendig kontroll over om jeg vil bruke forbudte stoffer for å forbedre resultatet mitt i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar).

Fullstendig usant						**Fullstendig sant**
1	2	3	4	5	6	7

Nå ønsker vi å vite om de tanker og oppfatninger andre personer som er viktige for deg, har om bruk av forbudte stoffer for å forbedre prestasjonen i løpet av denne sesongen. Dette kan være venner, trenere, lagkamerater, foreldre og andre familiemedlemmer.

20. De fleste som er viktig for meg vil ha meg til å bruke forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar).

Sterkt uenig						**Sterkt enig**
1	2	3	4	5	6	7

21. De fleste jeg kjenner ville godkjenne at jeg brukte forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar).

Sterkt uenig						**Sterkt enig**
1	2	3	4	5	6	7

22. Folk som er viktig for meg ville ... (Sett ring rundt de tallet som best beskriver ditt svar)

I sterk grad ikke godkjenne						**I sterk grad godkjenne**
1	2	3	4	5	6	7

... at jeg brukte forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen.

23. De fleste folk nær meg vil forvente at jeg bruker forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen. (Sett ring rundt de tallet som best beskriver ditt svar)

Ekstremt usannsynlig						**Ekstremt sannsynlig**
1	2	3	4	5	6	7

24. Ut av 100%, hvor mange junioridrettsutøvere på ditt konkurransenivå tror du involverer seg i doping for å forbedre sine prestasjoner?

_____ %

25. Ut av 100%, hvor mange elite junioridrettsutøvere i Norge tror du involverer seg i doping for å forbedre sine prestasjoner?

_____ %

26. Ut av 100%, hvor mange elite junioridrettsutøvere tror du vil involvere seg i doping i løpet av de neste tre årene for å forbedre sine prestasjoner?

_____ %

27. I hvilken grad ville du bli fristet til å bruke forbudte stoffer dersom ...(sett en ring rundt de tallet som best beskriver ditt svar, kun en ring på hver linje)

Ikke i det hele tatt (1)	Litt (2)	Usikker (3)	Mye (4)	Veldig mye (5)
…treneren din foreslo det for deg?	1	2	3	4	5
…du trodde at mesteparten av dine lagkamerater brukte forbudte stoffer?	1	2	3	4	5
…du forberedte deg til en viktig kamp/konkurranse?	1	2	3	4	5
…du måtte forbedre prestasjonen din?	1	2	3	4	5

28. Hvis jeg brukte forbudte stoffer for å forbedre prestasjonen min i løpet av denne sesongen, ville jeg ...

... angre på det.

Sikkert ikke						**Ja, sikkert**
1	2	3	4	5	6	7

..... bli skuffet over meg selv

Sikkert ikke						**Ja, sikkert**
1	2	3	4	5	6	7

…bli lei meg

Sikkert ikke						**Ja, sikkert**
1	2	3	4	5	6	7

…føle skam

Sikkert ikke						**Ja, sikkert**
1	2	3	4	5	6	7

29. Tenk på ***hoved idretten*** din og vennligst oppgi hvor enig-uenig du er i hvert utsagn under (sett ring rundt kun ett tall på hver linje).

Ikke enig i det hele tatt (1) Veldig lite enig (2) Litt enig (3) Noe enig (4)

Stort sett enig (5) Helt enig (6) Veldig sterkt enig (7)

a) Idretten min harmonerer med andre deler av livet mitt.	1	2	3	4	5	6	7
b) Jeg har vansker med å kontrollere trangen til å drive med idretten min.	1	2	3	4	5	6	7
c) De nye tingene jeg oppdager gjennom idretten min gjør at jeg verdsetter den enda mer.	1	2	3	4	5	6	7
d) Jeg har nesten en tvangsmessig følelse for idretten min.	1	2	3	4	5	6	7
e) Idretten min gjenspeiler egenskaper som jeg liker ved meg selv.	1	2	3	4	5	6	7
f) Idretten min gir meg mange ulike opplevelser.	1	2	3	4	5	6	7
g) Idretten min er det eneste som virkelig begeistrer meg.	1	2	3	4	5	6	7
h) Idretten passer fint inn i livet mitt.	1	2	3	4	5	6	7
i) Hvis jeg hadde mulighet til det, så ville jeg drevet med idretten min nesten hele tiden.	1	2	3	4	5	6	7
j) Idretten min harmonerer med andre ting som også er en del av meg.	1	2	3	4	5	6	7
k) Av og til er idretten min så altoppslukende at den tar fullstendig overhånd.	1	2	3	4	5	6	7
l) Jeg har inntrykk av at idretten min kontrollerer meg.	1	2	3	4	5	6	7

Takk for din deltakelse i dette mastergradsprosjektet.