



**Key Factors Influencing Performance and Talent Development in  
Youth – Comparison with the Finnish Archery Junior National  
Team**

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## Abstract

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<p>This thesis aimed to research what are the talent and skill development factors which contribute to the overall success of youth athletes, but more importantly youth archers. More specifically, the thesis focuses on the development of the Finnish archery association, and even more on the junior national team and the ways it could be developed. The research in this thesis was conducted by a quantitative survey.</p> <p>According to the survey results, there are many different influential factors that can all contribute to the talent and skill development of a young athlete, as well as a young archer. The most influential factors are related to coaching &amp; instruction, practice itself, and the environment &amp; culture. The most influential performance factors in archery are mental skills, shooting technique, and life skills according to the survey.</p> <p>The survey also shows that the most important performance factors that should be developed in the Finnish archery junior national team should be mental skills, shooting technique and archers physique.</p> <p>In the sense of future development of the Finnish archery association and the junior national team, these skill and talent development factors as well as the performance factors should be researched further, so that it becomes evident how exactly these areas should be developed.</p> <p>A clear development model should be created to map out everything so that the possible goals and methods of the development model would be clear to everyone who is related to the process. Once a development model has been created, it should be spread nationally so that the development goals of the Finnish junior national archery team are known nationwide to everyone related to the process.</p> <p>Although this is the wished outcome for the future, a change like this also requires the Finnish archery association's willingness to act on it. If there will be no change from the current way of action, no change in results in development will most likely not happen. Naturally, this change also requires cooperation from clubs and coaches around Finland, and perhaps even help from different associations as well as from the current future junior national team head coach.</p>
<b>Key words</b> Archery, talent development, key performance indicators, Finnish archery association

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# 1 Introduction

This chapter covers the background information of this thesis and the reason for interest as well as the objectives, framing questions, research method, and problems including a short introduction to the Finnish archery association. In this chapter, the author also gives a short introduction to herself and the reasoning behind this thesis.

## 1.1 General introduction

This bachelor's thesis focuses on archery because it is the sport in which the author has participated and competed in since 2014. The author has been a part of the Finnish junior national team for many years and represented Finland internationally multiple times. She has won over 30 national championship medals over the past years and has had many great placings on the international circuit as well. She still actively competes both nationally and internationally.

Sport and archery are very close to the author's heart, and that is the reason this thesis is a combination of both. At the same time, this thesis will serve as an aid to the Finnish archery association. Since the author has gained the position as the youth national team coach since June of 2022, she believes the knowledge gained from this thesis will only positively influence her career as well.

## 1.2 Thesis objectives, goals, methods, and delimitations

This thesis serves as quantitative research. The objective of this thesis is to research what are the talent and skill developmental factors which contribute to the overall success of youth athletes, but more importantly youth archers. At the same time, the aim is to research how talent developmental factors and key performance factors affect junior archers in Finland. The ultimate goal however is to find out which performance factors should be developed more and further in the junior national team.

The framing questions used in this thesis have been set to help the author to find the most important and best usable information in this thesis, and in the end to be able to collect the key data through research and the survey conducted.

The framing questions used in this thesis:

- What are the key factors which influence talent and skill development in youth athletes and archers?
- What are the key performance indicators in archery?
- What are the performance factors in archery that influence junior archers in Finland the most?

- What performance factors should be developed more in the Finnish junior national team?

Research conducted in this thesis has been limited so, that only the participants who received the link to the survey, conducted later in this thesis, were able to answer and access it. The survey was based mostly on a quantitative research base, with some qualitative aspects as well. The survey was conducted in English, which might have served as a delimitating factor since most of the respondents were Finnish, and their native language also being Finnish.

Although this thesis could start a change in the Finnish junior national team, a change of this type also requires the Finnish archery association's willingness to change. If the association decides not to change from its current ways of action, no change in results will take place eventually either. Naturally, this change would also require work and cooperation from clubs and coaches around Finland, and maybe even help from different associations as well as from the current or future junior national team head coach.

### **1.3 Introduction to Finnish Archery Association**

The Finnish Archery Association is an organization that belongs to the member association of World Archery since 1948. The organization was founded in 1947 and has been active since. The current chairman of the association is Mika Savola, and the secretary-general is Juhana Ruster. The headquarters of the association are in Valimontie 10, 00380 Helsinki, Finland, otherwise known as Sporttitalo, the house of all sports federations in Finland (World Archery on Finnish Archery Association). Currently, there are 59 archery clubs under the association and 475 license holders registered in Finland, thus meaning that archery is a rather small Olympic sport in Finland (Suomisport.fi).

## 2 Theoretical framework

This chapter includes the theoretical framework from which information has been gathered for the thesis. This chapter introduces competitive archery as well as the key performance factors in archery, and the talent and skill development factors talent affect youth athletes. The current methods used by the Finnish archery association are also mentioned. The information in this chapter has been used for conducting the research itself later in this thesis.

### 2.1 General introduction to competitive archery

Modern archery is a sport, which requires a great deal of patience, precision, and concentration (Venkat, 2022). Often, a person must be ready to aim for several years of regular and active training including preparation for competitions if she or he wants to become successful. Maintaining performance every day, especially during the most important days requires a great deal of patience. Therefore, archery is a rather honest sport. Many other sports have luck to some degree as the deciding factor between winners and losers, which is not the case in archery. Whatever an archer does, the result can be seen on the target. (Lee & Benner, 2019.)

The whole idea of archery as a sport still is ultimately based on competing, which is the heart of the entire sport. When you step into the shooting line at a competition, it is every person for themselves and thus, everyone feels the pressure. Naturally, archery can simply be a hobby or an activity for free time as well. Per se, archery is a rather forgiving and evolved sport, since the sport can be started whenever despite age, size, and training level (Finnish Archery Association).

There are many different forms of competitive archery, such as target, indoor, field, 3D, para, flight, ski, and run archery. The most popular and well-known form of archery however is target archery, which is the discipline where archers shoot arrows at circular targets at a fixed distance. This discipline is also the one used in the Olympics, Paralympics, and World Games, and the reason for its popularity. (World Archery.)

Even though a person can begin archery at almost any age, most of the top-level archers in the world nowadays, as in any other sport as well, have begun the sport at a young age. Many of the current recurve archers that are top in the world have started shooting during their early teenage years, but some even younger and some naturally later. The key however to why they have reached the top level in the world has to do with what they have done during these years before to reach this level. (Walston, 2019.) At the Olympics, archers shoot a qualification round of 72 arrows, with 6 arrow sets with a limited time of 3 minutes at 70m where they aim at a five-color target which consists of 10 scoring zones. Archers score 10 and nine points from the innermost yellow rings,

eight and seven points from the red rings, six and five points from the blue rings, four and three points from the black rings, and two and white points at the white rings, which are the outermost (Venkat, R. 2022). Disciplines have many factors which differ from each other, but they all have the basic idea of shooting at a target at a given or possible distance, with specific equipment and clothing, and counting the scores together (World Archery).

## **2.2 Current methods used with junior archers in Finland**

There are a lot of junior activities organized in Finland. When it comes to competing as a junior, the age categories start from the 11-year-old category, where there is no minimum age limit. The next classes are 13-year-olds, 15-year-olds, and 17-year-olds, in other words, the cadets and the under 20-year old's, meaning juniors. From the 15-year-old class onwards there are separate classes for girls and boys. In all the classes, archers can shoot with their preferred bow type under the Finnish Archery Association's rules. (Finnish Archery Association.)

When shooting outdoors, the distances for each class are age appropriate. The 11-year-olds shoot 20 meters, 13-year-olds 30 meters, 15-year-olds 50 meters, 17-year-olds 60 meters, and under 20-year-olds 70m. 70 meters is the distance at which adult recurve shooters shoot outdoors, and it is also the shooting distance used in the Olympic games. When shooting indoors, the shooting distance for juniors is the same as for adults, which is 18 meters, excluding the 11-year-old class where the distance is 12 meters. The only aspect that varies indoors otherwise is the target sizes. (Finnish Archery Association.)

Almost all national competitions include junior classes, and it is only in very rare chances that they are not included. Juniors have their Finnish championships organized annually, one in the summer outdoors and one in the winter indoors. Juniors are also welcome to take part in the annual Nordic youth championships without any specific qualifications. The host country of the competition changes every year between the Nordic countries. The Nordic youth championships are one of the biggest archery events in the Nordic countries, and a great chance for juniors to get started with competing on a higher level. (Finnish Archery Association.)

The Finnish Junior national team, as with the adult national team, gets selected annually as well as the para-national team. The recurve national teams are formed always during the autumn based on the selection criteria. For the juniors, the athletes are named to the team based on a result limit, which usually must be shot during the summer before. The Finnish archery federation often sends this team to compete at international junior competitions, such as junior European championships or junior world championships. However, often a separate qualification method is formed for these

sorts of competitions because other archers outside the national team are allowed to also take part in the qualifications and can thus be sent to compete as well. (Finnish Archery Association.)

In the autumn of 2022, a national youth coaching group called LA28 was formed in the Finnish archery association, which now trains together with the junior national team. The purpose of the group is to help develop junior shooters to the international level during the next six years, with the main goal being to qualify for quota places for the Los Angeles 2028 Olympic games. Simultaneously, the aim is to also raise the level of club coaching and regional coaching to a new level. The goal of this is to develop the coaching culture, help coaches develop further in their careers, and help develop synergistic benefits on the club level as well as regional activities. The coaching group aims to engage athletes, club coaches, and regional coaches as well as the national team coaches to reach a shared goal. (Finnish Archery Association.)

There is also a great variety of junior activities for beginners. Ensinuolet, or First Arrows, is a beginner's course concept of the Finnish Archery Association, with which beginner archery education has been unified throughout Finland. The first pilot course was organized in the autumn of 2015. The courses are available in different clubs around Finland. The main course is a six-part course for beginner's archery. Each part usually lasts for around two hours, meaning that the overall course takes around 12 hours. The course gives you good basic skills for archery for beginners. There are also different groups for different ages. Some clubs do not organize the courses belonging to ensinuolet but do have their beginner archery courses. (Ensinuolet.)

Other activities organized by the Finnish Archery association include Junnu Cup, or junior cup, which is a series of competitions compiled of different competitions arranged around Finland. These competitions are normal national competitions, which have been named to be a part of the series. All juniors from all age groups are welcome to compete, and there is no need for previous competition experience. Athletes register for the competitions normally and the points calculation for the series is based on the points awarded by individual placements. Points are always calculated by the qualification round. (Finnish Archery Association.)

Täysosuma-concept is a concept based by the Finnish archery association, that has the aim of organizing hobby activities for children on the school premises right after the school day is over. The aim of the concept is to improve the well-being of children and young people through school sports. According to the Finnish school sports model, archery is one of the most wanted sports to be tried out at physical education classes. The equipment used at schools is much easier and safe to use because the arrows used are suction cup arrows and the bow consists of only two parts. The club organizing the Täysosuma tryout in the school receives a payment from the municipality and the



instructor gets payment for the hours done as well. If the club cannot hire an instructor for some reason, the association will pay the instructor instead. (Finnish Archery Association.)

The Finnish Archery Association has also begun a development project for junior activities in Finland. The project is for the years 2022-2024. The goal of the project is to introduce new concepts and operating models developed by the association directly to clubs around Finland and through this to significantly increase the quantity and quality of guided junior activities nationwide. The project area affects the schools, clubs, hobby activities in the clubs, coaches, and culture of archery in Finland. (Finnish Archery Association.)

### **2.3 Defining talent**

Before defining talent, it is important to understand success itself. Defining success in sports can mean something different to everyone. Success is usually defined as the accomplishment of a goal or a purpose. Success can also have a lot to do with luck in certain cases. However, the perspectives of success can differ greatly from the views of parents, athletes, coaches, and even the administration. Winning is, and can be, a great way to measure success, but what is winning? Is it what the scoreboard points say, or can it be something different? (Martinez, 2017.)

Archery is a great example of winning: at every competition, there is always only person one who wins the gold medal. Everyone else in a sense loses. It does not matter how many athletes there might be in a class, one always wins and everyone else loses. In the 2021 Yankton Hyundai World Archery Championships there were 102 athletes in the recurve men's class and still, only one was crowned the winner. At the European Youth Championships 2022, in the Recurve under 21 Men's class there were 54 participants, and again only won the gold medal. That is the game of archery, and thus the question comes forward that is winning and success the only way we can measure talent? (lanseo.com.)

Many people see skill and talent as different things, meaning that the words mean different things. Often, skills are seen as something that you learn and develop, and talent on the other hand is something that you are either born with or not. However, when we start thinking about these concepts in sports, this theory is not plausible. Nobody is born as an athlete, nor as a successful athlete. (Bougard, 2010.)

Most definitions for talent have very little to do with winning or success, but simply refer to an individual's potential capacity to excel in something, that requires specific skills and training. The specific capacity of an individual on the other hand be affected by many ways, mostly having to do with the growth of a particular ability or abilities. Talent can this be measured through performance accomplishments, such as winning sports events, but this is a rather stochastic way of measuring

ones actualized potential. However, from this one can derive that talent development is a process where potential turns into abilities, which can impact, and most likely will, result into measurable demonstrations of elite performance, such as winning sports events. (Den Hartigh et al, 2018.)

Thus, athletes can still be successful even if they do not win every single competition especially in a sport such as archery, where the winning percentage is very small. However, by each athlete developing their abilities and potential, they are closer to reaching that top level since they are developing their talent. This simply means focusing on individual development and the progression athletes are making on their journey. If development and progression can be seen and measured, athletes are on the right path. Success will follow on the way. (Martinez, 2017.)

## **2.4 Key performance factors in archery**

There are many different opinions as to what the different key performance factors in archery are. Thus, it makes it rather difficult to decide on an easy answer, since everyone sees the subject slightly differently. Despite this, there are many crucial factors in archery, precisely as in other sports, on which research has been conducted to decipher the most important factors which affect performance (Human Kinetics & USA Archery, 2012).

Archery is a sport where your shooting technique is crucial. This is often the main area that archers are constantly developing throughout their career, from beginner to professional. Many archers want to develop their technique to become so, that they feel as if they are connected to the bow. The basis of a good technique comes from all your shots being consistent and balanced. Thus, the arrows will also be grouped in the same spot on the target. Even the smallest change in technique will result in the arrows flying off from the group. Becoming one with your technique requires naturally shooting a plenty of arrows, meaning tens of thousands of arrows per year. (Smith, 2020.)

All archers share the basic technique of archery. Since all people are different, however everyone still has their technique that they can call their own. Often, when archers become more and more in touch with their technique, they start to feel that they know what to do. In other words, archers feel in control of their shots. Technique is thus a key performance indicator because it is the biggest thing that archers must control in competitions. Despite stress and nerves, archers must stay in control, trust themselves and focus on the movements and tension in their technique. (Smith, 2020.)

The tactical domain has to do with decision-making and reacting to situations, such as shooting in different conditions, different restraints, and other stressful situations which an archer must deal with in competition. Tactical skills can also be seen together with life skills and even a bit with

mental skills to some degree, but the terms have been separated in this thesis to not to confuse the reader and to separate competition situations (Human Kinetics & USA Archery, 2012).

Tactical skills focus overall on how an archer can deal with different situations, especially in competitions. What will happen to the arrows if it starts raining? How can an archer read the wind and plan where they are going to aim for the arrows to hit the best? How are you going to react when you do not have much time to shoot but still have arrows left? What happens to my mental game if I get a yellow card in a team match? These are just some of the examples which an archer must think about regularly in competition. Knowing the answer to these questions naturally comes with experience, but also simply just by training in these conditions. (Human Kinetics & USA Archery, 2012.)

Many people believe that archery is an extremely mental sport, meaning that mental skills might be more important than physical ones for example. Despite this belief, all sports on some level, especially at a highly competitive level, become mental or in other words psychological. This includes archery. Thus, archery may not be more psychological than other sports, but mental strength may in fact be more important in archery than in other sports when an athlete competes on a high elite. (Mance, 2021.) Mental strength and a healthy mindset are still something that must be developed a great deal in archery. Sometimes this can be hard, since there are many ways how people see mental strength and mindset. This has to do with the fact that everyone is different and there are many ways how mental strength and mindset can be developed (Walston, 2019).

Thus, mental toughness is key for success in a high level of competition. This means that an archer must trust and believe in themselves and focus on their shot process and execute a good shot. If you stay mentally tough throughout a competition, you will most likely not panic, and this is essentially what the mental part of archery is about. However, when it comes to trust, an athlete must also trust their coach and everyone else on their support team. Jay Barrs, the Olympic gold medalist of 1988 has said that *"If you cannot trust your coach, do not work with them, it will never work. People who want to get better but will not change anything, people that have a coach but do not do what they are told because they do not trust or believe, should not have a coach."* (Landström, 2020.)

Athletes are required to do mental training regularly, such as visualization, breathing exercises, imagination exercises, etc. It is important to mention here, those archers should not only train their mental skills by imagining how they shoot but when and where they shoot, to create a more competition type of feel. By doing this, when nerves and stress hit in competition situations archers can keep their composure, trust themselves and simply focus on their shot process. In other words,

archers can perform as close to normal even with competition pressure and nerves (Human Kinetics & USA Archery, 2012).

Excelling at different skills in life, such as planning, creating a support team, finding funding and money and time management are important to everyone as it is for archers. Planning and having a clear system or a vision is a must for success, because without one archers and people, in general, have no clear picture of what they are doing or trying to do. Archers and other athletes must be able to plan out their days, weeks, months, and even years to ensure that they can focus solemnly on the correct things (Smith, 2020).

Funding is another very important factor that archers should keep in mind. Since archery is a rather small sport worldwide, there are not a lot of archers that get paid to shoot. In other words, many archers must do work on the side. Naturally, juniors and youth archers usually get a great deal of the costs paid by their parents. Professional archers, the best in the world, usually have big sponsors who can give them money for performing well on the international circuit, but this is just a fraction of the archers worldwide. Korea on the other hand, is the dominating country when it comes to archery, due to its system can pay the top-level archers in the country great sums, many hundreds of thousands even for winning at different competitions (Stanley, 2019).

Archery is a sport, where an athlete does not necessarily have to look a certain way or have a certain body type to be successful. The reason for this is that an archer's technique is more essential for success since archery is a technical sport. However, having proper shooting form, in other words body positioning, is important for archers in order to be able to execute the shot in the correct way. By shooting with proper form archers do not necessarily need to bulk up to gain strength in their muscles, since they are relying more on shooting with the optimal body positioning. (Johnson, 2016).

Naturally, this does not mean that archery does not require strength training or that it should be avoided. It is still necessary to build muscle strength, develop mobility, motor skills, coordination, and to keep a good basic condition to generate the power required behind the bow. This is also required to stay in control of the shot. Having adequate physical skills also ensures an easier return after breaks from the sport. (Johnson, 2016.)

All in all, there are many key indicators when it comes to performance and to what archers are required to work on to be successful and reach the top level in the world. No matter at what age, once you decide to become a competitive archer there is a certain level of focus athletes must have to find a coach, develop proper shooting technique, develop a solid mental program, and naturally tune and have the correct equipment for themselves. At the same time, archers must

determine their level of seriousness about the sport since recreational archers often do not have the same goals as an aspiring Olympians. Natural talent can also be a determining factor, for example with the archers that became great since they started training and winning from a young age already, but the true three traits of top competitors are: passion for the sport, a strong work ethic, and having the determination to succeed (Human Kinetics & USA Archery, 2012).

## **2.5 Factors influencing talent and skill development in youth**

There has been a deal of research done on the topic of talent and skill development in sports, especially in youth sports. The topic has begun to be discussed a great deal in the sports industry. Scouts are seeking to find the most talented and promising individuals out there, coaches are improving training techniques in all sports, athletes are becoming all-around better, and scientists are researching and seeking to explain how talent is created. It is important to understand, that talent identification however is different than talent development. Identification often, and in this context, refers to different processes and techniques that are used for identifying athletes and individuals, who could have the potential to excel at a high level in sports. (Holtey-Weber, 2015.) Development, however, refers also to these athletes and other athletes to develop and accelerate their progression of performance. Nevertheless, understanding how talent is created is important in both areas (Knight & Gottwald, 2022).

Research shows, that there are many factors that influence talent and skill development in youth. However, major research has been conducted to figure out which factors that influence and impact it the most. Research shows that genes, parents, coaches, environment, practice, and psychological factors all play a crucial role in talent and skill development (Holtey-Weber, 2015).

Firstly, organizations must be aware of what they are doing, especially with their athlete development. An athlete development model is a great way to do this because an athlete development model describes a continuum that begins early in life throughout to lifelong engagement and proficiency in sports. Sports organizations can thus identify specific and preferred development pathways in their sport, and furthermore, build different programs and implement strategies to encourage participation, promote excellence, and assure development (Ellerton, 2019). An organization can also use the athlete development model as a guide for everyone else in the organization, such as coaches, archers, and parents for understanding how the organization works and what the goals of the organization are and thus enhance development (Bailey et al., 2010). By utilizing this sort of model, youth athletes are also ensured a clearer development path to success. (USA Archery.)

Research also shows that genetic factors can contribute to athletic performance. The challenge of how exactly genetics can influence performance varies with different sports. The reason for this is that each sport has unique physical requirements, and these requirements can be greatly different between sports. This means, that when studying the genetic influence on performance we must consider the performance components which are appropriate for a specific sport (Guth & Roth, 2013).

According to research, strength, muscle size, and muscle fiber composition, being either fast or slow twitch, anaerobic threshold, lung capacity, flexibility, and even endurance are influenced by genetics. (Quinn, 2020). The heart's ability to deliver oxygen through the bloodstream to the working skeletal muscles is largely determined by genetics, and thus can be a limitation depending on the sport (Joyner, 2019). At the same time, the ability of muscle tissue to use oxygen and create ATP (adenosine triphosphate) which can be measured by the VO<sub>2</sub> max test is another genetic limitation to some extent (Quinn, 2020). Research beyond performance in sports also shows, that genetics can influence one's IQ (Plomin & Deary, 2014). This naturally influences one's ability to acquire new skills, such as reading or calculating but the same goes for sports, especially in skill-based sports, such as archery (Holtey-Weber, 2015).

When it comes to genetics, it should not be forgotten that how individuals respond to training has a great deal to do with one's genes. Since everyone is different, people also respond to training differently (Joyner, 2017). This means, that a person can respond well to training and thus develop their talent more than someone who might be genetically talented but does not respond well to training (Quinn, 2020).

Despite the fact, that certain people excel better than others due to genetics, environmental factors influence an extensive amount of talent. Culture is a big factor in many sports and the amount of athlete development. For instance, in Korea, archery is a cultural sport, which is rooted in the history of the country, culture, and social expectations. The sport is of great importance in the country. Since the sport is an important part of their culture, they have a clear system, where archery is introduced to children already at a preschool. From there, coaches coach their best archers through high school and college. The goal is to eventually with time reach an adult professional team and even better, to reach the national team level. Through this sort of system, there is a deep talent pool of skilled archers available, and it is no wonder why Korea dominates the world in archery. (Johnson, 2016.)

Apart from cultural factors, financial factors also do play a role in talent. The sports which are promoted by national or regional governments tend to lead to more facilities being open for sports. At the same time, the more a sport might be promoted, the more athletes especially younger athletes

are prone to join the sport, and thus with time can lead to success nationally or even internationally. This leads to many financial benefits as well. The availability of coaches and instructors as well as other important personnel is important because tailored training sessions, training plans, and knowledge is critical for development. (Morley et al, 2017.)

It is not surprising, that quality and quantity of training are required to attain expertise according to research. Especially with a skill of any sort, a great deal of quality training is required to master that specific skill. The same phenomenon goes with skill sports, such as archery. Practice is the most important factor for motor learning, and it has also been researched, that no individual can reach top levels in any field without proper frequent practice. (Hambrick et al, 2014).

Deliberate practice has been shown to have a clear connection with the level of performance in sports. The amount of deliberate practice may vary according to the sport. It has been researched still, that 20% of the variance in performance can be explained by deliberate practice. However, since sports expertise comprises elements from various areas, deliberate practice itself is not enough. Thus, cross-training, meaning training in other sports and doing various activities, has been researched to be an even better way to develop various skills and areas in sports. (Gulbin et al, 2013.) During youth years, it has been proven to be beneficial to be practicing and trying out different sports before specializing in a specific one. Nevertheless, youth athletes who engage in a variety of sports and other additional activities more than in sport-specific will most likely become better at their specific sport once they are older, and specialized due to the various skills they have learned. (Elkeky et al, 2020.)

It is very rare that an athlete, especially a young athlete, reaches the top level in any sport without proper instructions and even more importantly, a coach. This has to do with the fact that according to research, that having access to a coach and instruction has clear advantages with reaching top-level and developing performance further. The reason for this is that a coach normally trains with the athlete a great deal and usually aims to build the best learning environment for the athlete. Even if coaches may not be always present physically, expert coaches are able to be present in other ways for the athlete. This is why having access to instruction and especially a coach can help athletes tremendously with developing their performance (Ellerton, 2018.)

There are several reasons why young athletes fail to reach their potential. Since coaches are a big part of an athlete's life and career, they also impact the athlete's life a great deal, almost the same way as parents do. This has to do with the fact that the role of a coach is much more than just a coach (Fransen et al, 2017).

As mentioned before, the primary goal of a coach is to improve the performance of an athlete. This is a very demanding job, which includes analyzing performance, planning training, and training schedules, instructing in relevant skills as well as communicating with athletes, using different evaluation methods and tests, and most importantly, monitoring the progress and predicting the outcome. In addition, the role of the coach is to create optimal conditions for learning as mentioned before and constantly find new ways of motivating athletes or maintaining motivation. (Fransen et al, 2017.) At the same time, it is the coaches' job to help athletes avoid stress, burnout, dropout, and low self-confidence (Ellerton, 2018).

All in all, the role of a coach is to encourage healthy development in athletes since coaches are often seen as models. The way a coach interacts with athletes also determines the outcome of participation, and naturally, the goal of the outcome is always to be positive. Positive outcomes which coaches should strive to achieve are competence, confidence, connection, and character. Coaches should always focus on developing these outcomes with athletes because they contribute to the athlete's overall development. (Ellerton, 2018.)

Arguably, family and the family environment influence children and young athletes a great deal. In the talent and skill development process for youth athletes, parents play a huge role because they are a big part of the overall development of their child. Most sports parents want the best for their children, including for them to enjoy themselves, be safe, and succeed. The number of abusive parents is small, but unfortunately in youth sports parents like this can still be seen often (Lauer, 2016).

Many parents pressure their children in different ways. Often, this has to do with winning and success. Parents who do this are not necessarily bad people, but they have simply either lost their perspective or they do not know that they are negatively impacting their child. Commonly, parents form an unhealthy perspective of sport by creating an unnecessary pressure to win or by wanting youth to develop talent faster than possible. This type of a perspective can negatively affect the chance of success. (Witt & Dangi, 2018.)

It is natural for parents to want something special to come from their child, but by emphasizing a negative perspective, children and young people will receive unnecessary pressure from a place where they least expect it. If this happens, the child's total development will become neglected. At the same time, this can negatively affect the parent-child relationship on many different levels, which may not even have to do with sports at all. (Lauer, 2016.)

Parents should thus remember to have a positive and healthy perspective on youth sports. Firstly, it is important to remember that youth sports should focus on developing positive characteristics.



Because of this, sport can be viewed as an important pursuit, but not as an all-encompassing one. This means that even if a young person has elite competitive goals, the overall development should be the focus over the development of an athlete. As mentioned before, by focusing on the correct areas, with time development and success on a high level will come true. At the same time, parents should emphasize having strong values that are not related to winning or competing specifically but moreover focus on teamwork, leadership, communication, hard work, and sportsmanship. (NAYS & Bach, 2016.)

In addition, it is important to remember to facilitate balance in a young person's life, by emphasizing education, social activities, and other hobbies. In other words, it is important for young athletes to have a life outside of sports as well. Parents should allow their children to be children, by letting their children go out, hang out with friends, and not think about training constantly. It is also important to check your perspective frequently, to make sure that it has not changed into a more negative one, which puts unnecessary pressure on the child. The most important factor for talent development for children naturally is, for the parents to love and support their child no matter what happens. Parents should always aim to act with forethought and with the child's best interest in mind. (Lauer, 2016.)

Sports expertise deals with many psychological variables that play a big role in performance. Characteristics, such as extroversion, resilience, effective coping, and imagination are all skills which relate to fostering talent. Commitment might be one of the most meaningful predictors of expertise in sports. (MacNamara et al, 2010.) Without commitment it is impossible to endure a large amount of deliberate practice, or practice of any kind. Under commitment belong traits such as competence, self-determination, and discipline. These traits can be found in almost all top-level athletes. By training these skills, athletes learn to understand more about themselves and their sport and at the same time, athletes also become more motivated. (Brown & Fletcher, 2016.)

Focus and mental preparation, for example, such as imagination have been researched to play an important role in performance. For Olympic success, attentional focus, goal setting, and performance imagination are the most important psychological factors, and research shows that this applies in plenty of sports (Aherne et al, 2011). This has to do with the fact that competing at a high level puts a great deal of pressure on the athlete, which is why athletes must learn how to overcome pressure. An effective way to achieve this is to learn how to overcome negative experiences by focusing on a certain manner, such as mastery of something instead of a specific performance goal. Thus, research shows that professional athletes use more psychological skills in general. (Macnamara & Collins, 2013). Specifically, youth athletes engage in psychological skills to optimize

their learning and focus. By using imaginary training and goal setting athletes can also more effectively learn new skills (Munroe-Chandler et al, 2022).

The ability to cope and overcome adverse situations, such as different obstacles or even injuries should not be forgotten to mention, if not all, almost all athletes will face these situations at some point in their careers, especially youth athletes. According to research, resilience, the ability to successfully use coping strategies to overcome obstacles, is the central factor that contributes to overcoming these situations, especially with youth athletes (Duckworth, 2016).

Psycho-behavioral skills are crucial to excel at a top level, but it should be noted with great caution that these skills should be recognized and trained already from a young age (Knight et al, 2018). Thus planning, goal setting, and honest evaluation should be noted as highest importance. However, it should be noted that enjoyment especially for young people is crucial for sticking to an activity. (Brown & Fletcher, 2016.)

In addition, according to research psychological skills such as coping with adversity, coachability, concentration, confidence and achievement motivation, mental preparation, peaking under pressure, and freedom from worry have been researched to be better predictors of athletic success rather than some physical skills, such as strength or speed. Coaches especially should note that some personality traits such as extraversion or conscientiousness are to a certain extent heritable, but a great number of psychological traits are acquirable and trainable through specific training. (Foster et al, 2015.)

## **2.6 Concept of talent and skill**

There are a great deal of talent and skill development factors that affect in youth. All these factors impact how talented or skilled we may be. This does not however mean, that a person is necessarily born into this world talented or skilled right away. Despite “*talent*” as a concept being sometimes misunderstood, talent and skill development have to do with developing something or someone to become better at something (Baker, Schorer & Wattie, 2017).

Some people can in fact be better at something than someone else, just because they might be naturally talented in that specific thing, but that does not mean that the other person cannot be or become as good. I believe this is very important to understand since no successful athlete has reached the top level in their sport without developing their skills and talent (Baker, Schorer & Wattie, 2017).

### **3 Empirical part**

This chapter explains the methods that have been used to conduct the survey in this thesis. It includes the research approach with explanations, target group of the survey, data collection methods, methods used for data analysis, and the reliability and validity of the survey.

#### **3.1 Research approach**

The research in this survey was conducted in the form of a survey. The survey questions were influenced by the information gathered from the theoretical framework, with the help of the framing questions used in this thesis. The research relies mainly on the results of the survey since they are the key findings that can be implemented in real life. Since the results are the most important part of this thesis, it is possible to determine new ways to improve the Finnish junior national team and the Finnish archery association.

#### **3.2 Target group**

Purposeful sampling was used to recruit participants to answer the survey, meaning that the respondents were chosen by the author. All the respondents received a private link to the survey, through which they were able to submit their answers anonymously.

The respondents who were given the right to answer the survey questions all have, or have had, a background in archery. They could have had a national team background in archery and or in another sport, a role as a coach, and or also been working in the sports industry. Thus, the roles of the respondents vary slightly so that the data gathered could be as thorough but diverse as possible. The amount of variety also allowed the author to widen the perspective of the research and to see how the people from different roles would answer the questions of the survey.

#### **3.3 Data collection**

The data collection started once the survey was live and ready for the respondents to answer. The survey was created to compare the findings of the professional literature and see how the findings correlate with what the respondents think on the matter. The survey was also created to see how the respondents feel about the sport and the key developmental factors in it. Thus, the survey was the method used for data collection. The survey included investigative questions which support the main research question of the thesis as well as the framing questions.

The survey was created by using an online survey tool, Webropol, which is a tool provided to students and employees of Haaga-Helia University of Applied Sciences by license of the institution. Students and employees can access Webropol by logging in through the school's intranet and after

there are unlimited ways for students to create the survey. The survey was conducted with seven (7) investigative questions with some being open-ended answers and some being multiple choice to bring more clarity to the research questions. Special attention was given to Investigative Questions six (IQ 6) and seven (IQ 7) since they provided the necessary results for developing the national team to become better, which was one of the framing questions used in this thesis.

The investigative questions (IQ) used in the survey are:

- IQ 1: What role or occupation do you currently have?
- IQ 2: How long have you been shooting/training archery?
- IQ 3: What are the three most significant factors that affect talent and skill development in younger athletes?
- IQ 4: What are the three most significant talent and skill development factors that affect junior archers in Finland?
- IQ 5: What are the top three most important performance factors in archery? In regard to becoming a better archer in your opinion.
- IQ 6: What are the three most important performance factors in archery that junior archers in Finland should focus on more?
- IQ 7: Which three performance factors should be developed more in the Finnish junior national team?

The survey did not focus on the participants' name, gender, age, racial, or religious backgrounds to show that all opinions are valid, no matter the experience or background.

### **3.4 Data analysis**

After the survey was closed in Webropol, the results were downloaded by the author and transferred into an excel file. Afterwards, each question was turned into a graph with the open-ended answers serving as an aid for the questions. Special attention was put on questions six and seven since these questions marked the potential routes for development according to the respondents.

The survey was open from 28.12.2022 until 15.1.2023. The survey was sent to 94 people and 58 of the respondents answered. The response percentage thus altogether was 61,7%, which was more than anticipated. Even though the number of answers could have been larger, the results brought clarity to the author, as they confirmed the information from the professional literature, by confirming its accuracy. In the end, the survey served its purpose well and provided the results which the author intended to receive. Thanks to the aid of the participants, it is now possible to analyze the factors relating to the talent and success relating to youth athletes and compare them with the Finnish youth national team.

### **3.5 Reliability and validity**

When it comes to the reliability and validity of the research, it has been carried out with the survey to which each of the respondents had the same access, the same questions, and every respondent had the freedom to express their own opinions and experiences, meaning that all the respondents had the same and equal opportunities throughout the conduction of the survey. During the analysis phase of the research the author found out that even though respondents have had different roles, the answers were similar when it comes to the approach to developing the junior national team.

## 4 Results

This part of the thesis showcases the results of the survey, where each question was used as an Investigative Question which was mentioned in the Methods section of the thesis. The results provide an insight into what the respondents feel about the factors relating to the talent and success of youth athletes as well as how these factors differ from archers. The results also give an insight into how the Finnish junior national team could be developed in the future based on these findings.

The first question of the survey, which is also Investigative Question 1 (IQ 1) of this research, was ‘What role or occupation do you currently have?’. There were many answers to this question due to it being multiple-choice, which only shows us the versatile background of the respondents. This means that a former or a current member of the adults’ national team could also answer to be a former, or a current member of the junior national team. Out of all the answers, 43% of the respondents were former, or current archery coaches, 41% former, or current adults national team members, 36% “hobby” archers, 29% former, or current junior national team members, 19% former athletes in another sport, 12% people working in the sports industry, 10% former, or current coaches in another sport and 2% of the respondents answered as Other (please specify) category, as seen in figure 1.

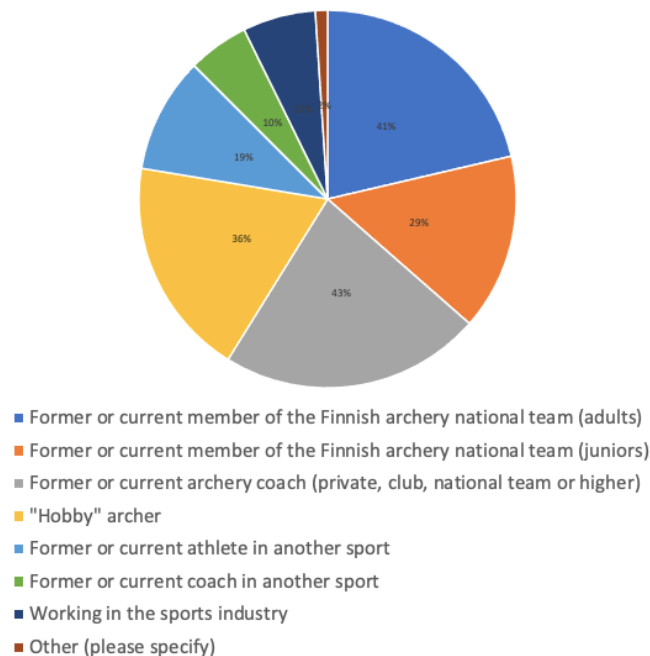


Figure 1. Profile of the occupations and roles of the survey respondents and the percentage division of each category

The second question, and the correlative IQ 2, 'How long have you been shooting/training archery?', was a one-answer question, where respondents could choose how long they have been shooting, or better said, trained archery for. 29% of all the respondents have been training archery for 5-10 years, 21% for 1-5 years and the same percentage for 10-15 years, 17% over 30 years, and 12% for 15-20 years, as seen in figure 2.

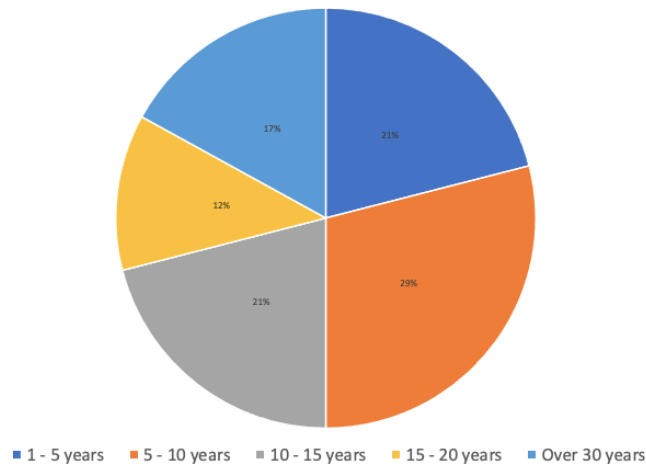


Figure 2. Profile of the years of experience of the respondents and the percentage division of each category

The third question, and the IQ 3, 'What are the three most significant factors that influence talent and skill development in younger athletes?', was a multiple-choice question, where respondents were specifically asked to pick three out of seven possible answers. Respondents were also allowed to choose Other, where they could explain or give an answer that was not on the list. The most prominent answer with 90% of the responses was coaching & instruction. 71% of the respondents answered practice, 38% environment & culture, 29% psychological variables, 28% level of the sports organization, 26% parents, and 10% other, where most of the answers included the psychological variables and 7% genes, as seen in figure 3.

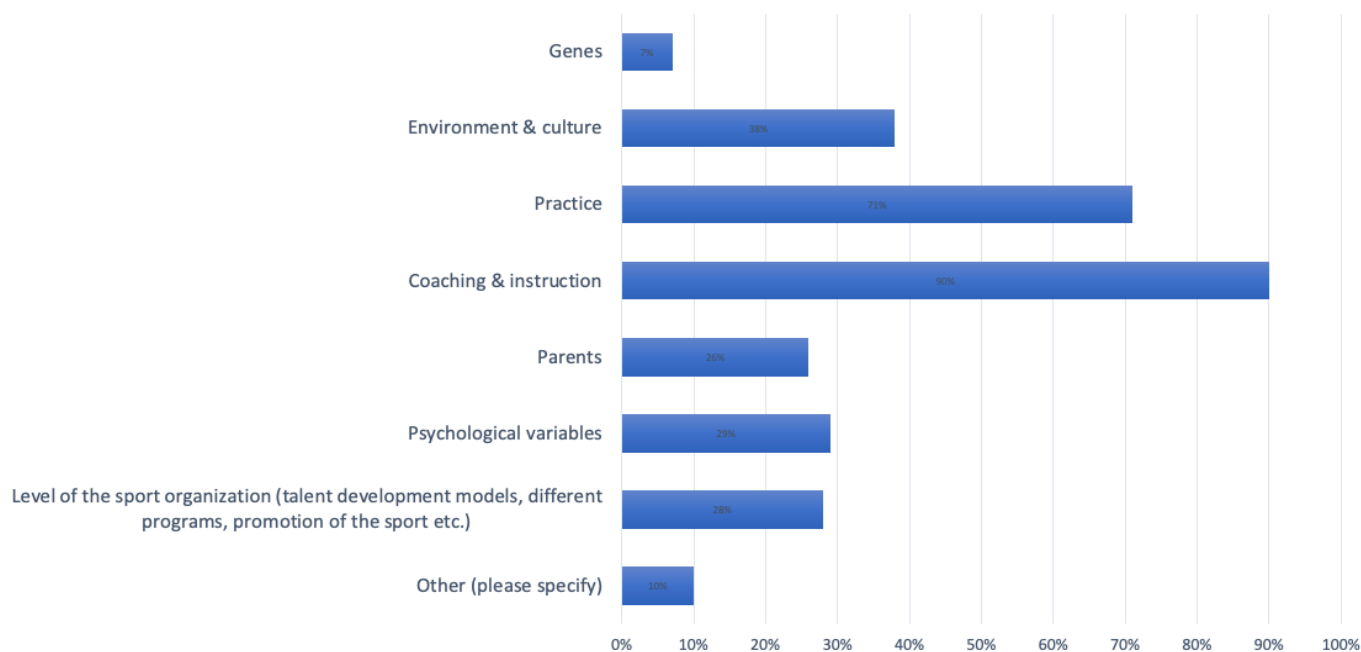


Figure 3. Profile of the talent and skill development factors that influence younger athletes according to the respondents and the percentage division of each category.

The fourth question, and the corresponding IQ 4, 'What are the three most significant talent and skill development factors that influence junior archers in Finland?', was a multiple-choice question, where respondents were specifically asked to pick three out of seven possible answers. As can be read from the title of this question, this question differs from IQ 3 by asking the sure'

Respondents were also allowed to choose Other, where they could explain or give an answer that was not on the list. As can be seen in figure 4, an astonishing number of 90% of the respondents answered that coaching & instruction is the most significant talent & skill development factors that affects junior archers in Finland. Another answer that gained the second most answers 72%, was practice. 40% of the respondents answered environment & culture, 31% level of the sports organization, 29% parents, 24% psychological variables, and 10% other, where once again answers included mostly in the psychological variables category. It is worthwhile to note, that 0% of the respondents' answered genes.



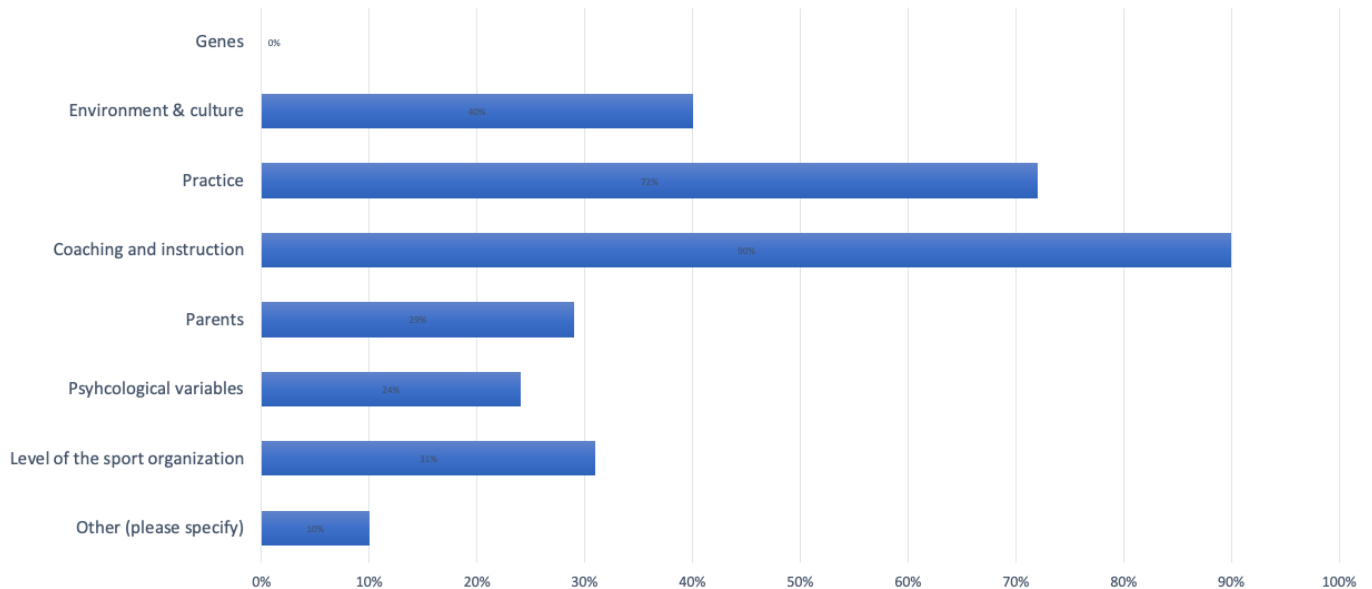


Figure 4. Profile of the most significant talent and skill development factors that influence junior archers in Finland according to the respondents and the percentage division of each category.

The fifth question, IQ 5, 'What are the top three most important performance factors in archery?' In regard to becoming a better archer in your opinion?', was a multiple-choice question, where respondents were specifically asked to pick three out of five possible answers. Respondents were also allowed to choose Other, where they could explain or give an answer that was not on the list. Two answers received the most answers from the respondents. As can be seen in figure 5, number one with 86% of the answers were mental skills and in second, 79% of the answers shooting technique. The third most answers, with 43% of all the answers were life skills. After life skills, 41% of the respondents answered physique, 38% tactical skills, and 10% other. All the answers written in the other section could be included under mental skills.

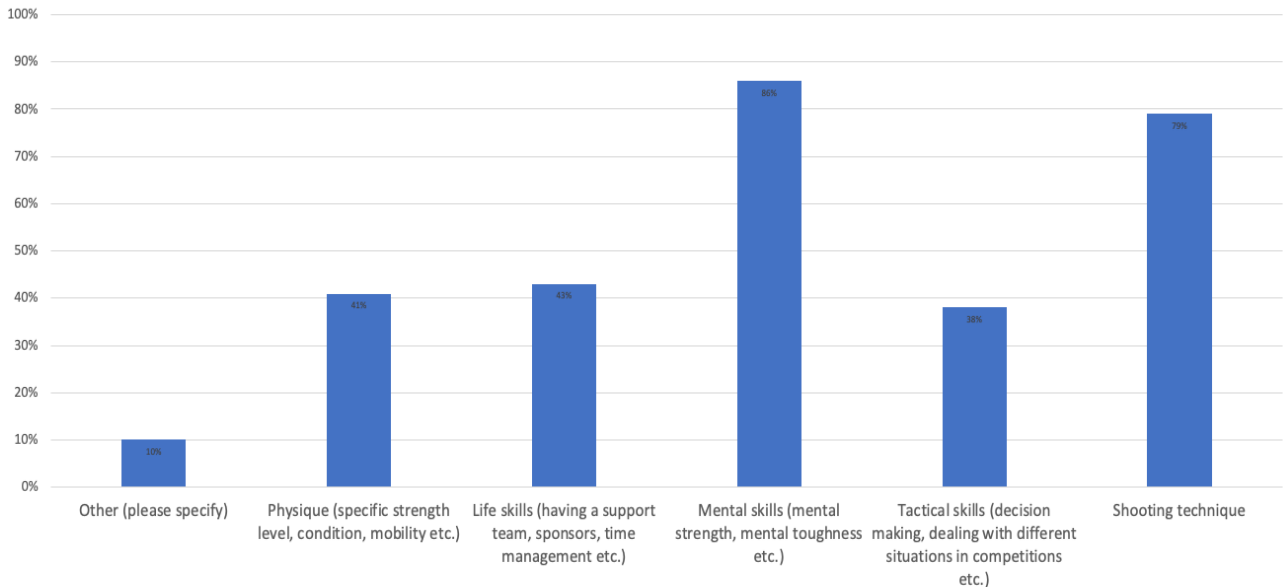


Figure 5. Profile of the most important performance factors in archery according to the respondents and the percentage division of each category

The sixth question, IQ 6, 'What are the three most important performance factors in archery that junior archers in Finland should focus on more?', was a multiple-choice question, where respondents were specifically asked to pick three out of five possible answers. Respondents were also allowed to choose Other, where they could explain or give an answer that was not on the list. This question was especially important since it contributes to the factors that junior archers in Finland should focus on more in the future, and it affects the author's work a great deal. The question had clear three favorites. 84% of the respondents answered shooting technique, 78% mental skills, and 67% physique. These answers conclude the question simply, since these are the three most important performance factors that junior archers in Finland should focus on more. Still, 40% of the respondents answered life skills, 29% tactical skills, and 2% Other, as seen in figure 6.

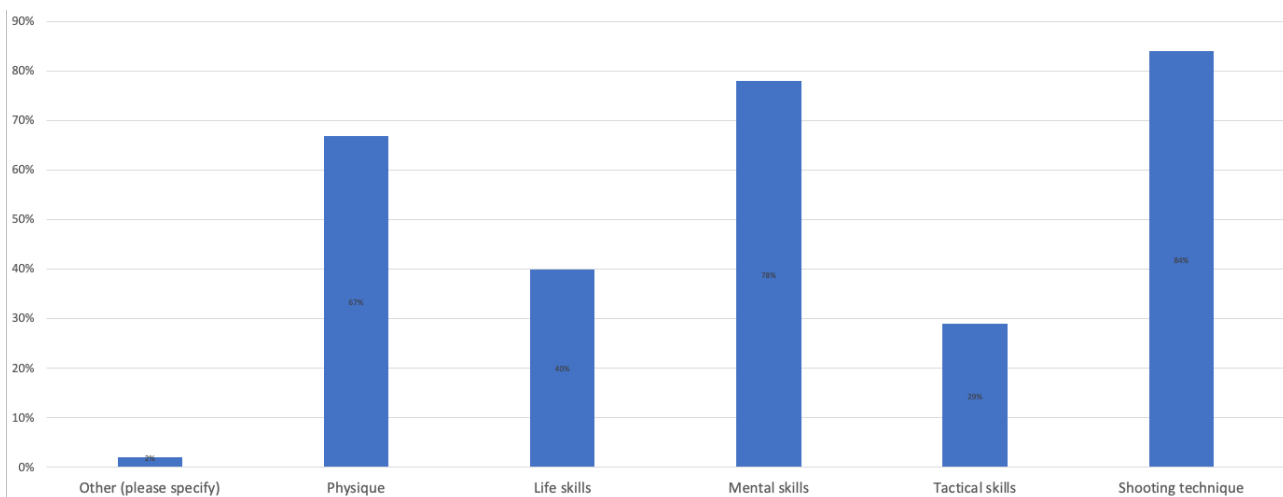


Figure 6. Profile of the most important performance factors that junior archers in Finland should focus on more according to the respondents and the percentage division of each category.

The seventh and last question (IQ 7) of the survey was, ‘Which three performance factors should be developed more in the Finnish junior national team?’, was a multiple-choice question, where respondents were specifically asked to pick three out of five possible answers. Respondents were also allowed to choose Other, where they could explain or give an answer that was not on the list. This question was also especially important since it contributes to the factors that junior archers in Finland should focus on more in the future, and it affects the author’s work a great deal. Once again, the question received three clear winners which the respondents had answered to. The three choices which received the most answers were mental skills with 84% of answers, shooting technique with 72% answers, and physique with 59% answers. These are thus the three most important performance factors that should be developed more in the Finnish junior national team. 40% of the respondents had answered tactical skills and life skills and 5% as Other, as seen in figure 7.

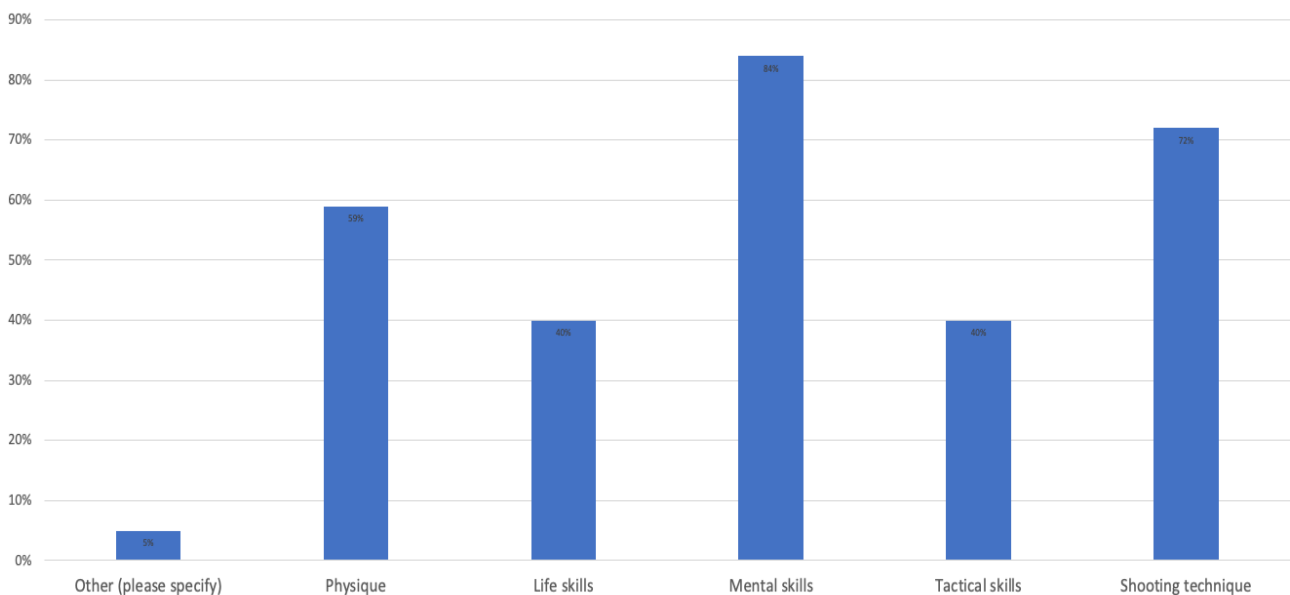


Figure 7. Profile of the performance factors that should be developed more in the Finnish junior national team according to the respondents and the percentage division of each category.

## 5 Discussion

This part of the thesis presents the key findings of the survey that was conducted in this thesis. These findings showcase recommendations on how to implement these findings, as well as recommendations for the future development of the Finnish junior national team. The assessment of reliability and validity, and the author's reflection on learning will be discussed in this part as well.

### 5.1 Summary of the results

Naturally, there are many different influential factors that can all contribute to the talent and skill development of a young athlete, as well as a junior archer. According to the survey results, the most influential factors seem to be related to coaching & instruction, practice itself, and the environment & culture. The survey results also state that the same talent and skill development factors influence junior archers in Finland the most. Thus, it can be concluded that if these factors are developed as they should, meaning that these factors are highlighted in the athlete's life they will have a positive impact on their overall career as an athlete and naturally shape the way they are as a person. Vice versa, if these factors are not developed accordingly, meaning that something may be lacking in a certain way, they will negatively impact the athlete.

Defining the key performance factors in archery is a rather difficult task. Archery is a rather complex sport in a sense since people can see the sport in their unique way. This means that one person can see the sport in one way, and another person in a completely different way. What these influences as well are the performance factors, and how people see each of their importance which is the exact thing, that makes this research interesting.

The survey results ensure the information gathered from chapter 2.4, concluding that each performance factor is important in archery. In other words, there is not a performance factor that is not important or unnecessary. However, according to this survey, the two which do contribute the most to performance are mental skills and shooting technique. This once again aligns with the information from the theoretical framework, meaning that the level of mental toughness or mental strength plays a huge role in archery as well as how consistent of a shot an archer can do repeatedly and correctly. This result is not shocking since mental skills are very much tied to one's technique. If an archer normally can perform the shot, meaning technique, repeatedly and correctly without any difficulty but is then put into a nervous or a difficult situation and cannot do so anymore, the archers lack mental strength. Naturally, since shooting technique is a basis for the sport itself, one's shooting technique is connected to every performance factor in some way since archery is a sport where one's shooting technique is crucial.

According to the survey conducted, the third most important performance factor is life skills. At first this may not sound like an important factor in sports, but when we start to analyze what life skills evolve around it makes sense why it is in third place, above physique, and tactical skills. The main reason why this factor comes in front of the others has to do with the fact that it has to do with everything outside the sport. When an athlete decides to become an athlete, especially a professional athlete, they usually put their sport above everything else. After that, they start planning and making life fit around that sport so that they can solely focus on training, competing, becoming better, etc. This goes for archers as well, even though many professional archers are not getting paid, they form their lives around the sport. Life skills in short are creating and forming your life outside the sport in a way that benefits you in the sport.

There is a clear connection between the key performance factors in archery in relation with the key performance factors that influence junior archers in Finland. This has to do with the fact that according to this survey, shooting technique and mental skills are the factors that influence junior archers in Finland the most. This certainly has to do with the fact again that these factors are very much tied with each other, but also these factors can be seen as the biggest differentiators from junior archers from other countries, especially with the countries which are dominant in the sport. This is not to say that juniors elsewhere are necessarily better, but they may be just ahead of the juniors in Finland which all comes back to the skill and talent development factors naturally.

The third most important influential factor for junior archers in Finland according to the survey conducted is physique. What is interesting to note, is that in the previous section which was related to the overall key performance factors in archery, life skills fell in third place but were tied closely together with physique and tactical skills. Here, however, they are not as closely tied together, and it is much easier to determine which is more important. Physique is quite a broad term that involves many different physical factors, but there are some reasons why it has been placed in third.

The main reason why physique comes in third relies certainly on the fact that archery is a sport. What this means is that even though archery is a sport where technique and mental skills play the biggest role performance wise, according to the survey results, archers still need certain level of strength, endurance, stability, and mobility to shoot with their bow.

There is no fact sheet that tells a person how strong or heavy of a bow you should shoot. However, it is necessary that your bow is set so that you can control it. This means that you must stay in control of your shots without getting fatigued even after long competition and training days. Naturally, a bow must be set so that you can shoot the distance necessary. If your bow is not strong enough, you may not be able to reach your desired distance. What this corresponds to in everyone is very specific and personal.

## 5.2 Conclusion of the results

The main goal of this thesis was to find out what performance factors should be developed more in the Finnish archery junior national team, as mentioned in chapter 1.2. Thankfully, this question was answered through the survey. According to the survey results, these performance factors are mental skills, shooting technique, and physique. Interestingly, these performance factors are also the factors that junior archers in Finland should develop and focus on more according to the survey. This is a great result since it shows clear areas that need to be developed both nationally and inside the national team itself, and the most positive fact is that these developmental areas are connected and not different from each other. These results also align nicely with the two most important key performance factors in archery, that according to the survey results are mental skills and shooting technique.

In the sense of future development, these areas should be addressed and researched more thoroughly, so that it becomes evident how exactly these areas need to be developed. Once this is set, a clear development model should be created to map out everything. The development model should align together so, that development areas are being developed the same way in the national team as they are national. If the model does not align, it will create a lot of unnecessary variation and confusion which creates a learning environment that is not optimal.

Once a model is set, it naturally must act through the association with all clubs, coaches, and archers in Finland so that everyone knows and understands what is happening and why. This is probably the most important part of development since if this is left unclear or unknown the whole development model will not work. Naturally, at least a great portion of people must want to develop as well, since there will always be people who think they know better or simply people who do not want to follow or go a certain way.

The current methods used in the Finnish archery association have proven to be useful by creating a good base for the beginners, as well as by creating many different activities for the juniors to take part in. Archery has also gained more awareness nationwide in schools due to these methods and has even brought more juniors to take part in the sport. Thus, the developmental needs of the junior national team, in other words the talent and skill development areas as well with the key performance factors, could also be included into these methods.

This would not only revitalize how the current methods take place now, but also bring more information and innovation into them. This would educate new and young archers about the sport and show them everything that it can be.

### 5.3 Assessment of ethics and reliability

Naturally, it is important to consider the reliability and validity of the thesis and its results. In general, when a thesis or a study of any kind is valid, it measures exactly what the researcher intends to find out (Lotti, 1998).

The reliability of the results can be weakened by different types of errors in the different stages of the research. This can begin already when creating the theoretical framework and continue throughout the thesis all the way to the survey. Thus, the information gathered in the theoretical framework was carefully selected and took a great deal of time to gather all together, since many different sources of information had to be read, looked over, and discussed over.

The actual research, meaning the survey and its answers, had to naturally be correct to analyze the data. In other words, the answers could not be incorrect at any stage. Due to this reason, and because the survey took place online, the electronic form used was tested in advance through the Haaga-Helia University of Applied Sciences Webropol site, through which the survey was conducted.

In addition, when the results of the respondents had been collected, an Excel table containing the data was collected. Here, possible spelling errors and mistakes were checked to see that there were no mistakes and if so, then corrected.

Another factor to consider is the respondents and their answers. The reliability, i.e., permanence of this can be understood in a way, that if the respondents were to answer the same survey again, there could be more variability in the results. Especially if the respondents were to answer this same survey again in a few years for example, where possible changes could have happened.

Human errors regarding the survey, such as limitations with understanding the English language, errors due to time pressure meaning that the respondent may have been busy or in a hurry when filling out the survey, or other human errors could have changed the outcome of the data as well.

An astonishing 61,7% of the respondents who the survey was sent to answer. This amount of people is a great number since the survey was sent to almost a hundred people who currently are or have been in close relations with archery in Finland, meaning that the data gathered came from individual who were competent to answer the survey. With the help of the research, conclusions were able to be drawn which are concretely useful for the development of the Finnish junior archery team as well as for the whole association.

#### **5.4 Proposals for further research**

There is much that could be researched further after this thesis. Talent and skill development offer many different pools of opportunities to choose from as well as different key performance factors from different sports and even how they correlate. It was especially interesting to see how they both correlated in archery specifically and how they were connected. This is something that could be researched more thoroughly and carefully in the future.

Another proposal for further research, which could be seen as an extension of this research, would be to research how exactly different athletes, organizations, or even national teams would use the knowledge gained from this research in practice. This thesis could start a change national wide, but it also requires the peoples' willingness to change.

#### **5.5 Reflection on learning**

This thesis and the research that came with it aided the author to understand what the key talent and skill developmental factors in sports are in general and what are the key performance factors in archery. The author has learned how to see the different factors from the perspective of archery, by acknowledging how both affect the development of youth.

After a thorough analysis of the results together with the theoretical framework, the author has gained a great deal of knowledge surrounding the subject of the thesis and thus has gained a deeper understanding of the factors influencing performance and talent development in younger athletes. The author has also learned what needs to be done to develop the Finnish junior national team further for the national team to reach a new level.

This thesis also serves as a great aid for the Finnish national team. There are not many theses surrounding this subject, especially this close to the Finnish archery national team, nor the Finnish archery association. I hope this thesis serves as a guide for the readers and gives an insight into the key performance factors which should be developed further in Finland as well as shows what talent and skill development factors affect junior archers in Finland. This thesis could serve as the beginning of a new development model in the country.



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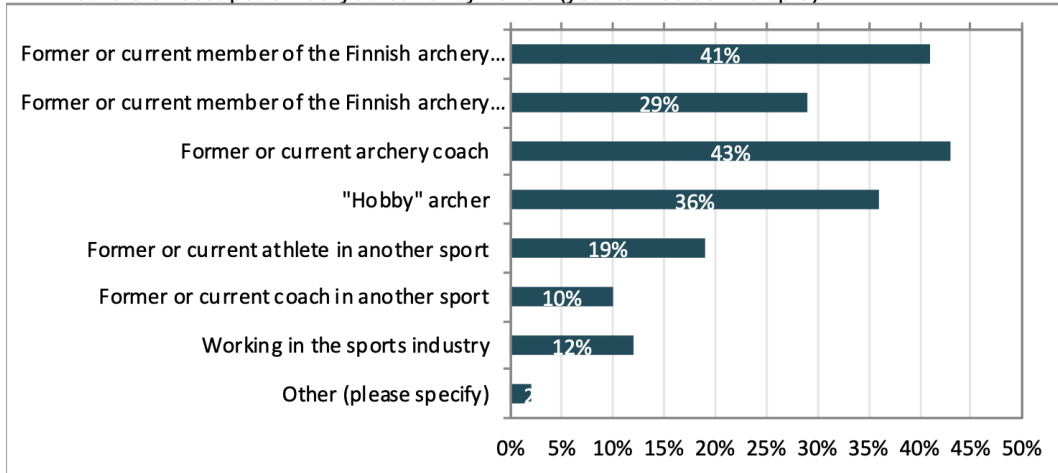
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## Appendices

### Appendix 1. Survey

#### 1. What role or occupation do you currently have? (you can select multiple)



	n	Percent
Former or current member of the Finnish archery national team (adults)	24	41,4%
Former or current member of the Finnish archery national team (juniors)	17	29,3%
Former or current archery coach (private, club, national team or higher)	25	43,1%
"Hobby" archer	21	36,2%
Former or current athlete in another sport	11	19,0%
Former or current coach in another sport	6	10,3%
Working in the sports industry	7	12,1%
Other (please specify)	1	1,7%

Answers given into textfield

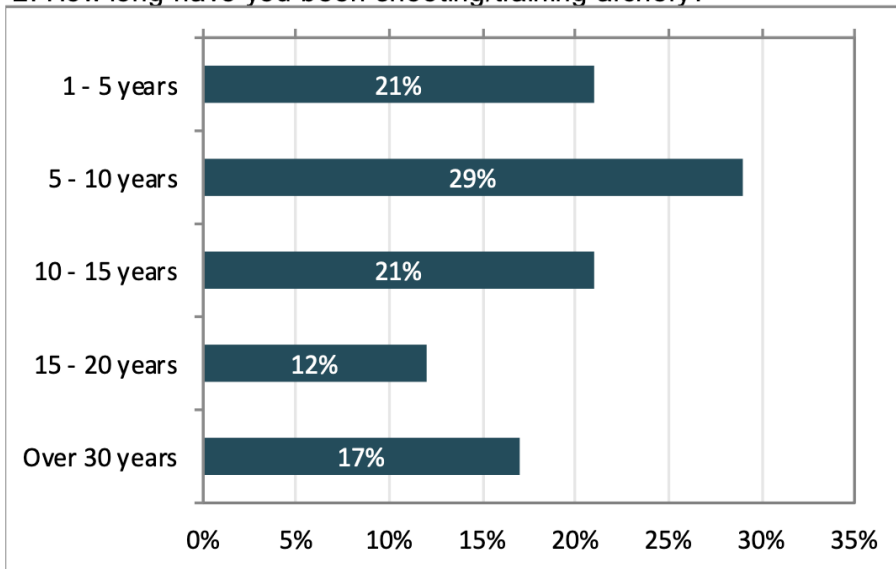
#### Option names

Other (please specify)

#### Text

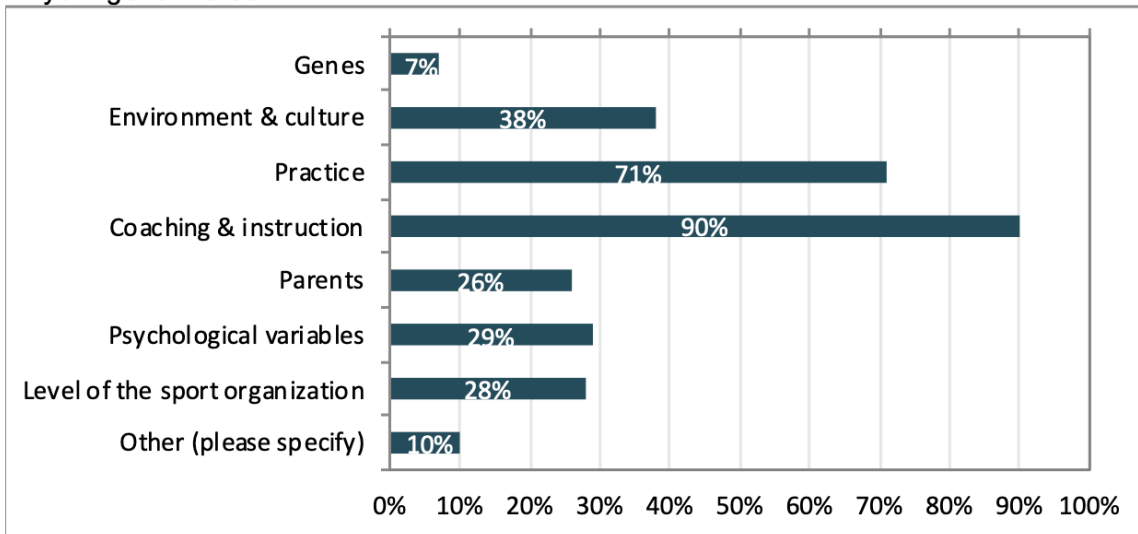
Archer, aiming for the national team in the future

## 2. How long have you been shooting/training archery?



	<b>n</b>	<b>Percent</b>
1 - 5 years	12	20,7%
5 - 10 years	17	29,3%
10 - 15 years	12	20,7%
15 - 20 years	7	12,1%
Over 30 years	10	17,2%

3. What are the three most significant factors that influence talent and skill development in younger athletes?

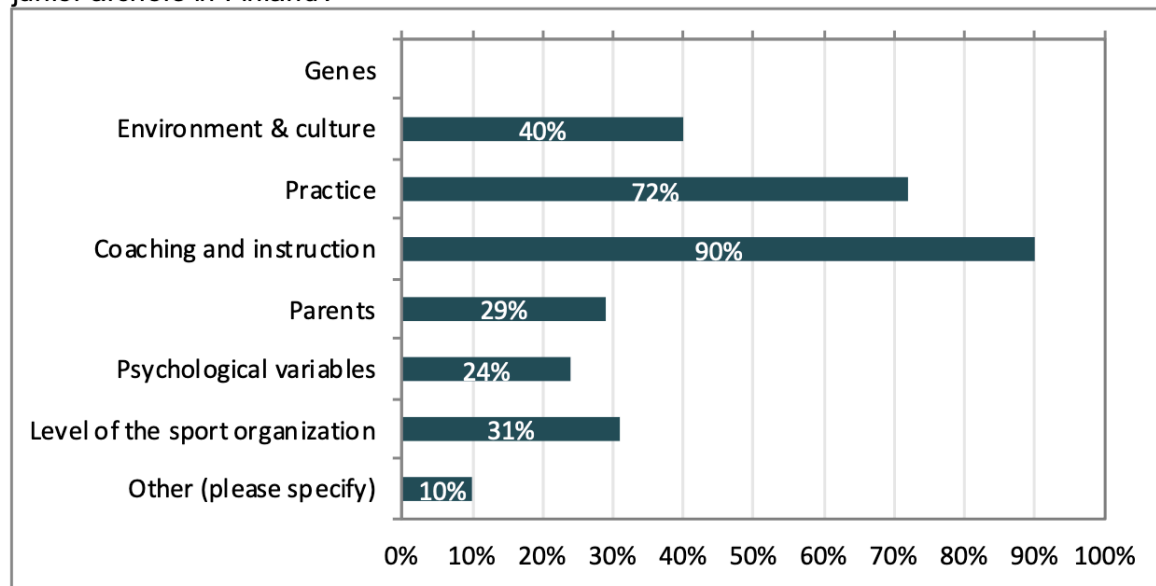


	n	Percent
Genes	4	6,9%
Environment & culture	22	37,9%
Practice	41	70,7%
Coaching & instruction	52	89,7%
Parents	15	25,9%
Psychological variables	17	29,3%
Level of the sport organization (models, programs, promotion etc.)	16	27,6%
Other (please specify)	6	10,3%

Answers given into textfield

Option names	Text
Other (please specify)	Motivation
Other (please specify)	motivation
Other (please specify)	Motivation
Other (please specify)	junior's own motivation develop
Other (please specify)	Motivation
Other (please specify)	Own motivation

4. What are the three most significant talent and skill development factors that influence junior archers in Finland?



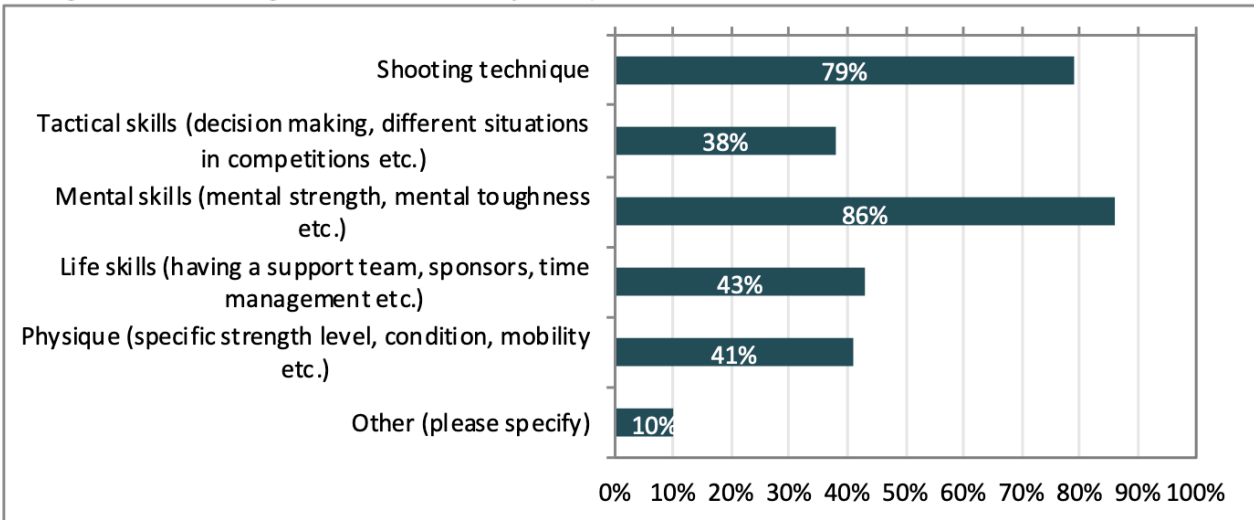
	n	Percent
Genes		,0%
Environment & culture	23	39,7%
Practice	42	72,4%
Coaching and instruction	52	89,7%
Parents	17	29,3%
Psychological variables	14	24,1%
Level of the sport organization	18	31,0%
Other (please specify)	6	10,3%

Answers given into textfield

Option names	Text
Other (please specify)	Motivation
Other (please specify)	Organized training and nice group to train with.
Other (please specify)	Following and copying the top level archers via social media etc.
Other (please specify)	Motivation
Other (please specify)	Own motivation



5. What are the top three most important performance factors in archery?  
In regard to becoming a better archer in your opinion?

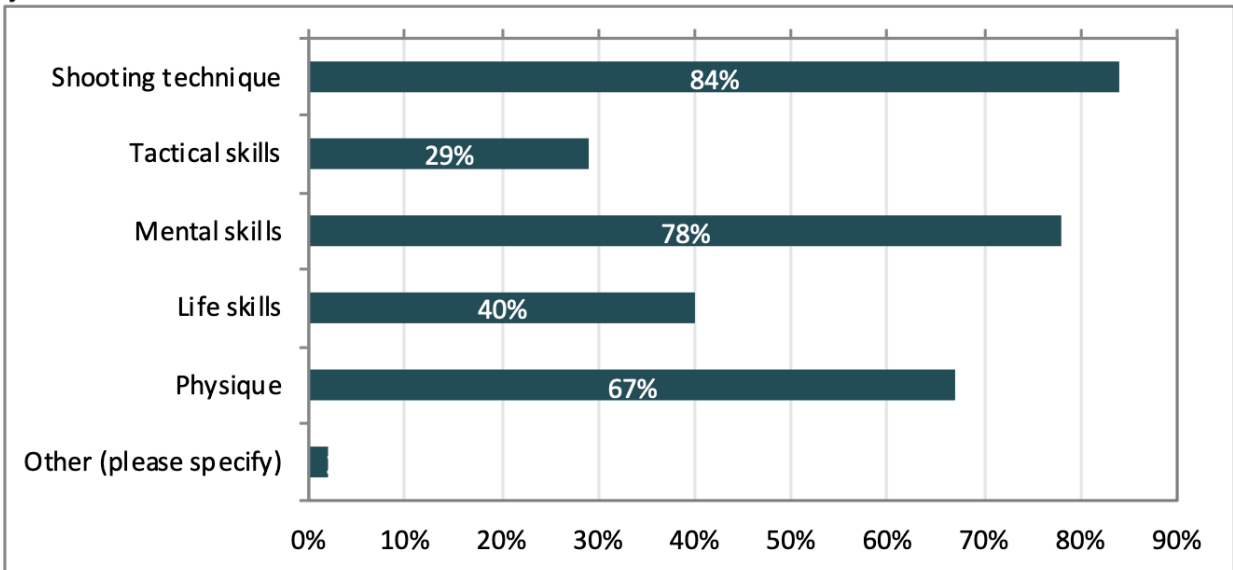


	n	Percent
Shooting technique	46	79,3%
Tactical skills (decision making, dealing with different competition situations etc.)	22	37,9%
Mental skills (mental strength, mental toughness etc.)	50	86,2%
Life skills (having a support team, sponsors, time management etc.)	25	43,1%
Physique (specific strength level, condition, mobility etc.)	24	41,4%
Other (please specify)	6	10,3%

Answers given into textfield

Option names	Text
Other (please specify)	Ambition
Other (please specify)	motivation to exercise
Other (please specify)	Motivation
Other (please specify)	Decision to be a better archer, nothing happens without the desire and decision
Other (please specify)	Motivation and will
Other (please specify)	Own motivation

6. What are the three most important performance factors in archery that junior archers in Finland should focus on more?



	n	Percent
Shooting technique	49	84,5%
Tactical skills	17	29,3%
Mental skills	45	77,6%
Life skills	23	39,7%
Physique	39	67,2%
Other (please specify)	1	1,7%

Answers given into textfield

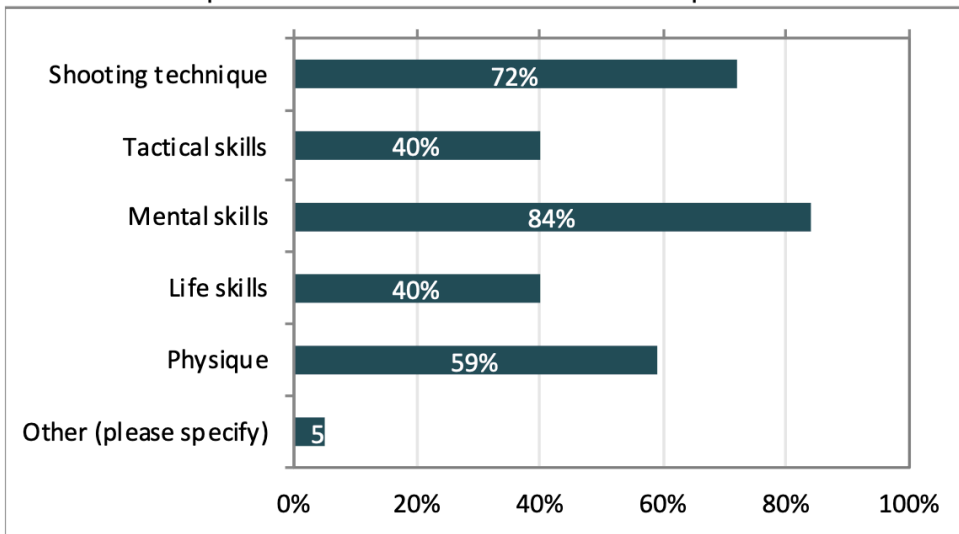
**Option names**

Other (please specify)

**Text**

Multisport

7. Which three performance factors should be developed more in the Finnish junior national team?



	n	Percent
Shooting technique	42	72,4%
Tactical skills	23	39,7%
Mental skills	49	84,5%
Life skills	23	39,7%
Physique	34	58,6%
Other (please specify)	3	5,2%

Answers given into textfield

**Option names**

**Text**

Other (please specify)

balance between cardio/strength/archery training so that it develops the individual bst possible way

Other (please specify)

Multisport

Other (please specify)

Studies about the impact of making the decisions and carrying them through