



# **Does motivation differ depending on young athletes opinions on specialization?**

- A quantitative study about youth team sports

Viktor Trojmar & Gustaf Könberg

GYMNASTIK- OCH IDROTTSHÖGSKOLAN

Självständigt arbete 15 hp, nivå: Grundnivå

Idrottsvetenskap III, 2019-2024

Handledare: Charlotte Downing

Examinator: Ulrika Tranaeus

Uppsatsnummer: 80:2022

## **Abstract**

### **Aim**

The purpose of the study is to investigate whether motivation differ depending on young athletes opinions on specialization.

Problem statement:

- Does motivation type differ depending on young athletes opinions on specialization?

### **Method**

We have chosen to use a quantitative working method. In the collection of data, we used a questionnaire, which is divided into two parts, where in one part we took inspiration from a previously established survey but we adapted it for our population and research aim. In the second part, we have used the Swedish version of The Behavioral Regulation in Sport Questionnaire (BRSQ). Thirty handball and ice hockey students from nationally approved sports educations (NIU) participated in the study (handball players = 15; ice hockey players = 15; 73% male) to examine how motivation differs depending on their opinions of specialization. We investigated whether there were any differences regarding motivation for those who had different opinions about specialization.

### **Results**

The result of our study shows that there are no significant differences in autonomous and controlled motivation between the two groups who had different opinions about specialization. But in our data analysis, we saw that there is a significant difference between the groups regarding amotivation, where the less positive group showed a higher degree of amotivation.

### **Conclusion**

Our conclusion that we draw from our study is that opinions about specialization from young athletes who attend sports training at NIU high schools in Sweden do not impact on their motivation in sports in terms of the autonomous and controlled motivation types. On the other hand, we found a significant difference between the groups in terms of amotivation.

# **Sammanfattning**

## **Syfte**

Syftet med studien är att undersöka om unga idrottares motivation skiljer sig åt beroende på åsikter om specialisering.

Frågeställning:

- Skiljer sig motivationstyper beroende på unga idrottares åsikter om specialisering?

## **Metod**

Vi har valt att använda en kvantitativ ansatt. I datainsamlingen använde vi en enkät som är uppdelad i två delar, där vi i ena delen hämtade inspiration från en tidigare etablerad enkät men vi anpassade den för vår population och forskningssyfte. I den andra delen har vi använt den svenska versionen av The Behavioural Regulation in Sport Questionnaire (BRSQ).

Trettio handbolls- och ishockeyelever från nationellt godkända idrottsutbildningar (NIU) deltog i studien (handbollsspelare = 15; ishockeyspelare = 15; 73 % män) för att undersöka hur motivationen skiljer sig beroende på deras åsikter om specialisering. Vi undersökte om det fanns några skillnader vad gäller motivation för dem som hade olika åsikter om specialisering.

## **Resultat**

Resultatet av vår studie visar att det inte finns några signifikanta skillnader i autonom och kontrollerad motivation mellan de två grupper som hade olika åsikter om specialisering. Men i vår dataanalys såg vi att det finns en signifikant skillnad mellan grupperna vad gäller amotivation, där den mindre positiva gruppen visade en högre grad av amotivation.

## **Slutsats**

Slutsatsen från vår studie är att åsikter om specialisering från unga idrottare som går idrottsinriktning vid NIU-gymnasier i Sverige inte påverkar deras motivation inom idrotten när det gäller de autonoma och kontrollerade motivationstyperna. Däremot fann vi en signifikant skillnad mellan grupperna när det gäller amotivation.

## **Table of content**

<b>1. Introduction</b>	<b>4</b>
1.1 Background	6
1.2 Definitions	13
1.3 Why Self-determination theory?	13
<b>2. Aim</b>	<b>14</b>
2.1 Problem statement	14
<b>3. Method</b>	<b>15</b>
3.1 Study participants	15
3.1.2 Opt-outs	15
3.2 Study procedures	15
3.2.1 Questionnaire design	16
3.2.2 Adapted basketball questionnaire	16
3.2.3 The Behavioral Regulation in Sport Questionnaire (BRSQ)	17
3.3 Validity & reliability	17
3.4 Ethical consideration	18
3.5 Personal data processing	19
<b>4. Data analysis</b>	<b>20</b>
4.1 Cronbach alpha	21
<b>5. Results</b>	<b>23</b>
5.1 Self-determination	24
5.1.2 Autonomous motivation	24
5.1.2 Controlled motivation	24
5.1.3 Amotivation	24
<b>6. Discussion</b>	<b>26</b>
6.1 Limitations	31
6.2 Future research	32
6.3 Conclusions	33
<b>7. References</b>	<b>34</b>
<b>Appendix 1 Litration search</b>	<b>37</b>
<b>Appendix 2 Informationletter and concentform</b>	<b>39</b>
<b>Appendix 3 Our questionnaire</b>	<b>41</b>
<b>Appendix 4 Basketball Specialization Questionnaire</b>	<b>47</b>
<b>Appendix 5 The Behavioral Regulation in Sport Questionnaire (BRSQ)</b>	<b>49</b>

## 1. Introduction

The dream of many young athletes in talent development programs is to succeed in reaching the elite level and be able to practice and make a living from their sport (Coakley, 2017). But the road there is not easy and it is far from everyone who actually succeeds. Fahlström and colleagues (2015) from the national sports federation in Sweden have written a report in which they investigated what lies behind the success of reaching elite level/national team level. They compiled some points that they had concluded were common to most successful athletes. Partly it is about growing up in a sports family, with financial resources. Then it was common that you have tried several sports during your "sporting journey" but that at the age of 15 you choose to specialize and focus on your main sport. Fahlström and colleagues (2015) believe that the path to elite level is individual and varied, but that the Swedish sports model seems to be characterized by specialization and elite investment. In order to give themselves the best conditions, many young people today choose to specialize in a certain sport from an early age. It goes without saying that if you want to become really good at something, you need to put in the time, energy and have talent for what you are doing (Ericsson, 2008).

It is difficult to point out exactly how and when sports specialization should be done in order to be as effective for talent development as possible, and there are divided opinions about this phenomenon in the sports world. Myer and colleagues (2015) describe in their article how specialization among young athletes should be applied with caution and that there are a number of negative risks that come with it, such as injuries and burnout. At the same time, it is possible to read in Moore & Sullivan's (2022) article how specialization can be used as a tool for success if it is carried out in the right way. What they mean is, among other things, that it is important to distinguish between specialization and the actual competitive aspect of sports. They describe how they found in their study that it is often the competitive element that causes stress, social isolation and identity challenges and not the specialization itself, although they are very close. What they mean by specialization to be carried out in the right way is that it should start in the late teens after you have tried different sports in the early teens. The fact that you initially do several different sports means that you as a young athlete can grow physically, cognitively and socially. They also believe that current evidence suggests that postponing sports specialization until after puberty minimizes the risks and increases the likelihood of athletic success. After puberty, one has the skills needed to invest

in the physical and mental training required of elite, high-level athletes. (Moore & Sullivan, 2022)

You often hear how researchers, coaches and parents share their opinions on how young people should proceed to achieve success in their sport (Mosher et.al, 2020; Larson, et.al. 2019). On the other hand, it doesn't happen as often that you get to hear what the young athletes themselves actually think about specializing. Clarke and colleagues (2018) are some of those who have done a study where they wanted to find out about the experiences of the young athletes. They turned to 11-year-old footballers and found that these academy players felt pressure to be constantly compared, controlled and only have to focus exclusively on football. DiSanti and colleagues (2016) also conducted a survey where they wanted to find out opinions about specialization in basketball players between the ages of 15-18. Of their 13 participating athletes, they received widely dispersed opinions and the average of the answers to the questions was around 2.42 out of 5 possible points, where 5 meant a very positive attitude towards specialization. The participants in DiSanti and colleagues (2016) study are more negative inclined towards specialization. This makes us interested in finding out what the young people think about specialization to see if their motivation for their sport differs depending on opinions about specialization. If you know how opinions about specialization among young athletes affect their motivation, it could help the sports movement in Sweden develop its strategies on how sports specialization should be conducted in the future. Padaki and colleagues (2017) believe that young athletes feel both intrinsic and extrinsic motivation when they are allowed to specialize in a sport and that specialization can be used to increase the athletes' motivation. Therefore, further research about opinions on specialization would be valuable.

The authors of this essay are or have been active in team sports and have had experiences from specialization in our youth when we were active players. We are also currently studying the teacher's program with a focus on coaching, which makes us interested in this subject. The starting point of our essay is that we are interested in investigating what opinions young handball and ice hockey players have about specialization and whether it affects their motivation within their sport.

## 1.1 Background

In the background, the most important things from the previous literature in this field have been summarized and presented to give a picture of where we are today and why our study becomes relevant in this context.

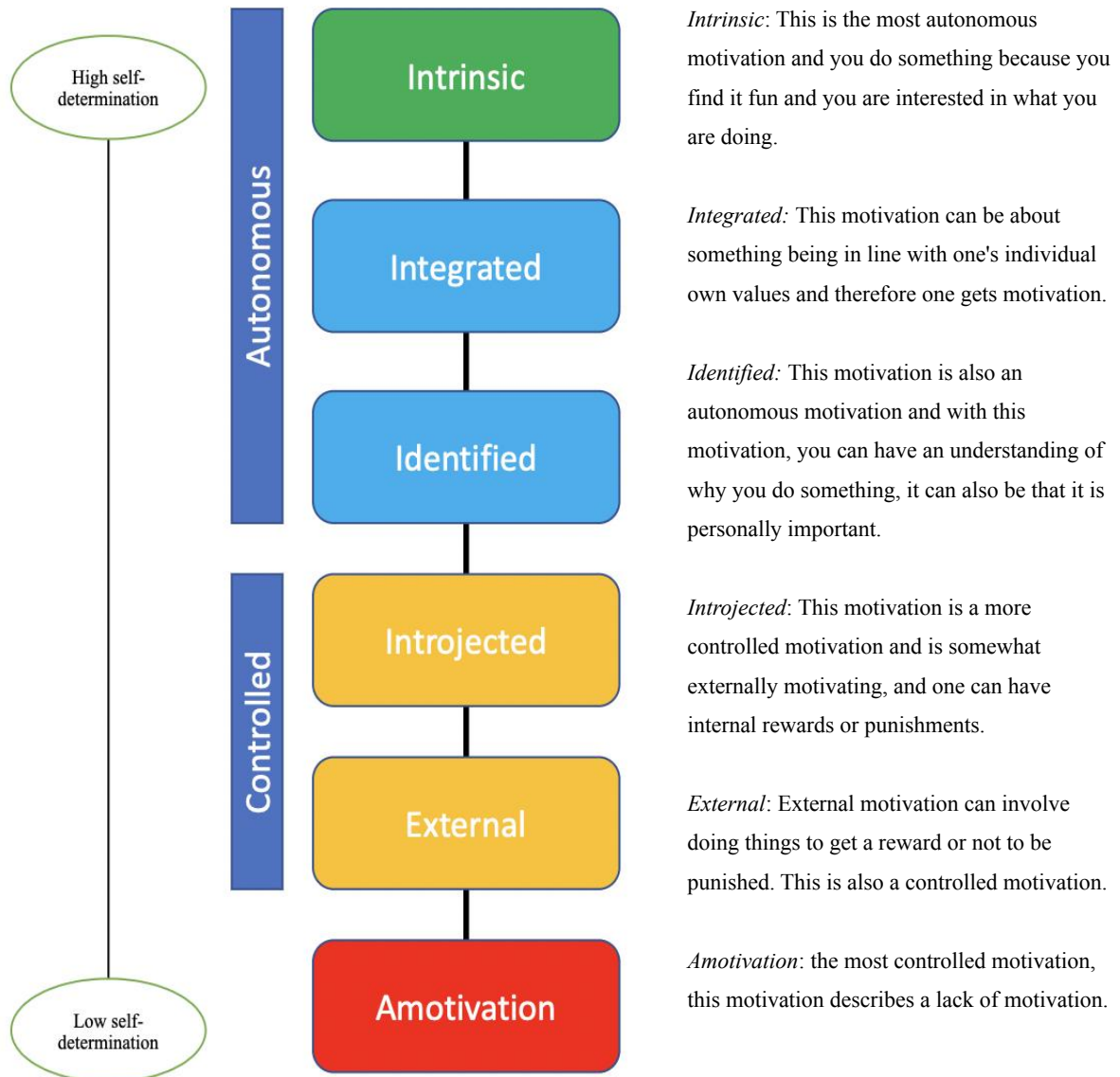
Through a systematic review, Mosher and colleagues (2020) have compiled several different articles that deal with the concept of specialization in order to investigate whether there is a clear definition of what is meant by "early specialization". They used four main components to divide the articles into different categories depending on how they had defined specialization. These four main components were: year-round training, intensive training, single-sport and quitting other sports. This article helps us understand that specialization in sports is a very broad concept and that its meaning can look different depending on if it is researchers, coaches or athletes who uses the concept. It is important for us to know that specialization can be interpreted differently depending on who you ask, for example, Larsson and colleagues (2019) believe that specialization means that you only participate in one sport, have limited free time and that you spend at least 8 months a year on sports. While Jayanthi and colleagues (2019) has a similar definition but they describe it in a different way. As others have said this about specialization and there are many definitions, it is important that we are clear about our definition of specialization which is that you: investing in a sport with the goal of being as successful as possible and you spend at least eight months a year on it. Once we have an understanding of the meaning of the concept of specialization, the next step is to understand why young athletes specialize and what the driving forces are behind it.

There are many reasons why young people specialize in a main sport and becoming successful in a sport can be one driving force behind specialization. In their survey, Padaki and colleagues (2017) quantified what drives specialization among young people. They carried out surveys with young people who play sports to see what is behind the choice to have started to specialize in a sport. The results showed that the two biggest reasons why young people choose to specialize are partly the desire to succeed in their sport, and the fact that they experience pressure from coaches and parents. Padaki and colleagues (2017) believe that this indicates that young people are driven by both internal and external motivation and therefore choose to specialize. In our investigation, this is highly relevant as we will investigate what type of motivation the young people in our study have for their sport. This

can also be linked to Self-Determination Theory (SDT: Ryan and Deci, 2000) where they describe how this theory goes even deeper into what motivation can be influenced by. Is it possible that opinions of specialization in sports make motivation differ in young athletes? If so, we want to find out more about that difference.

According to Ryan and Deci (2000), SDT sees motivation as a subject that can have several factors that have an impact on motivation. SDT not only looks at what internal motivation is but that motivation can also be influenced by external factors such as the individual's social environment. According to SDT, there are three different motivations: amotivation, controlled motivation and autonomous motivation (Ryan & Deci, 2000). These three motivations are divided into six different regulatory styles: non-regulation, external motivation, introjected motivation, identified motivation, integrated motivation and intrinsic motivation. (Ryan & Deci, 2000). Figure 1 illustrates the different motivation regulations within the SDT continuum. Importantly, the figure shows which motivational regulations are categorised as autonomous and controlled.





**Figure 1:** The Self-Determination Continuum, The different regulatory styles. This figure is adapted from Ryan & Deci (2000).

As we can see in figure 1 there are three different motivations that can be linked together with the different regulatory styles (Ryan & Deci, 2000). The different regulatory styles can show the SDT continuum with amotivation at the bottom and intrinsic motivation at the top and these determine whether one has a higher or lower degree of self-determination.

We believe this theory addresses important aspects of motivation, it is not only the inner that affects motivation but also external factors. SDT will help us investigate the motivation of

young athletes and are able to see what kind of motivation the young people have. Will they have a more autonomous motivation, controlled motivation or is it amotivation?

Below we outline the typical outcomes and associations related to autonomous motivation, controlled motivation, and amotivation.

**Autonomous motivation** is normally associated with better psychological health and well-being, it also usually leads to more positive experiences and enhanced performance and persistence in an activity. Autonomous motivation also shows a positive effect on skill development and autonomous motivation also shows a negative correlation to maladaptive outcomes such as anxiety (Tenenbaum & Eklund, 2020).

**Controlled motivation** has shown a positive effect to do activities to get approval from others or themselves. This normally short-term and controlled motivation has been shown not to have a long-term engagement in sports and is also associated with anxiety, guilt, and contingent self-worth (Tenenbaum & Eklund, 2020).

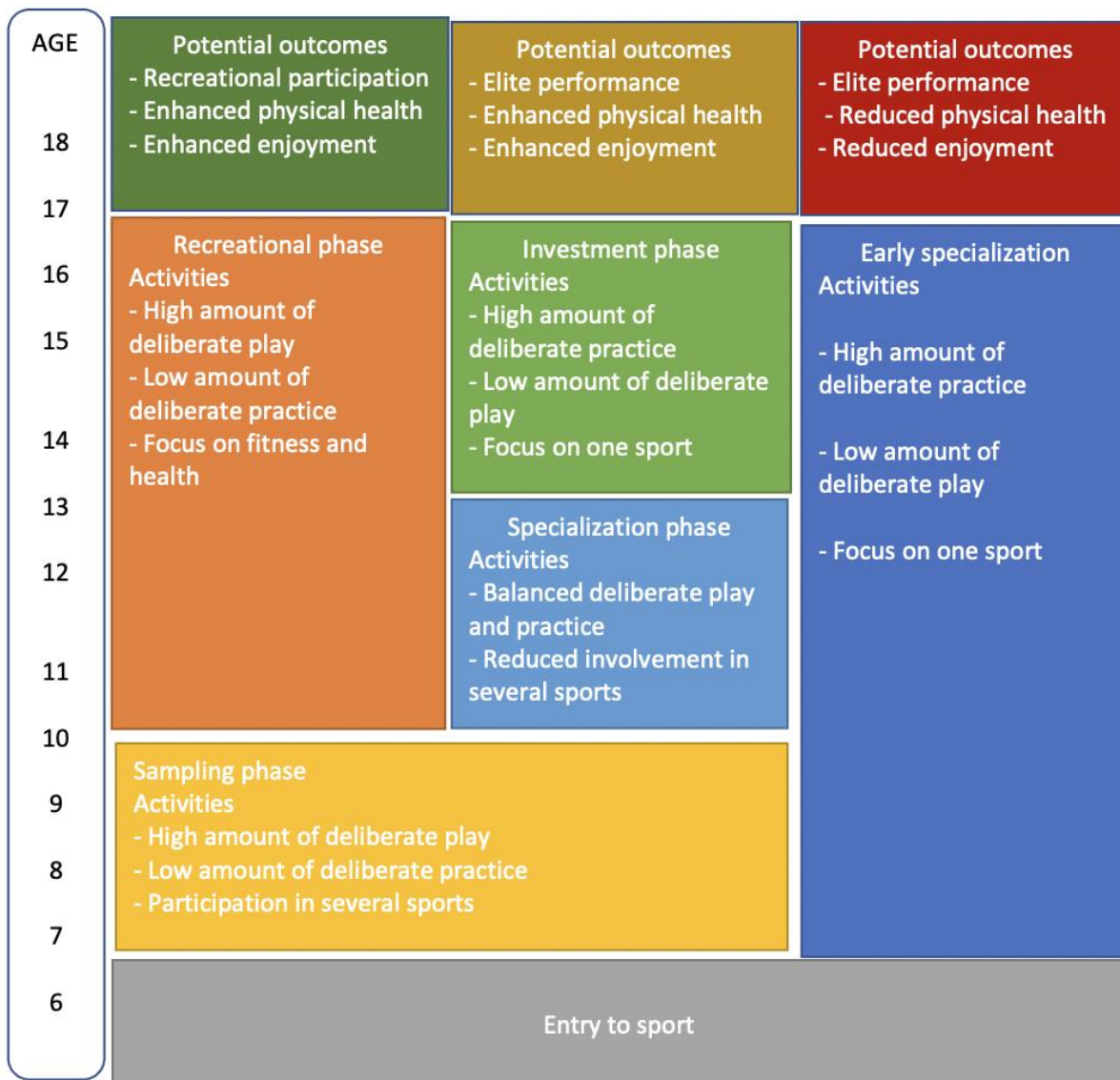
**Amotivation** is the lack of motivation, you cannot see meaning in something. Amotivation has a low level of autonomy, which usually make higher chances of burnout and dropout (Tenenbaum & Eklund, 2020).

So, why are we curious to investigate what opinions of specialization have to do with motivation, and why do we want to find out how motivated young athletes are in their sports? The reason why motivation is important in sports is that it is the foundation of all athletic effort and performance (Taylor, 2009). Taylor (2009) believes that if there is no desire and determination to improve one's sporting performance, other mental factors such as confidence, emotions, focus and intensity are useless. In order to reach your full potential and be the best athlete you can be, you must be motivated to do what it takes to maximize your ability and thus achieve your goals. Being an athlete means, among other things, that you are exposed to fatigue, pain, boredom and priorities. It is one's motivation that determines how well one manages to handle these stresses and makes one have the strength to fight on. Motivation is also what affects everything around the sports performance itself, such as strength, fitness, mental preparation, sleep, diet (Taylor, 2009). Motivation is also the only contributor to sports performance that you have control over. One's own ability and the

degree of difficulty of the competition are difficult to influence and have control over, on the other hand, one can control one's own motivation, which means that this particular aspect becomes important for success in one's sport. This provides an important backdrop to our interest in this topic, however, we also recognize that different types of motivation can have more positive or more negative outcomes for health, well-being, and performance. (Milyavskaya & Koestner, 2011).

Côté and colleagues (2007) agree that specialization in a sport is necessary to reach elite level while pointing out that it should be done in the right way to benefit the youth in the best possible way. To explain this, Côté and colleagues (2007) have developed a model (DMSP Model) that shows how one should think regarding specialization in youth sports. They believe that if you want to reach the elite level and maintain enjoyment and think it is fun, you should have a specializing phase in the early teenage years where you have a balanced amount of training and play and that you reduce participation in other sports gradually. After this, in connection with starting high school (i.e, age 15), you then enter the investment phase, which means that you begin to increase the amount of training and that you now only focus on one sport.

This model works well to apply in Sweden, where it works like that often when you start high school around age 15, that is when you start to really focus on your sport. In Sweden, there are NIU schools where you get the chance to combine your studies with the sport you want to focus on. Seen in terms of Côté and colleagues (2007) model, this would mean that when you start NIU high school in Sweden, you enter the investment phase. In the DMSP, there is a third pathway called “recreational phase” which is more focused on recreational participation. Because we are interested in athletes aiming for elite performance, the other two developmental pathways are more relevant to our study.



**Figure 2:** Adapted model of The Developmental Model of Sports Participation (DMSP) (Côté 2007)

But there are divided opinions about the risks and consequences that specialization can entail. In their article, Larson and colleagues (2019) investigated whether there was any evidence of a relationship between early specialization, burnout, or drop out and concluded that there was not. They also describe how they believe that early specialization as a method may receive far too much-unwarranted criticism for its negative consequences. At the same time, in their review paper, Myer and colleagues (2015) present concrete risks such as injuries and burnout and found in their research that these risks become greater in connection with specialization and increased amount of training, especially before the age of twelve.

That specialization has both advantages and disadvantages is something that can be established if one is to interpret the previous literature that has been done in this field. But despite the knowledge of these concrete advantages and disadvantages, it is important to listen to the young people themselves and their own opinions, because in the end, it is about them. Moore & Sullivan (2022) have, through interviews, investigated young athletes' own experiences of specialization. The participants in the study had to answer open-ended interview questions and give their views on how they have experienced specialization in their own careers. The results showed that everyone interviewed had similar reasons for choosing to specialize. The reasons identified were personal goals, outside influences (family, friends), and sporting visions. The results highlighted that participants felt that the negative aspect of sports specialization was having limited time for other things outside of sports. When they reached their teenage years, they had to opt-out of other sports and other leisure activities in order to put energy and time into their sport. Moore & Sullivan (2022) describes how to use specialization as a tool for success. The people in the study share amazing experiences from their careers that have been free of setbacks, despite the fact that they have specialized, which is often associated with setbacks. They also describe how there have been moments of social isolation, stress, identity challenges, but that it could happen that those feelings are due to the competitions themselves, and not specialization.

Brooks and colleagues (2018) investigated the attitudes and beliefs of young athletes regarding specialization and sports participation in general. They found that less than half of the participants (974 in total) believed that specialization would increase their risk of injury. Ninety one percent of participants felt that specialization increased their chances of getting better and developing in their sport. This is interesting as Fahlström and colleagues (2015) were able to show that there are many different paths to reach elite level. The conclusion Brooks and colleagues (2018) drew from their study was that the youth who specialized in their sport had greater self-belief and would succeed better than those who did not specialize.

## **1.2 Definitions**

In our study, we investigate youth sport specialization and this section defines some of the most important concepts in our study.

### **Specialization**

The definition we are using in our study when we talk about specialization is that you investing time in a sport to develop and become an elite athlete. It also means that you only do one sport and spend at least 8 months a year on it. This is also in line with how Larson and colleagues (2019) define specialization as they say that it means that you only participate in one sport and spend year-round training on it.

### **Young athletes / Youth athletes**

Generally when discussing young athletes, we are talking about young people at least 13 years old (Riksidrottsförbundet. 2019), we are more interested in adolescents between 15-19 years old. Therefore, when we use the term young athletes, we mean athletes who are 15-19 years old.

### **NIU**

Nationally approved sports educations (NIU) are Swedish high schools that combine high school education with elite sports education (Skolverket (2022). There are several NIU schools in Sweden with a focus on different sports. There are a total of 33 elite hockey high schools in Sweden, six of which are aimed at girls (Svenska Ishockeyförbundet, 2022). Within handball, there are 32 elite handball high schools in Sweden spread across the country for both boys and girls (Söderström, 2022).

## **1.3 Why Self-determination theory?**

There are many motivation theories, but the theory we will work on within our study is the Self-determination theory. The reason we chose to use this particular theory is that it is well-known and used. It is also a theory we have often seen in studies and there are also surveys based on the theory. The theory also addresses several factors on motivation and that several factors affect motivation (Ryan & Deci, 2000) and we believe that this theory can best help us with our study.

## **2. Aim**

The purpose of the study is to investigate whether motivation for sports participation differ depending on young athletes opinions on specialization.

Our hypothesis is that we believe those who have more positive opinions about specialization will also have a more self-determined motivation for their sport. To be successful in a sport, it is usually necessary to specialize. If you have a positive attitude towards specialization and believe that it is the key to success, we believe that this should mean a more self-determined motivation as well. You feel an internal motivation to succeed and the way there is through specialization. The null hypothesis would be that the motivation of young athletes does not differ according to their opinions on specialization.

### **2.1 Problem statement**

- Does motivation type differ depending on young athletes opinions on specialization?

### **3. Method**

Here we present our used method which includes the study participants, study procedures, validity & reliability, ethical considerations, personal data processing and data analysis.

#### **3.1 Study participants**

This study is aimed at youth athletes, both girls and boys between the ages of 15-19. Based on our experiences in our sports, we expect no differences in opinion between girls and boys. Those who participate in the questionnaire are young people who attend NIU high school with a focus on ice hockey or handball. The reason we choose students at NIU high schools is that they attend an educational program where their sport is included. Having said that, these young people are at a school where the focus is to allow young people to develop a higher performance in their sport whilst continuing education. Handball and ice hockey are two team sports that resemble each other and we want to reach the young people in both of these sports to get a wider selection. Most of the time, you have already chosen to specialize in a sport when you reach the age of 15, and therefore we believe that you should have a relevant opinion about what you think about specialization when you are between 15-19 years old.

##### **3.1.2 Opt-outs**

As we assumed, most of the participants had specialized sometime before the age of 15, which led to the few who had not done so being removed from the results. We chose to do so because they had not specialized to be able to base their opinions about specializing on their own experiences and the answers had been influenced by not having specialized themselves.

#### **3.2 Study procedures**

We contacted 57 handball & ice hockey schools and asked them to participate in our study, of which eleven responded. Of the eleven who responded, six wanted to participate in the study while the other five could not participate because various reasons. We searched on the Swedish Ice Hockey Association (Svenska Ishockeyförbundet, 2022) and the Swedish Handball Federation (Söderström, 2022) to identify suitable participants to recruit. On these websites we also found contact details for coaches/teachers. To answer the purpose of this study, we have chosen to do a questionnaire. Our questionnaire is divided into two sections,



the first part is about the participants' opinions of specialization while the second part is about their motivation. We compared the difference between two groups, one that is more positive about specialization and the other that is less positive.

### **3.2.1 Questionnaire design**

To find out, we used two already established questionnaires. The first is the Basketball Specialization Questionnaire (DiSanti et.al 2016) which has been used to find out high school students' opinions about sports specialization. The other is The Behavioral Regulation in Sport Questionnaire (BRSQ) (Lonsdale. et.al. 2008) which has been used to investigate how motivated one is to their sport. We compiled these questionnaires into one, added several background questions (e.g., age, gender, sport), and let our participants answer them. Both questionnaires used likert scales to answer the questions, the basketball questionnaire goes from 1 (strongly disagree) to 5 (strongly agree). While the BRSQ goes from 1 (not at all true) to 7 (completely true). The questionnaires were in Swedish to make it easier for the participants to understand and answer the questions. The entire questionnaire consisted of 36 questions plus background questions.

### **3.2.2 Adapted basketball questionnaire**

DiSanti and colleagues (2016) define specialization as follows in their article: "an investment in a single sport through systematic training and competition where one participates in the sport year-round for the pursuit of skill and enjoyment. They then use a questionnaire related to specialization in high school sports to find out what basketball players in this case think about sports specialization. This questionnaire is useful for us in the first part of the survey, as we also want to find out what the young athletes in our study think about specialization. The questionnaire by DiSanti and colleagues (2016) is not optimal for our study as it is specific to basketball and adapted to American school sports. This leads to us making changes to the questions, e.g. change from basketball to hockey or handball. This part of the questionnaire is divided into three segments: should (e.g. "I think all young athletes should specialize in only one sport before the age of 15"), benefits (e.g. "I believe that specialization in only one sport before the age of 15 has a positive effect on sports performance") and pressure (e.g. "I have felt pressure from my coaches to only play one sport before I was 15 years old").

Additionally, each segment have four questions, which means that there are twelve questions in total from this part.

### **3.2.3 The Behavioral Regulation in Sport Questionnaire (BRSQ)**

The Behavioral Regulation Questionnaire in Sport (BRSQ)(Lonsdale et.al 2008) is designed to measure the motivation of athletes based on the self-determination theory (Ryan & Deci, 2000) and consists of six subscales and 24 items. Each subscale is 4 items designed to measure amotivation, external motivation, introjected motivation, identified motivation, integrated motivation and intrinsic motivation. We use the Swedish version of the BRSQ (Stenling et.al 2018).

### **3.3 Validity & reliability**

The validity and reliability of our study depend on our questionnaire. The questionnaire that we believe may be problematic regarding validity is the adapted basketball questionnaire, as we redo it by changing the questions. However, we try to keep the structure of the original questionnaire and adapt it to the degree we need. The original questionnaire by DiSanti and colleagues (2016) is also lacking in validity as that questionnaire is very specialized for one study and is not widely used. To design our “Adapted basketball questionnaire” in Swedish we asked two bilingual people to help. One person translated the questionnaire into Swedish and the other one translated them back into English. Then we compared the original questions to the new ones and decided that we could use them.

The BRSQ questionnaire is already validated, we used the Swedish version which is validated by Stenling and colleagues (2018), which strengthens the validity and reliability of our study. But to make sure this section is reliable we did Cronbach's alpha tests (Pallant, 2016). To make sure that Cronbach's alpha results are correct we use the coefficient of scale 0.7 (Pallant, 2016).

When both questionnaires were put together, and before we started the collection process, we did pilot studies to find problems and ambiguities in the study. We did two pilot studies which helped us find problems and ambiguities in our questionnaire, this led to some changes in the formulation of the questions in the adapted basketball questionnaire. The pilot tests were done with two male athletes, where one was 24 years old and plays hockey and the other was 22 years old and plays soccer.

### **3.4 Ethical consideration**

Vetenskapsrådet (2002) writes about four main requirements: information, consent, anonymity, and confidentiality. This part of the study has gone through ethical requirements.

Vetenskapsrådet (2017) writes that before a study is carried out, the participants must be informed about the study, and they should, among other things, be told about the purpose of the study and how the results are to be handled. We fulfil the information requirement when we gave the participants an information letter at the beginning of our questionnaire, that they needed to read before starting the questionnaire (Appendix 2).

Vetenskapsrådet (2017) also states that participation in a study must be voluntary and this must take place before the study is carried out. The consent requirement is fulfilled at the start of the questionnaire were after the information letter, they need to agree to a consent form (Appendix 2) to be able to answer the questionnaire. Of course, it is completely voluntary to participate in the questionnaire and to make sure that they are willingly participating in our study we have the last question in the questionnaire asking for consent to use their answers in our study (Appendix 3). We mainly have the last question because some of the participants answer this questionnaire at the school during a lesson and to make sure they do not feel pressured to participate in the study we have this question.

According to Vetenskapsrådet (2017), anonymity should be present in a study with some exceptions. You should not be able to figure out who participated in a study. We worked with the anonymity requirement in a way so that the questionnaire is anonymous. We did not ask questions about sensitive personal data; the only personal information we asked for is age and gender.

"Confidentiality is a more general obligation not to communicate information given in confidence, and entails protection against unauthorised persons partaking of the information." (Vetenskapsrådet, 2017, p. 40). Bellow in 3.5 Personal data processing we are writing about how we worked with the confidentiality recruitment.

### **3.5 Personal data processing**

We have not collect any sensitive personal data from the participants in our study. In the questionnaire, we ask background questions and the personal data we obtain are age and gender. We also do not mention the names of the NIU schools, we do this so that the participants could answer honestly and not be worried that they are not anonymous. The questionnaires were answered online and we asked teachers or other persons in charge at the school to send the questionnaire to the students, then we gave each completed questionnaire an ID number. This means that we can not see the participants emails which creates anonymity for the participants of the study. The first thing we sent to the schools was a cover letter when we asked if we could carry out our study, in which it stood the purpose of the study and how we are working with personal data. A similar message letter was on the front of the questionnaire which the participants must approve before they can proceed with the rest of it. All data from the questionnaire and their consent are being saved on a separate disc and all personal data will be deleted after the study is complete.

## 4. Data analysis

The first thing we did when we got the data was to do a screening so that the answer was in our desired range and if the participants gave consent to be in our study. After that, we analyzed the answers from the first part of our questionnaire regarding opinions on specialization. The purpose of this part of the questionnaire was to create two groups, one group with a more positive opinion of specialization and one with less positive opinions.

This led us, to sum up, each person's answers from the first part of our questionnaire regarding opinions on specialization. Regarding the participants opinions on specialization, the question was Likert scale going from 1-5, and with twelve questions the maximum possible range on the questionnaire was 0-60. Our participants answered between the range of 28-48. The mean score was 38.1 and the standard deviation was 5.37. And to create two groups we did a median split where the median was 37.5. In this part you could only get whole numbers, this led to two equally large groups where everyone who got 38 and higher ended up in the more positive group while those with 37 and lower ended up in the less positive group.

There were 30 responses after two opt-outs, which made so we had two equally big groups. There were in total 21 boys who responded, 13 boys specialized in ice hockey and eight specialized in handball. Of the nine remaining were all girls there two specialized in ice hockey and seven in handball. The ages of those who answered our questionnaire are  $17 \pm 1$  years old and everyone who answered the questionnaire was specialized before age 15. The mean value of the time it took to answer the questionnaire was 6.30 minutes.

After we made the two groups, we grouped all the BRSQ questions into the different motivations: amotivation, external motivation, introjected motivation, identified motivation, integrated motivation, and intrinsic motivation. Then we calculated the average of the answers, where the lowest possible answer is one and the highest is seven. Table 1 describes the mean, standard deviation, minimum and maximum answers for the different motivations.

**Table 1:** Descriptives of the different motivations.

	<b>Intrinsic</b>	<b>Integrated</b>	<b>Identified</b>	<b>Introjected</b>	<b>External</b>	<b>Amotivation</b>
Mean	6.67	5.34	5.35	3.22	2.38	2.05
Standard deviation	0.69	1.11	0.593	1.42	1.21	1.34
Minimum	4.25	1.75	4.25	1.00	1.00	1.00
Maximum	7.00	6.75	6.50	7.00	5.00	5.75

We then calculated the mean value of autonomous motivation and controlled motivation. Autonomous motivation is made by calculating an average score for intrinsic, integrated and identified motivation and controlled motivation is made by calculating an average score for introjected and external motivation. With this data we did one independent t-test and two Mann-Whitney U-test, all tests took place in the program Jamovi. To figure out if the results are significant or not we will be using the significant level:  $p=0.05$ .

#### **4.1 Cronbach alpha**

We did a Cronbach alpha test to measure the reliability of the BRSQ questionnaire. We did this test on the BRSQ questions, we did this on all the questions and compared them to the motivation they was grouped in.

Table 2 shows the Cronbach alpha results, and the Cronbach alpha coefficient was 0.7. This means that according to Cronbach's alpha all the motivations with a reported coefficient over 0.7 have good internal consistency. Identified motivation shows a low Cronbach alpha coefficient and has a bad internal consistency. We chose to keep analysing the results because the BRSQ questionnaire is widely used and has been validated in Swedish and has been used on players in similar sports and ages. Furthermore, when we did a Cronbach alpha test on all items within the composite variable for autonomous motivation it showed a coefficient on an

acceptable level. Therefore we decided to continue with our planned analysis, even though the Identified motivation showed low internal reliability.

The low Cronbach alpha coefficient can be because of the low number of responses and Jamovi showed that there were some possible outliers within the dataset but because of the number of answers, we chose to keep them.

**Table 2:** Cronbach's alpha results

Scale Reliability Statistics

<b>Motivations</b>	<b>Cronbach's <math>\alpha</math></b>
Intrinsic motivation	0.957
Integrated motivation	0.758
Identified motivation	0.168
Introjected motivation	0.844
External motivation	0.884
Amotivation motivation	0.893

## 5. Results

In the table below, a descriptive picture of the results we have produced for each individual type of motivation is presented. The table shows how many have answered (N), mean value, median, standard deviation, minimum and maximum score and whether the data is normally distributed. On the motivation questionnaire (BRSQ) you could get between 0-7 points on the different motivation types. The more positive group will be known as group 1 and the less positive group is group 2.

**Table 3:** The descriptives of Autonomous, Controlled and Amotivation

	<b>Autonomous</b>	<b>Controlled</b>	<b>Amotivation</b>
N	30	30	30
Mean	5.79	2.80	2.05
Std. error mean	0.0924	0.224	0.245
Standard deviation	0.506	1.23	1.34
Minimum	4.17	1.00	1.00
Maximum	6.50	5.88	5.75
Skewness	-1.38	0.743	1.51
Std. error skewness	0.427	0.427	0.427
Kurtosis	2.38	0.118	1.76
Std. error kurtosis	0.833	0.833	0.833
Shapiro-Wilk W	0.891	0.945	0.780



Shapiro-Wilk p	0.005	0.127	< .001
----------------	-------	-------	--------

---

## **5.1 Self-determination**

The following section will be divided into three parts, which is the three motivations: Autonomous motivation, Controlled motivation and Amotivation.

### **5.1.2 Autonomous motivation**

Since the assumptions for doing an independent T-test were not met because the data is not normally distributed we conducted a Mann-Whitney U-test to compare the Autonomous motivation scores of group 1 and group 2. The test showed that there was no significant difference between group 1 (M = 5.92, SD = 0.486) and group 2 (M = 5.55, SD = 0.637). In table 4 we see the p-value for the t-test shows a p-value at 0.104 which is over our significant level.

### **5.1.2 Controlled motivation**

The assumptions to do an independent t-test were fulfilled, the data was normalized and the standard deviation was also acceptable to do a t-test. An independent t-test was conducted to compare the Controlled motivation scores of group 1 and group 2. The test showed that there was no significant difference between group 1 (M = 2.48, SD = 1.01) and group 2 (M = 3.11, SD = 1.38) Table 4 shows a p-value of 0.168 which is over our chosen significant level 0,05.

### **5.1.3 Amotivation**

Since the assumptions for doing an independent T-test were not met because the data is not normally distributed we conducted a Mann-Whitney U-test was conducted to compare the Amotivation scores of group 1 and group 2. The test showed that there was a significant difference between group 1 (M = 2.42, SD = 0.419) and group 2 (M = 3.42, SD = 1.05) In Table 4 we see that Man-Whitney U-test's p-value is <0.001 which is below the significant level and shows that there is a significant difference between the two groups.

**Table 4:** This table shows the p-value on Student's t-test and Mann-Whitney U-test for Autonomous, Controlled and Amotivation.

	<b>Autonomous</b>	<b>Controlled</b>	<b>Amotivation</b>
Student's t	0.087	0.168	0.003
Man-Whitney U	0.104	0.280	< 0.001

## 6. Discussion

In this discussion section, we start with discussing our results relating to our aim and hypothesis, then we elaborate on our findings relating to the previous literature. Followed by a discussion regarding the results we found in our own study related to Autonomous, Controlled, and Amotivation. Finally, we discuss limitations, future research and conclusions.

The purpose of the study was to investigate whether motivation for sports participation differ depending on young athletes opinions on specialization. Our hypothesis was that we expected the group that was more positive towards specialization to have a more self-determined motivation and to have higher average scores on autonomous and lower scores on amotivation. This hypothesis was somewhat consistent with the results we found. The result showed no significant difference between the more positive and the less positive group in terms of autonomous and controlled motivation. On the other hand, the less positive group got a lower average score on amotivation, which meant that in the type of motivation there was a significant difference between the groups. What was remarkable based on the results of the first part of the questionnaire about specialization was that all young people had a clear positive attitude and opinion about specialization, we expected opinions on specialization to differ more. These young people who participated in the study were themselves in the middle of an investment- or early specialization-phase in their sports (Côté 2007), but we still highlight it as interesting with these positive opinions, compared to the criticism that specialization has received, as we mentioned earlier.

Although Myer and colleagues (2015) clearly describe the negative risks associated with specialization, and that it should be applied with caution, the young people in our survey still answer that they have positive opinions about specialization and that it is something that they believe is important to become successful. Myer and colleagues (2015) further describe what these risks are specifically and mention injuries and burnout as the two main ones. That there are risks associated with specializing, we assume that the young athletes themselves know about it, as it is a topic that is hotly debated in the sporting world today. With this, one can imagine that we should have received more answers that were in the negative direction regarding opinions about specialization. Presumably, because the participants in our study are themselves in the middle of their own specialization, it is something they need to be positive about and believe in because they are doing it themselves. But we still think it is worth

pointing out that despite the fact that specialization as a subject has raised a lot of emotions, it is still clear that from the young people's side, they are positive about it.

We also mentioned earlier that we feel that we hear too little and that there is too little literature published about what young people think about specialization. Often you hear instead about how researchers view this, for example in Mosher and colleagues (2020) article. Of course, it is not bad that researchers investigate this topic and publish information that is important for understanding how to apply specialization in the best way. What we mean is that it is also important to listen to the young people themselves and to include them in the debate about specialization. Even though people can point to obvious risks and other negative consequences with specialization, we believe that it is ultimately up to the individual to decide if they want to take the step to invest in their career and follow their dream.

There must be an interaction between the athletes' experiences and scientifically based information. Therefore, it is important that studies such as Moore & Sullivan's (2022) are conducted, where former athletes who themselves have specialized in a sport were interviewed. Although they used a qualitative method, they obtained similar results to ours. The participants in their study said that they were aware of the negative risks that existed but that they were more connected to the actual competition moments rather than the specialization. The results of their study also showed that those who had specialized were mostly positive about it and had a series of wonderful moments from the specialization period that they carry with them for the rest of their lives. It is also important to point out that it plays a very important role in which young people you turn to, depending on the answers you get. In our survey, those who participated were already accepted to NIU high schools in Sweden, which may then make them more positive about specialization because things are going relatively well for them in their careers. Had we instead conducted the same survey only with the students who did not enter the NIU high schools, we would probably have received more negative opinions about specialization.

There have not been a lot of studies that looked at youth athletes' opinions on specialization and motivation but Clarke and colleagues (2018) study's findings are that academy players felt pressure to be constantly compared, controlled and only have to focus exclusively on football, you can compare what they felt too controlled motivation. Our results showed a high on autonomous motivation which does not compare to Clarke's and colleagues (2018) results,

but we did have some participants that answered high on controlled motivation. We got answers that were similar to their results, but even then, all of them in our survey answered relatively highly about autonomous motivation, which shows that they have high self-determination and that they do something because they think it is fun and because they want to. While Clarke and colleagues (2018) participants felt pressured to perform the sport and felt controlled which we link to low self-determination. Compared to the study by Disanti and colleagues (2016), their results differed from ours. Their participants were more negative in their opinions on specialization than ours did. DiSanti himself mentions that they had a low number of participants, which may have affected the results. Then it is important to highlight that we did not use exactly the same questionnaire because we modified ours and that may also be behind the different results. Our participants were already specialized and our participants were selected from NIU high schools, which we believe may be a difference between Disanti and colleagues (2016) and our results. Where Disanti and colleagues participants were from normal high schools.

Padaki and colleagues (2017) write that there is an internal motivation for young people to specialize, but that there is also external motivation. Our results highlight that autonomous motivation was high in a sample of specialized ice hockey and handball players. This says that all participants in our study have a high degree of autonomous motivation, but our results also highlight that controlled motivation also has some high scores and an impact on some of the young people's motivation. That autonomous motivation scored high is positive when autonomous motivation is associated with better psychological health and well-being, it also usually leads to more positive experiences and enhanced performance and persistence in an activity (Tenenbaum & Eklund, 2020). And this enjoyment they feel from their sport can make them stay in the sport and might fulfill the purpose of NIU schools to create elite athletes.

In controlled motivation, the participants answer both low and high about controlled motivation and this tells us that there were widespread results regarding controlled motivation. This was also the only motivation that was normally distributed, which describes that the participants are affected to varying degrees by controlled motivation, while everyone has responded relatively high degree of autonomous motivation. It is like Padaki and colleagues (2017) write that internal motivation is important for those who are specialists in

that there are also external factors that affect the players' motivation. We believe that it is very positive that many answered that they have done autonomous motivation, which bodes well for Swedish sports activities, as the self-determination theory considers that autonomous motivation is the best motivation when you show a high level of autonomy (Ryan and Deci, 2000).

Amotivation is the lack of motivation, our results are that there is a significant difference. The results showed that the participants answered differently on this part of the questionnaire some answered with a high and some with a low level of amotivation. These results, as well as the fact that there was no normal distribution, lead us to believe that there are a few participants in the study who responded high on amotivation, which has created this significant difference. Taylor (2009) writes about the importance of motivation in sports and what its use is for athletes. The lack of motivation for some of our participants is concerning when as an athlete you meet a lot of stressors and with the lack of motivation there is a higher risk for burnout (Myer et.al. 2015) which might even lead to drop-out of their sport.

We had a crucial question regarding whether the players were specialized before the age of 15 or not. This question determined how we would divide the groups, either as we did by their opinions on specialization through a median split or whether they specialized before age 15 or not. There were only two who did not specialize before the age of 15, but if we had more answers, we might have grouped the groups differently. But since almost all of those who responded to our survey specialized before the age of 15, it might not make any difference how we divided the groups. This is interesting as it says something about the sports of handball and ice hockey in Sweden. A large part of the young people who attend NIU high schools consider themselves to have specialized in their sport even before they turned 15 and started high school. Having said this, it suggests that young people who play ice hockey and handball seem to start their specialization relatively early. Based on our own experiences in these sports, we believe that when you are just before the age of 15, you do not have time to keep up with several sports. If you play two sports when you start to grow up in your teens, it is common for the different sports to clash with each other. Especially if you play two sports that have their season at the same time of the year, then it is not possible to stay in a serious association and think that you should be able to be fully present in both sports.

A big reason why we think the results turned out the way they did is because the population we turned to was quite small. Actually, it was quite expected that those who took part in our study would have positive opinions about specialization because they are doing it themselves, although we had expected a little more spread of opinions than what we got. In order to get two groups with larger differences in their opinions, but still keep the same target group, we might have had to use a survey about specializing that would have been a little more extreme. It would have meant that those who are really positive as specialists would have answered it, while those who are perhaps not as convinced would have ended up more in the negative direction. Another option would have been to address a larger target group and not only include those who specialize themselves and go to NIU high school. By then, there would have been two clear groups with different opinions about specializing and that may also have been reflected in the relationship to motivation and the type of motivation you feel for your sport.

Much of the previous research that has been done in this topic deals with early specialization (Larson et.al. 2019). Early specialization means that the athletes begin their specialization before the age of 12, according to Mosher and colleagues (2020). In our survey, we turned to athletes who were over 15 years old and asked about their opinions on specialization before they turned 15. Since we formulated the question in this way, it is reasonable to assume that the participants in our study have shared their opinions about specialization between the ages of 12-15. If we wanted more opinions about "early specialization" in particular, we would have had to ask what they thought about specializing before the age of 12. At the same time, we probably wouldn't have gotten as many people who answered yes to the question about whether, according to our definition, one had specialized before the age of 15 if we had instead lowered that number to before the age of 12. But it would have been interesting to see what opinions we would have received if we had changed from "opinions about specialization" to "opinions about early specialization" and how it would have differed from the answers we now received in this survey.

In general, we received relatively high response scores on the questionnaires, both in terms of opinions about specialization and self-determined motivation in sports. This suggests that the specialization process in Sweden in handball and ice hockey seems to be working well. According to Fahlström with colleagues (2015), the most common route to national team level in Sweden is to undergo a specialization and elite investment. The fact that we then get

answers in our survey that indicate that the young people who major in sports seem to have enjoyed, as well as enjoy the specialization process itself, must be considered very positive for the Swedish sports movement. The fact that they also answer that they experience a high degree of autonomous motivation only confirms this talent development model that Sweden uses. In our survey, we have concluded that those who participated in our study and have specialized themselves had positive opinions about specialization as a method and thought it was a good thing. When we divided the participants into two groups based on their opinions (positive/less positive) and checked whether the motivation for sports participation differed between the groups, we could not find any significant differences, except in the motivation type amotivation, which is one of the three motivation types we compared. The results of this study show that young people in Sweden who play handball and hockey at high school level are positive about specialization and have a high self-determination motivation.

## **6.1 Strengths & Limitations**

One problem regarding the validity and reliability of our study is the number of responses we received. We received 32 responses with two opt-outs, which is not very much of the target population we investigated, this makes it difficult to get validated and reliable answers to what we investigated, then if we had received more responses, it could give us a different result. Although we do not have too many answers, we still believe that there are enough to be able to generalize over the population we have chosen. One important factor with the 32 responses we got was that those who answered are the population we were looking for and all of them did answer every question so we did not have any incomplete questionnaires which is a strength for the study.

Time was also something that limited our study, if we had more time we could have gotten more answers. A lot of the schools we asked to participate in the study were not able to because of the short amount of time as well as they have their work that needs to be done. But we believe if we could put more time into the data collection we could get a bigger sample to get bigger groups and get more reliable results. Even though the time limitation we were able to gather a sample group whom we could analyze and these results might be a start for a more in-depth study in the future.



Have we used the best way to survey opinions about specialization? We did surveys but is there better and would we get a better view of youth athletes' opinions of specialization and their motivation? The possibility exists that opinions about specialization are influenced by other factors not captured when using surveys, which may be a limitation. Interviews are something that is usually used when looking at opinions as you can get more developed answers. We believed that this was a good alternative to use but as we wanted to investigate a larger group we felt it would be difficult to get a representative result just from a few interviews, although we could get more in-depth answers. We also thought about using more open questions where we could get more developed answers, but we chose not to do this because it would take longer to answer surveys and we thought it would be difficult to get answers when the young people answered the survey during their free time.

Another limitation of this study that we have previously discussed is that we did not get two groups with clearly divided opinions. We chose to call our groups the "positive" and "less positive" group. For the study, it would have been better if we had instead received a positive group and a more clearly negative group. Then it would really have been possible to see in a clearer way whether opinions about specialization cause the motivation for sports participation to differ.

## **6.2 Future research**

This study gives a picture of how the motivation of specialized athletes differs according to their opinions of specialization and we have thought of many different studies that could be done.

- We would think it would be interesting to investigate the amotivation of specialized young people, some studies have been done but we have not found one that focuses more on Swedish youth sports because it differs from e.g. the American youth sport.
- We would also think it would be interesting to do a similar study to ours but with several responses to be able to confirm our observations and results. One could also do a qualitative study to investigate how young people's opinions of specialization in team sports or specific sports relates to their motivation.

- It would also be interesting to investigate a questionnaire to best look at athletes' opinions on specialization. We could not find this and would be interested in doing a similar study as ours and comparing the results. We believe that it would be possible to design a survey that would find out opinions about specialization in a better way. Where the questions are more about what the athletes think, as well as the consequences of that.
- We would also like more research to be done in the future with those who do not manage to progress in thinnings or those who are not so good at an early age. What happens if you are a little behind in development when you are, for example, 12 years old and all your friends are progressing. It may not be so easy to change teams from your friends just because you are not as good at sports. Presumably these young people have a very negative view of early specialization as they are disadvantaged because they are not good from an early age.

### **6.3 Conclusions**

The conclusions we can draw from the study are that opinions about specialization from young athletes who attend sports training at NIU high schools in Sweden do not relate to their motivation in sports in terms of the autonomous and controlled motivation types. On the other hand, we found a significant difference between the groups in terms of amotivation, but too big conclusions should not be drawn based on that, depending on the limitations we mentioned earlier. We could not find that young athletes' opinions about specialization make their motivation in sports differ, which may be useful to take into the future. Our results showed that the young people were positive about specialization and at the same time scored high on the motivation part. For the Swedish NIU high schools, this is a good sign that their operations are working. The purpose of their schools is to help the young people specialize in their sports, which the young people also find positive. While this is happening, they also answer that they are motivated in their sports, which indicates that this is a system that works well and it is a good method for educating young people.

## 7. References

- Clarke, N. J., Cushion, C. J., & Harwood, C. G. (2018). *Players' understanding of talent identification in early specialization youth football*. *Soccer & Society*, 19(8), 1151-1165. <https://doi.org/10.1080/14660970.2018.1432388>
- Coakley, J. (2017). *Sports in society: Issues and controversies* (12th ed.). New York: McGraw-Hill.
- Côté, J., Baker, J., & Abernethy, B. (2007). *Practice and play in the development of sport expertise*. In R. Eklund & G. Tenenbaum (Eds.), *Handbook of sport psychology* (3rd ed., pp. 184-202). Hoboken, NJ: Wiley.
- DiSanti J. S, Chase MA, Vealey R. (2016) *Congruency of expectations between high school coaches and athletes for off-season activities: is sport diversification a realistic option?*. Association for Applied Sport Psychology Regional Conference: [https://etd.ohiolink.edu/apexprod/rws\\_olink/r/1501/10?clear=10&p10\\_accession\\_num=miami1438352791](https://etd.ohiolink.edu/apexprod/rws_olink/r/1501/10?clear=10&p10_accession_num=miami1438352791)
- Ericsson K. A. (2008). *Deliberate practice and acquisition of expert performance: a general overview*. *Academic emergency medicine : official journal of the Society for Academic Emergency Medicine*, 15(11), 988–994. <https://doi.org/10.1111/j.1553-2712.2008.00227.x>
- Fahlström, PG. Glemne, M. Gerreval, P. Linnér, S. (2015) *Många vägar till landslaget*. Linnéuniversitetet. <https://www.idrottsforskning.se/manga-vagar-till-landslaget/>
- Larson, H. K., Young, B. W., McHugh, T. F., & Rodgers, W. M. (2019). *Markers of Early Specialization and Their Relationships With Burnout and Dropout in Swimming*. *Journal of sport & exercise psychology*, 41(1), 46–54. <https://doi.org/10.1123/jsep.2018-0305>
- Lonsdale, C., Hodge, K., & Rose, E. A. (2008). *The Behavioral Regulation in Sport Questionnaire (BRSQ): Instrument development and initial validity evidence*. *Journal of Sport and Exercise Psychology*, 30(3), 323–355. <https://doi.org/10.1123/jsep.30.3.323>

- Milyavskaya, M., & Koestner, R. (2011) *Psychological needs, motivation, and well-being: A test of self-determination theory across multiple domains*. *Personality and Individual Differences* 50: 387–91. <https://doi.org/10.1016/j.paid.2010.10.029>
- Moore, M., & Sullivan, M (2022) *The impact of sport specialisation on the lived experience and development of collegiate softball players*, *Qualitative Research in Sport, Exercise and Health*, 14:1, 151-166, <https://doi.org/10.1080/2159676X.2020.1837921>
- Mosher, A., & Baker, J. (2020). *What Defines Early Specialization: A Systematic Review of Literature*. *Frontiers in Sports and Active Living*. <https://doi.org/10.3389/fspor.2020.596229>
- Myer, G. D., Jayanthi, N., Difiori, J. P., Faigenbaum, A. D., Kiefer, A. W., Logerstedt, D., & Micheli, L. J. (2015). *Sport Specialization, Part I: Does Early Sports Specialization Increase Negative Outcomes and Reduce the Opportunity for Success in Young Athletes?*. *Sports health*, 7(5), 437–442. <https://doi.org/10.1177/1941738115598747>
- Jayanthi, N. A., Post, E. G., Laury, T. C., & Fabricant, P. D. (2019). *Health Consequences of Youth Sport Specialization*. *Journal of athletic training*, 54(10), 1040–1049. <https://doi.org/10.4085/1062-6050-380-18>
- Padaki, A. S., Popkin, C. A., Hodgins, J. L., Kovacevic, D., Lynch, T. S., & Ahmad, C. S. (2017). *Factors That Drive Youth Specialization*. *Sports health*, 9(6), 532–536. <https://doi.org/10.1177/1941738117734149>
- Pallant, J. (2016). *SPSS survival manual. A step by step guide to data analyses using IBM SPSS*. 6th ed. Maidenhead: McGraw-Hill
- Riksidrottsförbundet (2019). *Viktiga begrepp inom barn- och ungdomsidrott*. <https://www.rf.se/RFarbetarmed/Barn-ochungdomsidrott/Viktigabegreppinombarn-ochungdomsidrott/>
- Ryan, R. M., & Deci, E. L. (2000). *Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being*. *The American psychologist*, 55(1), 68–78. <https://doi.org/10.1037//0003-066x.55.1.68>

Stenling, A., Ivarsson, A., Lindwall, M., & Gucciardi, D. F. (2018). *Exploring longitudinal measurement invariance and the continuum hypothesis in the Swedish version of the Behavioral Regulation in Sport Questionnaire (BRSQ): An exploratory structural equation modeling approach*. *Psychology of Sport and Exercise*, 36, 187–196.

<https://doi.org/10.1016/j.psychsport.2018.03.002>

Skolverket (2022). *Anordna idrottsutbildningar inom gymnasie- och gymnasiesärskola*. Skolverket.

<https://www.skolverket.se/skolutveckling/anordna-och-administrera-utbildning/anordna-utbildning-pa-gymnasieniva/anordna-utbildning-pa-gymnasial-niva/anordna-idrottsutbildningar-i-gymnasieskolan-och-gymnasiesarskolan>

Svenska Ishockeyförbundet. (2022). *hockeygymnasium*,

<https://www.swehockey.se/spelare/information/hockeygymnasium/>

Söderström, L. (2022). *NIU-gymnasier*. Svenskhandboll.

<https://svenskhandboll.se/handboll-i-sverige/spelare/idrott-och-studier/niu-gymnasier>

Taylor, J. (2009). *Sports: What Motivates Athletes? Psychologytoday*.

<https://doi.org/https://www.psychologytoday.com/us/blog/the-power-prime/200910/sports-wh-at-motivates-athletes>

Tenenbaum, G., & Eklund, R. C. (2020). *Handbook of Sport Psychology (Fourth)*. Wiley.

Vetenskapsrådet. (2002). *Forskningsetiska principer inom humanistisk-samhällsvetenskaplig forskning*. 2022 Stockholm: Elanders Gotab, 17 s.

[https://www.vr.se/download/18.68c009f71769c7698a41df/1610103120390/Forskningsetiska\\_principer\\_VR\\_2002.pdf](https://www.vr.se/download/18.68c009f71769c7698a41df/1610103120390/Forskningsetiska_principer_VR_2002.pdf)

Vetenskapsrådet. (2017). *Good Research Practice*. Stockholm

[www.vr.se/download/18.2412c5311624176023d25b05/1555332112063/God-forskningssed\\_VR\\_2017.pdf](https://www.vr.se/download/18.2412c5311624176023d25b05/1555332112063/God-forskningssed_VR_2017.pdf)

## Appendix 1 Literature search

<i>Swedish</i>	Huvudbegrepp 1 på svenska  <b>Elitsatsning</b>	Huvudbegrepp 2 på svenska  <b>Idrottande ungdomar</b>	Huvudbegrepp 3 på svenska  <b>Lagidrotter</b>	Huvudbegrepp 4 på svenska  <b>Motivation</b>
<i>English</i>	Huvudbegrepp 1 på engelska  <b>Specialization</b>	Huvudbegrepp 2 på engelska  <b>Youth athletes</b>	Huvudbegrepp 3 på engelska  <b>Team sports</b>	Huvudbegrepp 4 på engelska  <b>Motivation</b>

<b>Huvudbegrepp 1 Specialization</b>	<b>Huvudbegrepp 2 Youth athletes</b>	<b>Huvudbegrepp 3 Team sports</b>	<b>Huvudbegrepp 4 Motivation</b>
- Early Specialization  - Sports Specialization  - Elite training	- High school students  - Teenagers - Adolescent	- Hockey - football/soccer, - handball	- Interest  - Inspiration  - Ambition

<b>Databas:</b>	<b>Söktermer, ämnesord och kombinationer?</b>	<b>Filter, avgränsningar i databasen</b>	<b>Söksträng</b>	<b>Antal träffar</b>
PubMed	Specialization AND youth athletes	2010-2022 Adolescent		13 483

Pubmed	Specialization AND youth athletes AND team sports	2010-2022 Adolescent		572
PubMed	Youth athletes AND Motivation	2010-2022 Adolescent		1473
PubMed	youth athletes AND motivation AND specialization	2010-2022 Adolescent		346
PubMed	youth athletes AND motivation AND specialization AND team sports	2010-2022 Adolescent		30
SportDiscus	Specialization	2010-2022 Peer Reviewed		958
SportDiscus	Specialization AND Team sports	2010-2022 Peer Reviewed		52
SportDiscus	Specialization AND youth athletes	2010-2022 Peer Reviewed		62
SportDiscus	Specialization AND motivation	2010-2022 Peer Reviewed		46
SportDiscus	Specialization AND youth athletes AND Team sports	2010-2022 Peer Reviewed		3

### Comments:

We have found articles from reference lists and received suggestions for several articles from our supervisor.

## Appendix 2 Informationletter and concentform

# Informationsbrev

### “Relaterar åsikter om specialisering till ungdomars motivation för sin lagidrott?”

Hej studenter!

Ni får detta informationsbrev för att ta del av vad denna undersökning kommer handla om. Läs igenom brevet noga innan ni väljer om ni vill delta eller inte i undersökningen. Har ni några frågor är ni välkomna att kontakta oss (våra kontaktuppgifter finns längst ner). Vi kommer från Gymnastik och Idrottshögskolan i Stockholm där vi nu läser på ämneslärarprogrammet.

### Vad handlar studien om?

Syftet med studien är att undersöka ifall ungdomars åsikter om specialisering inom lagidrotter är relaterade till deras motivation. Det finns mycket forskning som är gjord inom detta område men ofta handlar det om vad forskarna själva tycker, eller hur tränare och föräldrar ser på ämnet specialisering. Vi är intresserade av att undersöka vad ni idrottande ungdomar själva tycker om detta och om det finns någon relation mellan er åsikt och er motivation till idrotten. Resultatet av studien kan leda till en förståelse för hur specialisering inom lagidrotter påverkar idrottarens motivation.

### Deltagande i studien

Ni kommer få svara på en enkät som består av två delar där den första delen handlar om era åsikter om specialisering och den andra delen handlar om er motivation för er idrott. Enkäten tar runt 10-20 minuter att besvara. Om du vill delta i studien kommer du att fylla i en samtyckesblankett för att godkänna ditt deltagande. Om du väljer att delta är det viktigt att veta om att du ska svara på frågorna så som du själv tycker och att dina svar är anonyma. Självklart är det även helt frivilligt att delta och du har rätt att dra tillbaka ditt deltagande i studien när du vill.

### Datahantering

Förfatarna av studien Viktor Trojmar och Gustaf Könberg samt vår handledare Charlotte Downing kommer vara de som hanterar datan från enkäterna, ingen annan obehörig kommer se de svarade enkäterna. Datat kommer även vara lagrad på säker plats. De enda personuppgifter vi kommer fråga om är kön, ålder och idrott men detta är inget som kommer presenteras enskilt i studien.

Gymnastik och idrotthögskolan är ansvarig för dina personuppgifter. Enligt EU:s allmänna dataskyddsförordning (GDPR) samlar vi in informationen baserat på (1) att vi har fått samtycke från dig och (2) att forskningen kan ge värdefull information av allmänt intresse. Dataskyddsombud på Gymnastik och idrotthögskolan är Birgitta Edenius ([gdpr@gih.se](mailto:gdpr@gih.se)). Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att lämna in ett klagomål till Datainspektionen som är tillsynsmyndighet.

### Mer information

Ni får alltid kontakta oss när ni vill om ni har frågor, vill ha mer information eller om ni vill ta del av resultatet av hela studien.



Hälsningar, Viktor och Gustaf.

Viktor Trojmar, [viktor.trojmar@student.gih.se](mailto:viktor.trojmar@student.gih.se), 070XXXXXXX  
Gustaf Könberg [gustaf.konberg@student.gih.se](mailto:gustaf.konberg@student.gih.se), 073XXXXXXX  
Charotte Downing, handledare och doktorant, [charlotte.downing@gih.se](mailto:charlotte.downing@gih.se),  
08 - XXX XXX XX

Gymnastik- och Idrottshögskolan Box 5626  
114 86 Stockholm  
Phone: 08 – 120 537 00

## Samtycke till att delta i studien:

[“Skiljer sig motivationstyper beroende på unga idrottares åsikter om specialisering?” ]

Jag har skriftligen informerats om studien och samtycker till att delta.

Jag är medveten om att mitt deltagande är helt frivilligt och att jag kan avbryta mitt deltagande i studien utan att ange något skäl.

Viktor Trojmar, [viktor.trojmar@student.gih.se](mailto:viktor.trojmar@student.gih.se), 070XXXXXXX  
Gustaf Könberg [gustaf.konberg@student.gih.se](mailto:gustaf.konberg@student.gih.se), 073XXXXXXX  
Charotte Downing, handledare och doktorant, [charlotte.downing@gih.se](mailto:charlotte.downing@gih.se),  
08 - XXX XXX XX

Gymnastik- och Idrottshögskolan Box 5626  
114 86 Stockholm  
Phone: 08 – 120 537 00

Jag väljer att delta i studien och godkänner att Gymnastik- och idrottshögskolan, GIH behandlar mina personuppgifter i enlighet med gällande dataskyddslagstiftning och lämnad information.

## Appendix 3 Our questionnaire

### Enkät

Denna enkät är uppdelad i tre delar (bakgrund, del 1, del 2) och kommer att behandla specialisering och motivation inom ungdomsidrotten.

När vi pratar om specialisering menar vi att det innebär att investera tid i en sport med målet att utvecklas och bli så duktig som möjligt. Det betyder också att du bara ägnar dig åt en idrott och spenderar minst 8 månader om året på det.

### 2. Ålder: Jag är ... gammal

- 15 år
- 16 år
- 17 år
- 18 år
- 19 år

### 3. Jag är

- Tjej
- Kille
- Annat

### 4. Min sport är

- Ishockey
- Handboll

### 5. I enlighet med definitionen av specialisering, anser du att du har specialiserat dig inom din idrott före 15 års ålder?

- Ja
- Nej

### Del 1: Specialisering

Svarsalternativ:

- 1 = Tar helt avstånd
- 2 = Tar delvis avstånd
- 3 = Tar varken avstånd eller instämmer
- 4 = Instämmer delvis
- 5 = Instämmer helt

Instruktioner: Markera det nummer som du tycker bäst stämmer överens med dina åsikter om specialisering inom din sport.

## 6. Specialisering

	1	2	3	4	5
Jag tycker att alla unga idrottare bör specialisera sig i endast en idrott före 15 års ålder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
För att ett lag ska bli framgångsrikt bör varje spelare före 15 års ålder fokusera på att tävla och träna i endast en idrott året runt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spelare som önskar att utöva en idrott professionellt bör före 15 års ålder fokusera på att tävla och träna endast den idrotten året runt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innan ungdomar börjar gymnasiet bör de välja en idrott och koncentrera sig på att tävla och träna för endast den idrotten året runt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idrottare som specialiserat sig inom en idrott före 15 års ålder har större sannolikhet att få bättre och roligare upplevelse av sitt idrottsdeltagande än de som utövar flera idrotter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kraven på att spela min idrott begränsar mitt deltagande i andra aktiviteter som jag skulle vilja delta i	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genom att specialisera mig inom min idrott före 15 års ålder ökar mina chanser att bli en så framgångsrik och duktig spelare som möjligt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag tror att specialisering inom endast en idrott före 15 års ålder har en positiv effekt på idrottslig prestation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1	2	3	4	5
Jag har känt orimlig press från mina tränare att bara spela en idrott innan jag var 15 år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om det var upp till mina tränare skulle de vilja att jag bara fokuserade på att spela en idrott innan jag fyllt 15 år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag har känt orimlig press från mina föräldrar att bara spela en idrott innan jag var 15 år gammal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag har känt orimlig press att specialisera mig inom en idrott före 15 års ålder för att lyckas i min sport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Del 2: Motivation

Instruktioner: Markera ett av de sju alternativen som du tycker bäst stämmer överens med ditt deltagande i din idrott

<i>Jag deltar i min idrott...</i>	Stämmer inte alls			Stämmer någorlunda			Stämmer helt
1) för att jag tycker om det.	1	2	3	4	5	6	7
2) för att det är en del av vem jag är.	1	2	3	4	5	6	7
3) för att det är en möjlighet att vara den jag är.	1	2	3	4	5	6	7
4) för att jag skulle skämmas om jag slutade.	1	2	3	4	5	6	7

5) men jag vet inte riktigt varför längre.	1	2	3	4	5	6	7
6) för att jag skulle känna mig misslyckad om jag slutade.	1	2	3	4	5	6	7
7) men jag undrar vad det är för mening med det.	1	2	3	4	5	6	7
8) för att det jag gör i idrotten är ett uttryck för den jag är.	1	2	3	4	5	6	7
9) för att fördelarna mitt idrottande ger mig är viktiga.	1	2	3	4	5	6	7
10) för om jag inte gjorde det så skulle andra personer bli missnöjda med mig.	1	2	3	4	5	6	7
11) för att jag gillar det.	1	2	3	4	5	6	7
12) för att jag känner mig skyldig att fortsätta.	1	2	3	4	5	6	7

13) men jag ifrågasätter varför jag fortsätter.	1	2	3	4	5	6	7
14) för att jag känner mig pressad av andra personer att idrotta.	1	2	3	4	5	6	7
15) för att det är kul.	1	2	3	4	5	6	7
16) för att den lär mig att vara självdisciplinerad.	1	2	3	4	5	6	7
17) för att jag skulle få skuld känslor om jag slutade.	1	2	3	4	5	6	7
18) för att jag trivs med det.	1	2	3	4	5	6	7
19) för att andra pressar mig att idrotta.	1	2	3	4	5	6	7
20) för att jag uppskattar fördelarna med mitt idrottande.	1	2	3	4	5	6	7
21) men jag ifrågasätter varför jag	1	2	3	4	5	6	7

utsätter mig för detta.							
22) för det är ett bra sätt att lära mig saker jag kan ha nytta av i mitt liv.	1	2	3	4	5	6	7
23) för att tillfredsställa andra personer som vill att jag ska idrotta.	1	2	3	4	5	6	7
24) för att det tillåter mig att leva på ett sätt som stämmer överens med mina värderingar.	1	2	3	4	5	6	7

**8. Är det okej att vi använder dina svar i undersökningssyfte?**

- Ja  
 Nej

**Tack för ditt deltagande!**

Ni får alltid kontakta oss när ni vill om ni har frågor, vill ha mer information eller om ni vill ta del av resultatet av hela studien.

Hälsningar, Viktor och Gustaf.

## Appendix 4 Basketball Specialization Questionnaire

### Basketball Specialization Questionnaire (Athletes) (DiSanti. et.al 2016)

Specialization is defined as “an investment in a single sport through systematic training and competition, typically including year-round participation in that sport, to pursue proficiency and enjoyment in a ‘signature’ activity.” (Vealey & Chase, in press). The following questions are related to the concept specialization in high school sports.

Instructions: Please circle the number that you feel best applies to your views of sport specialization for each item from 1-5:

1 = strongly disagree

2 = disagree

3 = neither agree/disagree

4 = agree

5 = strongly agree

1. I believe that all high school athletes should specialize in only one sport

1                      2                      3                      4                      5

2. I feel pressure from my coach to only play one sport

1                      2                      3                      4                      5

3. For our team to be successful, each player should focus on playing and training for basketball year-round

1                      2                      3                      4                      5



4. Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round

1                      2                      3                      4                      5

5. The majority of players I compete against only play basketball

1                      2                      3                      4                      5

6. Once athletes reach high school, they should pick one sport and concentrate on playing and training for that sport year-round

1                      2                      3                      4                      5

7. Athletes who specialize in one sport are more likely to have an enjoyable experience from their sport participation than those who play multiple sports

1                      2                      3                      4                      5

8. If it were entirely up to me, I would choose to play only one sport.

1                      2                      3                      4                      5

9. The requirements of playing basketball limit my involvement in other activities in which I would like to participate.

1                      2                      3                      4                      5

10. If it were up to my coach, they would like for me to only play basketball.

1                      2                      3                      4                      5

## Appendix 5 The Behavioral Regulation in Sport Questionnaire (BRSQ)

Swedish version of The Behavioral Regulation in Sport Questionnaire (BRSQ)

<i>Jag deltar i min idrott...</i>	Stämmer inte alls			Stämmer någorlunda			Stämmer helt
1) för att jag tycker om det.	1	2	3	4	5	6	7
2) för att det är en del av vem jag är.	1	2	3	4	5	6	7
3) för att det är en möjlighet att vara den jag är.	1	2	3	4	5	6	7
4) för att jag skulle skämmas om jag slutade.	1	2	3	4	5	6	7
5) men jag vet inte riktigt varför längre.	1	2	3	4	5	6	7
6) för att jag skulle känna mig misslyckad om jag slutade.	1	2	3	4	5	6	7
7) men jag undrar vad det är för mening med det.	1	2	3	4	5	6	7
8) för att det jag gör i idrotten är ett	1	2	3	4	5	6	7

uttryck för den jag är.							
9) för att fördelarna mitt idrottande ger mig är viktiga.	1	2	3	4	5	6	7
10) för om jag inte gjorde det så skulle andra personer bli missnöjda med mig.	1	2	3	4	5	6	7
11) för att jag gillar det.	1	2	3	4	5	6	7
12) för att jag känner mig skyldig att fortsätta.	1	2	3	4	5	6	7
13) men jag ifrågasätter varför jag fortsätter.	1	2	3	4	5	6	7
14) för att jag känner mig pressad av andra personer att idrotta.	1	2	3	4	5	6	7
15) för att det är kul.	1	2	3	4	5	6	7
16) för att den lär mig att vara självdisciplinerad.	1	2	3	4	5	6	7
17) för att jag skulle få skuldkänslor om jag slutade.	1	2	3	4	5	6	7
18) för att jag trivs med det.	1	2	3	4	5	6	7

19) för att andra pressar mig att idrotta.	1	2	3	4	5	6	7
20) för att jag uppskattar fördelarna med mitt idrottande.	1	2	3	4	5	6	7
21) men jag ifrågasätter varför jag utsätter mig för detta.	1	2	3	4	5	6	7
22) för det är ett bra sätt att lära mig saker jag kan ha nytta av i mitt liv.	1	2	3	4	5	6	7
23) för att tillfredsställa andra personer som vill att jag ska idrotta.	1	2	3	4	5	6	7
24) för att det tillåter mig att leva på ett sätt som stämmer överens med mina värderingar.	1	2	3	4	5	6	7