

# Talent screening by background survey in FIHA Huippu Pohjola camp 2011

Jukka Aho & Samuel Tilkanen

Bachelor's Thesis

Degree Programme in Sports and
Leisure Management

2014

### Abstract



## Date of presentation

Degree Programme in Sports and Leisure Management

07.05.2014

Author or authors	Group or year of
Jukka Aho & Samuel Tilkanen	entry
	DP 9
Title of report	Number of pag-
	es and appen-
Talent screening by background survey in FIHA Huippu Pohjola	dices
camp 2011	67 + 2

# Teacher(s) or supervisor(s)

Jukka Tiikkaja

The aim of the thesis was to examine the functionality of the Finnish Ice Hockey Association scouting system through a survey. The survey examined the backgrounds of the players picked to the Huippu Pohjola camp, and possible differences between players picked to the national team and players that were left out at that time. 106 players responded to the survey, and it contained 68 different questions in five different categories.

The project was started in November 2010 by compiling a background inquiry to the Huippu Pohjola camp organized by the Finnish Ice Hockey Association. The subjects of the survey were the players born in 1996 that were picked for the camp. The survey was carried out during the camp in the spring of 2011. The basis for the survey was to examine different talent theories, and to apply them to the functionality of the scouting system.

The survey gave information about the backgrounds of the players, and also gave a lot of information about their family, training and growth environments. In addition, information about the responders' traits, self-recognition and coach player relationship was received. Basic information like date of birth, height and weight was also gathered.

The results indicate that clear differences could be found between the players that were picked and the players that were cut. Based on this study it can be said that to develop the scouting system, surveys like this should be conducted in the long term in connection with the Huippu Pohjola camp.

#### **Keywords**

Background survey, Huippu Pohjola camp

# **Table of contents**

Searc	ching for talent Error! Bookmark n	ot defined.
1 In	troduction	1
2 Ta	alent identification	4
2.1	Physical talent and genetic heritage	4
2.2	Home and family	4
3 De	eveloping into an expert	6
3.1	Theory of deliberate practise	7
3.2	Differentiated model of giftedness and talent	7
	3.2.1 Motivation	9
	3.2.2 Intrinsic motivation	9
	3.2.3 Goal orientation	10
	3.2.4 Coaching relationship	10
3.3	Goal-setting and commitment	11
3.4	Living environment and the development of talent	11
4 Sc	outing systems	13
4.1	Finnish Ice Hockey Association	13
4.2	The Finnish Football Association	22
5 Th	ne Purpose of the study and research problems	24
6 Me	ethods	25
6.1	Quantitative research	25
6.2	The Target group and implementation of the survey	25
6.3	Data collection	25
6.4	Data analysis	26
7 Re	esults	27
7.1	Basic information	28
7.2	Family and friends	32
7.3	Training	40
7.4	Personal traits/ Self-knowledge	45
7.5	The Atmosphere of the Team/ Player Coach Relationship	56

8 Conclusion	. 60
Bibliography:	. 67
Appendix	. 70

# 1 Introduction

The aim of the thesis was to examine the functionality of the Finnish Ice Hockey Association scouting system through a survey. The survey examined the backgrounds of the players picked to Huippu Pohjola camp, and possible differences between players picked to the national team and players that were left out from the team at that time. The basis for the survey was to examine different talent theories, and to apply them to the functionality of the scouting system.

The common belief is that training must be started at a very young age in many sports in order to succeed at a professional level. The current understanding is that giftedness in sports means that a child is perceived to have a very skillful and technical sport specific performance. Usually the child's physical attributes (speed, strength, endurance) are biologically better than the ones of his/her age group peers. In many cases at this stage the young athlete to be also displays good psychological traits towards training and competing. In the sports spectrum competition and comparison in many cases occurs in the stages of life when biologically older children/adolescents are usually first in the results.

In the Finnish coaching system gifted athletes are primarily found through competition/scouting systems. Because of this the sports clubs as well as federations have the important role of collecting large numbers of players and screen the most talented girls and boys towards an athlete career. The significance of growth environment can be considered large in modern society. The part home, school and friends play in this depends highly on the living environment at that moment. A home and school that encourage playing sports are solid foundations for a career in sports. The impact of environmental factors (e.g. friends and the proximity to sports fields) also affects starting a sports hobby.

Researchers unanimously agree that talent is inherited and acquired. It can be divided into two main types: giftedness and talent. In this thesis, when using the word talent or giftedness it may mean both depending on the context. There are three basic questions

for giftedness: what is talent? Is it inherited or acquired, and how can it be developed or killed? Everyone is born with genetic heritage on which one can later build their talent. Nobody is born to be an athlete, and as I earlier mentioned, growth environment, heritage and an adequate amount of training kilometers/hours gives one the chance to become a talent.

Research into ways to identify gifted athletes began in the 1950s in socialist countries. 1970s, research focused on varying factors such as physique and fitness ability, which was started in democratic nations. Since 1990s, the trend in sports talent research has been not only looking at individual physique and fitness characteristics. The approach according to that is more changed to seek psychological, sociological and physiological factors (Korea Sport Science Institute, 2003). Coaches and athletes, in particular, continuously search for answers to the following questions; 1) what makes a champion athlete? 2) What factors in talent identification can be used to predict performance success and what is the role of performance-based, long-term athlete development and assessment 3) what is the role of sport science and technology in the development of skilled and empowered coaches who are responsible for creating environments conductive to performance excellence? (Sociology of Sport Journal, 2009).

Defining giftedness in sports comprehensively and unambiguously is difficult. In the case of children and adolescents it is extremely challenging because the psychological and physical level of development or biological age affect the development of psychological and physical attributes. Children who are chronologically the same age can biologically be 2-4 years apart. When charting attributes one should take into consideration the individual's motivation, enthusiasm, learning ability, sports habits as well as their prior amount of training, and consider how the current potential has been reached. In addition to genetic heritage and a favorable growth environment it is essential to find out how the attributes have been utilized, shaped, activated and diversified before the scouting stage (Hakkarainen, 2009).

In addition to ice hockey, in team sports the scouting systems of the federations organize scouting events in the form of camps, in which the goal is to build the first national team from the most potential athletes of that generation. A reliable definition of giftedness/talent requires a considerable amount of information on the sports background/history of the individual, not just isolated tests or evaluation events.

# 2 Talent identification

What does talent or giftedness mean, and how does a talented individual differ from others? The common understanding is that there are hundreds of different kinds of talent and they are related to the prevailing time and culture (Uusikylä, 17.11. 2011). In literature talent has been investigated from many angles. Can talent be defined on the basis of an individual's achievements or is it thought to be caused by genetic, activated cognitive models or are the things appreciated by society emphasized? Bill Joy studied at the University of Michigan. In his first year of study a new computer center was opened, through which thousands of students walked many times a day. Joy was a "nerd" and thought he would become a biologist or mathematician. During his first year he found himself in the computer room, and was fascinated about that world. Eventually Joy became the founder of Sun Microsystems and Java, as well as one of the most influential persons in the history of computing. (Gladwell, 2008, 25-27.)

# 2.1 Physical talent and genetic heritage

We inherit specific genes from our parents, grandparents and culture. Height, weight, limb length, fat mass, fatless mass of the body as well as our overall body structure can be predicted but our actions and the effect of our environment influence the activation of these genes (Hakkarainen, H, 2009). Height is largely hereditary, and especially the growth schedule of an individual can be predicted fairly accurately but the estimated expected height cannot be as accurately predicted. Lifestyle can negatively affect expected height. Regardless, limb length and proportions can be largely predicted. Body mass and fat mass can be largely influenced with lifestyle and exercise before puberty (Hakkarainen, 29.11.2013).

# 2.2 Home and family

An affectionate relationship prevails between an adolescent and the parent through which the influence of the parents' is very strong. The customs, values and behavioral models support growth in a certain direction. Posterity become attached to and identify with their parents through which behavioral models are transferred from the parents

to the children unconsciously. Therefore exercising and sports can be seen as a heritable way of life. Exercising on a regular basis every day during childhood in the form different kinds of ordinary games is a basic requirement for forming adulthood exercise habits. Research has shown that providing different exercise possibilities and encouraging exercising materializes best in families where the parents are active exercisers themselves. In different studies based on athlete interviews the importance of family background is highlighted when growing to be a top athlete. The homes and families of top athletes have almost without exception been sporty or supportive towards sports in the right way. (Nurmi, 2006)

Becoming attached to exercising/sports is closely related to the choices parents make. The family's relationship to sports strongly determines if sports and exercising is chosen to be a part of the whole family's everyday life. Especially a father's who has not had success in sports may drive the parents to provide as much possibilities to play sports as possible which may lead families to try an experience the success they never had through their children. (Valsta, 25.10.2010)

# 3 Developing into an expert

In 1973, Herbert Simon and William Chase provided some of the first empirical support for the presumption that performance differences between individuals could be explained by time spent training. Simons and Williams hypothesis was based on the perceptual – cognitive differences between master and lower level chess players. The results were that differences between skill levels were not attributable to a superior memory capacity rather to the ability to organize information into meaningful chunks of information. For Simon and Chase, this finding led them to consider whether the differences between the players were simply corollaries of a greater amount of time spent training or playing chess. Summary was that grandmaster level requires decade's intense preoccupation with the game (Baker, Cobley, 2008, 30)

In the yearly 1990s, Anders Ericsson conducted a study with two of colleagues in a music academy in Berlin. In the study, violinists studying in the academy were split into three different groups. The first group was formed from so called star students, the second group from "good" students and the third group from ungifted students. After the split, all the students were asked the same question: how many days have you practiced in the career so far from the day you started playing the violin? The study found that all he violinists had started playing at the age of five, and played 2-3 hours a day. The students that later became master violinists has practiced 10 000 hours by the time they were 20 years old. The good students had practiced 8000 hours, and the future music teachers 400 hours. (Ericsson, K.A. 1996) The same study was also conducted with pianists with the same results. The conclusion of the researchers was that anyone can become an expert as long as they practice 10 000 hours with focus concentration and effectiveness. Due to that the amount of hours spent for training should be 1000 hours per year within 10 years, which means that the athlete or child should be active in sports 2,7 hours per day from age 10 to age 20 (Martikainen, 2011).

However, what was the unique about the research is that it highlighted the importance of quality in practice, as emphasized through engagement in optimal types of training through-out skill development. Also, owing to continued optimization of training by

expert musicians, they also maintained that the relationship between time spent in optimal practice and performance improvement was monotonic, and not power function. More simply one hour of optimal practice has the same effect on performance, regardless of whether it is the first hour of training or the ten-thousandth hour (Baker, Cobley, 2008, 31)

## 3.1 Theory of deliberate practice

Ericsson and his colleagues suggest it is not simply any type of training that differentiates individual skill levels, but the engagement in deliberate practice. It is the type of training athletes do that is not much fun, requires intense hard work and does not lead to instantaneous rewards – where the payoff is in the long run. For example, a swimmer can spend their time doing length after length of the pool, which is not deliberate practice. Or the swimmer can attentively train the specific aspect of performance where his is weak, for example focusing on stroke improvement, or doing intervals at near race pace (Ericsson, K.A., 1993).

Once the skill is well learned or a consistency in performance in established. For example an ice hockey player can consistently adjust his skating kick during skating. After adjusting that kind of training is no longer considered deliberate practice for this athlete. Instead the player now needs to move on to practices that require a renewed intense effort with the same high relevance for improving the current level of performance (Baker, Cobley, 2008, 31).

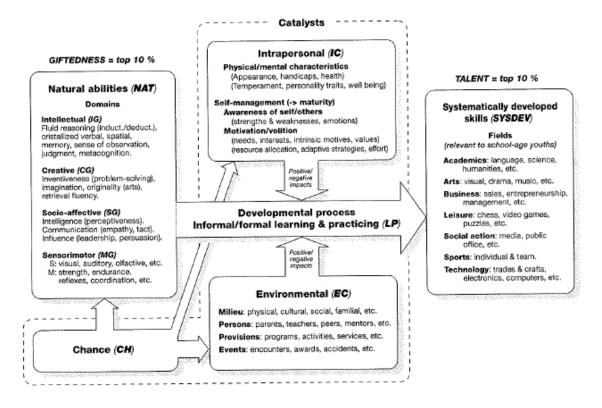
## 3.2 Differentiated model of giftedness and talent

Francois Gagne's Differentiated Model of Giftedness and Talent differentiate between the concepts of giftedness and talent. According to Gagne no more than ten percent of the population demonstrates spontaneous natural talent that has not been practiced. Whereas talent is a systematically developed gift, knowledge or skill. Gagne's theory is a development theory that supports the evolution of a talent already present into developed talent. The theory divides natural talent into four main categories: intellectual, creative, socio-affective and sensor-motor. All individuals have a variable amount of

these attributes but the term talent comes into consideration when the amount of one component is rises high enough. Depending on the individual, talent can be seen in many fields of life such as academic, art, business, leisure, social activity, sports or technology. (Gagne, 2005)

Based on his research Gagne uses the ten percent margin, which he has split into five different categories: mild, moderate, high, exceptional and profound (Gagne, 2005). In the image Gagne describes his development theory with two development components; in addition to these the theory also includes four other components that are called catalysts. The model is introduced in Figure 1. Individuals have inherited abilities and qualities but nobody has the genes of an athlete. To become a talent or special talent one must have certain internal factors (motivation, love of the sport, desire and the ability to train with perseverance) as well as external factors such as good teachers, coaches, educators and role models (Uusikylä, 17.11.2009).

Figure 1. Gagne's Differentiated Model of Giftedness and Talent (2003)



Systemically developed talents result from the transformation of innate gifts that are subjected to learning and practicing development process. This process is affected by

the three key catalysts of change, intrapersonal and environmental factors (Farrow, 2008, 63)

#### 3.2.1 Motivation

Motivation is something that makes people pursues a goal of their own or a goal that the community they represent pursues. Therefore motivation is a stimulus for an action. As a concept the term reflects a complex and changing process, in which a person's personality-based and cognitive factors as well as social variables are combined. In behavioral terms motivation can be split into two different objectives: 1) Motivation fuels one's behavior and is the reason why an athlete spends thousands of hours training to become better. 2) Motivation steers behavior, and guides practice in order to learn different skills. Motivation has a strong effect on the intensity, stability of the behavior of and individual, as well as the selection of tasks and the performance itself. A well-motivated athlete tries harder, sticks to the task longer, chooses more demanding tasks, commits more intensely than an athlete who has poor motivation. In sports psychology the most used motivational frameworks are intrinsic and extrinsic motivation as well as the goal orientation model (Roberts, 2001).

#### 3.2.2 Intrinsic motivation

In the case of intrinsic motivation, one takes part in an activity primarily because of the activity itself, the motives being the pleasure and experiences it produces. The motivation towards the activity is born by itself and no other specific reasons are required. The cornerstones of intrinsic motivation are autonomy, competence and relatedness. Emphasizing these factors in activity increases intrinsic motivation, and if the activity does not include these it is most likely externally guided. Autonomy means that the athlete has the power to make choices that affect his activity can and take part in the decision making of the activity. Competence is perceived capability and the belief in one's own abilities to perform a drill or task. Relatedness means that the athlete feels he is an integral part of the group (Deci & Ryan, 1985).

#### 3.2.3 Goal orientation

The goal orientation model is framework used in sports to explain the motivation of athletes. The basis of the model is that the starting point of all goal-oriented activities is to exhibit competence. According to the goal orientation model an athlete exhibits competence competition-oriented or goal-oriented. Neither of these models excludes the other, we all exhibit properties from both goal perspectives. In terms of motivation, the ratio of these motivation categories is essential, as if goal-orienteers is as strong as competition-orienteers, the athlete will not most likely face motivation problems (Nicholls, 1989).

A goal-oriented athlete demonstrates competence and capability when he develops his own skills, tries hard, cooperates or learns something new. When this is the case, demonstrating competence is not dependent on others' performances, but one's personal development and learning produce motivation. In terms of learning, development and the growth into an athlete goal-orienteers is key as it directs the athlete's thoughts toward execution and the quality of training (Nicholls, 1989).

A competition-oriented learner demonstrates competence and capability when he beats others or achieves something with less effort. Competition-orienteers itself is not efficient because it steers the athlete's actions towards achieving a result, making developing performance and learning secondary (Roberts, 2011).

## 3.2.4 Coaching relationship

The relationship between the coach and players' is important in every sport. When the relationship is respected and healthy from both sides there are better possibilities to be successful. When there is no trust and closeness between the two the optimum goal cannot be reached. The coach should know the athlete personally to understand the athlete. Every athlete is a human being and the coach should approach them as individuals. When the coach knows his/her athletes personally, constructive interaction between the coach and athlete can be built. (Puhakainen & Suhonen, 1999. 26–27, 68–71)

When the coach knows his/her athletes he/she can understand different personalities and adapt to their thoughts. Interaction is the base of a successful relationship between the coach and athlete. When the athlete feels that the coach is truly interested about the athlete as a person, the interaction improves. The athletes can fulfill themselves when they feel they are accepted and can trust the coach. Interaction between the athlete and the coach is effective when the athlete feels that the coach is interested about the individual and has good interaction skills. (Kaski, 2006. 31–39)

# 3.3 Goal-setting and commitment

When an athlete wants to be at the top of the world there has to be goals to achieve them. Goals should be progressive and planned step by step consistently with the athlete's skill level. There should be evaluation of the athlete's skills, and motivation towards the sport and ambition to face challenging but reachable goals. When the objectives are realistic the athlete has a chance to reach them.

Different types of goals can be set depending on the athlete's skills and motivation. Goals for a determined athlete could be goals for physical development and ranking goals. A ranking goal is the main goal where the athlete wants to be at end of a season. For the main goal there should be smaller goals through the whole season. When the goals are high but still reachable, the athlete has more will and motivation to practice to reach the goals. When athlete has reached his/her goals, their determination becomes stronger and athlete wants to develop him/her even more to reach the next goal. The athlete, who has motivation towards his /her development as an athlete through goal-setting, is also committed towards the sport. (Kaski, 2006. 64–73)

#### 3.4 Living environment and the development of talent

Benjamin Bloom's (1985) study examines the role of family and stakeholders have when reaching the absolute top. Bloom and his group interviewed over 120 different Americans that had reached the highest levels of accomplishment in their fields (athletes included swimmers and tennis players). According to the results key factors de-

termining future success depended on the role and support of the home and family. When examining true top-level professionals it became evident that from age 8 to 11 coaching was found very near to the residence, and that the parents were often involved in the coaching. During ages 10 to 14 the emphasis was to find high quality coaching even from geographically further away. At this stage the top performers had selected their preferred sport, and left others hobbies behind.

For the ones that reached the top, a decision to truly pursue the top was made to at around the age of around 14. At that time the amount of time spent training rose, and the significance of school decreased. At this stage the coaches were almost invariably switched to the best in their field, and families were prepared to move away from the area they lived in. According to Bloom high standards at home and focusing on developing talent was characteristic for top talents. Bloom still emphasized the role of the individual because there are many examples of forced talents. (Bloom, B. 1985)

# 4 Scouting systems

The ice hockey, soccer and basketball federations have their own scouting systems. The goal of the scouting systems is to chart the most potential and gifted players to represent the national team of their age group. The federations organize different scouting events, in which the best players in the country are gathered to play in tournament events. In the tournament events the scouts for the national evaluate the players, and try to find the best individuals at that moment. The federations arrange scouting events, in which the total number of players is reduced when nearing the final national team selections. During the last scouting event, the best players of that age group are gathered to represent the Finnish national team.

# 4.1 Finnish Ice Hockey Association

The Finnish Ice Hockey Association's first nationwide scouting event is called Koulutus-Pohjola –camp. Koulutus-Pohjola –leiri takes place one year before Huippu-Pohjola –camp, from which the first age group national team is selected. Before the first nationwide camp, scouting and player charting are performed by the eight regions of the Finnish Ice Hockey Association. In regional scouting the regional coaches organize one scouting event before the selection for Koulutus-Pohjola –camp. From each region, a team of players is selected; the 16 best players/skaters, and the best two goalies. During the Koulutus-Pohjola a 10 team tournament is played. Seven regions assemble one team made of their best players. From the Southern region, two teams are assembled because the large their large amount of players, in addition to which an eight team region combination team is assembled. (-00 Pikku-Pohjola. 2013.)

The nationwide event after the Koulutus-Pohjola –camp is the Tulevaisuuden tähdet (Stars of the future) – scouting event. Before the Tulevaisuuden Tähdet event regional scouting events are held, as well as tournaments during which federation coaches and regional coaches scout potential players for the Tulevaisuuden tähdet, and Huippu Pohjola camps. 48 + 4 players are selected in advance for the Huippu-Pohjola camp. These players do not take part in the Tulevaissuden tähdet scouting event. Eight regional teams are picked for the Tulevaissuden tähdet event, and the best players from

these teams are chosen for the last national team event (Huippu-Pohjola) before the national team selections are made. In the last event there are no regional quotas. The best 102 players in the country that have been picked during yearlong scouting process are invited to the camp (Tulevaisuuden tähdet 2014).

In scouting events organized by the Finnish Ice Hockey Association, the scouting is done by the executives of the national team, scouts chosen for this purpose and regional coaches. The scouts use a player evaluation form, on the basis of which they choose the players (Tulevaisuuden tähdet).

Figure 2.Player evaluation form (Nieminen, J. 8.2.2014)

Tapahtuma:									
Pelipaikka:				Nimi:					
Ottelu	Arvosana	Maallt	Syötöt	Yht	+/-	Pelitilanneroolit HP kiekollinen	1-5		maailman hulppu
						Hp klekoton PP häiritsijä		3 = KV -	voittava pelaaja peleissä hyvä peleissä keskitasoa
						PP vartiolja			peleissä haasteita
Rooli joukkueessa	х								
Iso rooli (paljon YV / AV) Normaali vastuu									
Pieni rooli									
Ranking turnauksessa									
Kirjallinen palaute									
Peli:									
Luonne:									
Luistelu:									

The main focal points of the scouting are: Game, Character and Skating. In Game, the scouts evaluate the player's ability to play different game situation roles, scoring ability, attacking speed and defensive skills. Character is evaluated through the player's performance, intrinsic motivation and values. In Skating the player's skating ability in different game situation roles is evaluated. Four game situation roles are forward with the puck – forward without the puck and defender with the puck – defender without the puck. In addition to these main topics players are evaluated by comparing their level to the top international level (Kaskinen, K. 25.5.2013)

Pohjola camp follow-up study was conducted in 2010 in Vierumäki (Hyttinen & Ohtonen 2010), which investigated the career development of the players chosen for first age group national team from the Pohjola camp. The subjects of the study were players born between 1985 and 1993. The study investigated how far in their careers they had gotten by the year 2010. The eldest age group of the study took part in the Pohjola camp in the year 2000, therefore the eldest age group had played ten years after the camp and the youngest age group 2 years. The study investigated the players' career development in four categories: players that had played for the under-20 national team, in the Finnish League (SM-liiga), in some other top European league or in the NHL.

To make examining players in different categories realistic, only the age groups between 1985 and 1991 will be examined from the study because the age groups from 1992 to 1993 were less than 19 years old at the time the study was conducted.

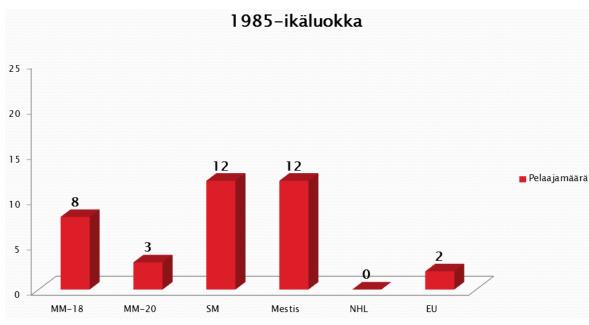
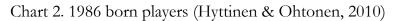
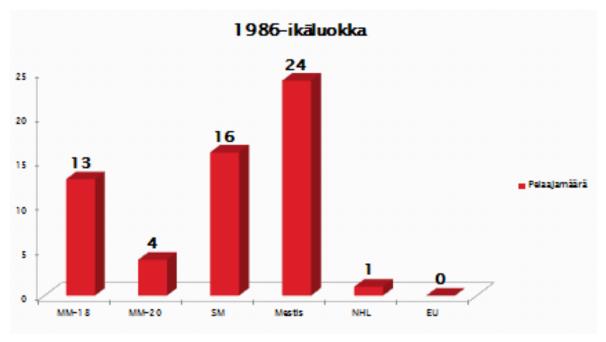


Chart 1.1985 born players (Hyttinen & Ohtonen, 2010)

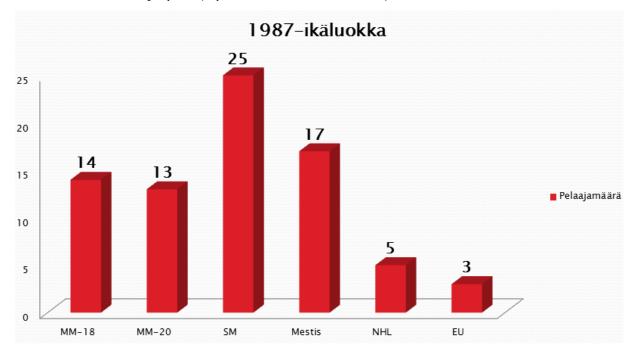
7 percent (3) of the 1987 born players has played in an international tournament for the under-20 national team. 27 percent (12) of the players had played regularly in the SM-league. None of the players had played in the NHL but 5 percent (2) had played in a European elite league. (Hyttinen & Ohtonen, 2010)





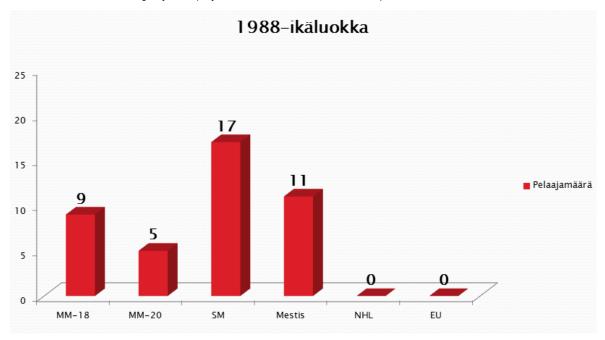
From the 1986 – born players 9 percent (4) had played for the under-20 national team in an international tournament. 36 percent (16) of the players had played in the SM-league. 2 percent (1) of the age group had played in the NHL. None of the players had played in a European elite league. (Hyttinen & Ohtonen, 2010)

Chart 3. 1987 born players (Hyttinen & Ohtonen, 2010)



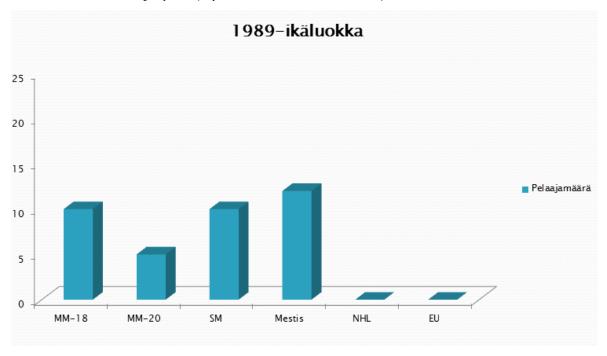
30 percent (13) of the 1987 born players had played in an international tournament for the under-20 national team. 57 percent (25) of the players had played regularly in the SM-league. 11 percent (5) of the 1987 born players had played in the NHL and 7 percent (3) in a European elite league. (Hyttinen & Ohtonen, 2010

Chart 4. 1988 born players (Hyttinen & Ohtonen, 2010)



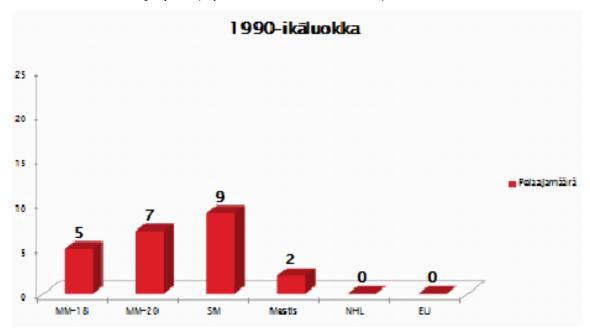
From the 1988 – born players 11 percent (5) had played for the under-20 national team in an international tournament. 39 percent (17) of the players had played in the SM-league. None of the players had played in the NHL or a European elite league. (Hyttinen & Ohtonen, 2010)

Chart 5. 1989 born players (Hyttinen & Ohtonen, 2010)



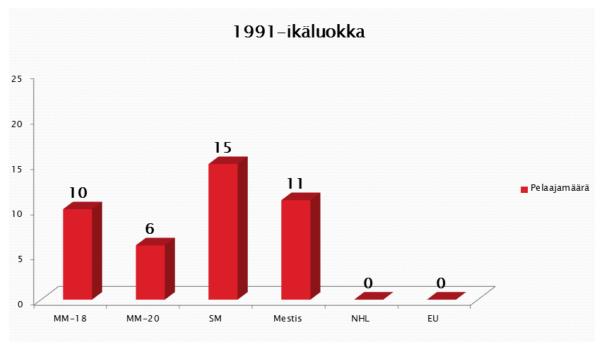
11 percent (5) of the 1989 born players had played in an international tournament for the under-20 national team. 23 percent (10) from the players had played regularly in the SM-league. None of the age group had played in the NHL or in a European elite league. (Hyttinen & Ohtonen, 2010)

Chart 6. 1990 born players (Hyttinen & Ohtonen, 2010)



16 percent (7) of the age group had played for the under-20 national team in an international tournament. 20 percent (9) had played in the SM-league. None of the players had played in the NHL or a European elite league. (Hyttinen & Ohtonen, 2010)

Chart 7. 1991 born players (Hyttinen & Ohtonen, 2010)



From the 1991 – born players 14 percent (6) had played for the under-20 national team in an international tournament. 34 percent (15) of the players had played in SM-league. None of the players had played in the NHL or a European elite league

#### 4.2 The Finnish Football Association

In the scouting system of the Finnish Football Association, before picking the players for the first national team event scouting is started during the previous season in tournaments/matches by 5 to 7 scouts. From the 12 districts of the Finnish Football association, the 200 best players are picked for the regional team cup (Piirijoukkuecup). In addition to the regional team cup a club team tournament is organized, during which national, association and regional team coaches scout players. Most of the players are also a part of the Sami Hyypiä academy, which monitors player development.

On the basis of the scouting events four teams of players (72) are picked for Tähtitarha, a four-day camp, during which the players have physical tests, train and play. At the Tähtitarha camp the players' physical condition is tested. The test includes: acceleration, agility, speed endurance, counter movement jump, 5-jump test and endurance. During the next winter the first national team prospect camp (24 players) is picked from the Tähtitarha event and regular regional events, and this group is reduced to 18 players during spring that will take part in the first under-15 match (Mäkelä, I. 27.10.2014.).

The scouts evaluate the players on the basis of forms, in which the players' game situation roles, technical, tactical, physical and mental/social attributes are evaluated.

The players also evaluate their own abilities against the top players in the country in their age group. In the self-evaluation the players evaluate their physical, technical, tactical and mental attributes. A predication/estimation of what the player in question will be in a couple of years' time is also done (Mäkelä, I. 27.10.2014).

Before the first national team is picked the players have been monitored closely for one year. The players picked and the level of an individual player is defined on the basis of evaluation forms filled out by many scouts, the test results, self-evolution and the projected future of the player. On the basis of these evaluations the first Finnish Football Association age group national team is picked (Mäkelä, I. 27.10.2014.).

Figure 2. Evaluation individual player (Miettinen 2012)

		Evaluation indi	vidual player Pii	ri-cup		
Player		Born	Team			
Davisian		Farmation	Desiries in five	N. Vale		
Position		Formation	Position in fut	ture		
Left/right	t.	Game		Date		
Observer						
Technic					0 1	
	1;a touch(new direc	tion, speed, variation	, helps the game for	ward)		
		nort/long, shoot/finish				
	1v1(offensive-forwa	ards, defensive-defend	ders, off och def-mid	field)		
		tuations(comfortable				
	Heading					
Tactic						
individua	1					
		n to situation(forward	The state of the s	ders active)		
	and the sale of th	on depended on her sl	kills and knowhow			
	Being turned the rig	ght way				
Team						
		allholder (playable, ru	ins)			
	Choose of opions as					
		game(defence and of	fence)			
	Creations and varia	tions in solutions				
Fysical						
	0-5m					
	10-30m					
	Atletic(fysical status	, koordination etc)				
	Change direction					
Mental						
	Leadership					
	THE CONTROL OF THE PARTY OF THE	the result of the game	e			
	Courage(to particip					
	Active					
Excellent	skills				1 2	
LACEHEIIC	Excellent skills				1 2	
	LACCHETT SKIIIS	SPL	/MM			

	Skill	0	1	Excellent skills	0	1	2
0 Dont handle skill 1 Handle skill				0 Good skill 1 Excellent skill 2 Extreme good skill			
Technic	First touch	7	11	Creative	9	5	4
	Passing/shooting	9	9	Tempo; dribbling, runni	ng with ball		
	1v1	8	10	Fight to the end of the g	game		
	Technic in stressful moments	8	10	Winning mentality			
	Heading	14	4	Long pass			
Tactic	Finding right solution	12	6	Both feet			
	Being turned the right way	6	12	Wing player			
	Cooperation with team mates	10	6	Rythm of the game			
	Choice of option as ball holder	15	3				
	Understand the game	9	9				
	Creation and variation in solution	16	2				
Physical	0-5m	6	12				
	10-30m	4	14				
	Athletic	6	12				
	Change direction	9	9				
Mental	Leadership	12	6				
	Positive attitude to the result	2	12				
	Courage	6	12				
	Active	5	13				4

# 5 The Purpose of the study and research problems

The purpose of this study was to investigate the backgrounds of the players picked for the camps, and to find out do the players picked for the first age group national team differ from the other players picked for the camp in others ways in addition to skills. The purpose of this thesis is to, in the form a survey, to portray the background surveying methods that according to this study should be used along with physiomotor attributes when evaluating potential future athletes.

The examined topics were categorized into eight holes, on the basis of which the investigation was done. The topics examined were basic information, amount of training, attitude toward training, family background, parents' attitude toward training, motivation, self-knowledge and coaching. The main target of the study was 44 players picked for the age group national team.

## Research problems

- Should the Finnish Ice Hockey Association take information gathered through background surveys like this into consideration when scouting players?
- Can the functionality of a scouting system be evaluated?
- What factors define succeeding at camp?

# 6 Methods

# 6.1 Quantitative research

Quantitative research is a research method that aims to gather empirical observation material. By doing this, the aim is to make generalizations of the gathered material with statistical methods. The gathered information is handled as a statistical unit, from which all interpretations that point to subjective are faded out. In general the aim is to provide an overall picture of the material, and to bring out different features, classifications, deviations etc. With the method, it is important to bring out the significance of the variable values relative to the research when empirical observation material is available. Through this the possibility to evaluate the reliability of the research is also created. The material used in this study uses a statistical unit as the object of research. Defining the unit is especially important when the material is a sample from a certain population. By analyzing the material, the possible role of chance in the material investigated is determined (Hirsjärvi, 2004).

# 6.2 The Target group and implementation of the survey

The target group was formed by the players in born 1996 picked to the Huippu-Pohjola camp organized by the Finnish Ice Hockey Association in 2011. The responders of the survey were clear from the beginning of the study. The survey was conducted during the Huippi-Pohjola camp in Vierumäki sports arena lecture rooms between June 2<sup>nd</sup> and June 6<sup>th</sup> in 2011. Responding to the survey was done physically by filling out the survey. 106 players participating in the camp answered the survey during four days. The survey was always conducted under surveillance in 18 person groups at a time. Answering the survey took about 45 to 60 minutes.

## 6.3 Data collection

The investigation was executed in the form of a survey (appendix 1). The survey included open and multiple choice questions as well as scaled questions. The questions were categorized under five different subheadings, and they were designed to investi-

gate the respondents' backgrounds relating to family, training, friends, living environment, motivation, self-knowledge and present team environment. The number of questions was purposefully set high but the point of many different questions was to investigate a certain thing. Depending on the answer to certain multiple choice questions, the respondents were asked answer more specifically with an open question.

After gathering extensive information and examining the theory, a survey divided into categories could be formed according to the previous chapter. It was essential to form many questions to support the entities related to the research problem.

## 6.4 Data analysis

The survey was created with Microsoft Word 2010. The results were processed with Microsoft Excel using its chart tools. After this the results were analyzed with SPSS (IBM SPSS statistics) statistical analyzing program.

# 7 Results

All of the 106 players that participated in the camp answered the survey. The survey consisted of 68 different questions in five different categories: 1) basic information, 2) family/friends, 3) training, 4) personal traits/self-knowledge, 5) coach relationship/atmosphere. All of the respondents were men. In the charts, the answers of the player picked for the age group national team are compared with the answers of the other players.

When analysing the p-values of the results, there are three different stages of statistical significance. The very significant p-value (\*\*\*) is <0,001, significant p-value (\*\*) is <0,01 and almost significant p-value (\*) is <0,05 (Holopainen, 1999).

#### 7.1 Basic information

The first category consisted of seven different questions. The questions asked the respondents' first name, last name, and date of birth, height, weight and hometown. The results of height and weight are introduced in chart 1. The distribution of the respondents' date of births is introduced in chart 2, and the hometowns in chart 3.

Table 1. Height and weight

		Amount	Average	Difference
HEIGHT	PICKED	44	*176,5 cm ± 6cm	2,1 cm
HEIGHT	OTHERS	62	174,4 cm ± 5cm	2,1 0111
WEIGHT	PICKED	44	*69,7 kg ± 7 kg	3,3 kg
	OTHERS	62	66,4kg ± 7kg	

\*\*\* P<0,001 \*\* P<0,01 \* P<0,05

Average height of the players who were picked to the national team was 2,1cm more than the others. The result is almost significant when the p-value is in height 0,044. Average weight of the players who were picked to the national team was 3,3kg more than the others. The result is almost significant when the p-value is in height 0,020.

Table 2. Ice hockey club

	PICKI	PICKED		ERS	TOTAL
Ahmat	0	0 %	1	2 %	1
Blues	3	7 %	2	3 %	5
Cowboys	0	0 %	1	2 %	1
EPS Blues L	0	0 %	1	2 %	1
FoPs	2	5 %	1	2 %	3
GRIFK	0	0 %	2	3 %	2
HC Nokia	1	2 %	0	0 %	1
HIFK	1	2 %	2	3 %	3
HPK	2	5 %	2	3 %	4
Ilves	2	5 %	2	3 %	4
Imatran Ketterä	0	0 %	2	3 %	2
Jokerit	4	9 %	2	3 %	6
Jokipojat	1	2 %	2	3 %	3
Jukurit	0	0 %	3	5 %	3
JYP	1	2 %	7	11 %	8
Kalpa	4	9 %	2	3 %	6
Kiekko-Nikkarit	3	7 %	0	0 %	3
Kiekko-Vantaa	0	0 %	1	2 %	1
KooKoo	0	0 %	2	3 %	2
Kotkan Titaanit	1	2 %	0	0 %	1
Kärpät	1	2 %	4	6 %	5
Lukko	1	2 %	2	3 %	3
Nikkarit	1	2 %	0	0 %	1
Pelicans	5	11 %	1	2 %	6
PIPS	0	0 %	1	2 %	1
S-kiekko	0	0 %	1	2 %	1
Saipa	2	5 %	2	3 %	4
Saipa/Ketterä	0	0 %	1	2 %	1
SaPKo	0	0 %	1	2 %	1
Tappara	4	9 %	4	6 %	8
TiHC	0	0 %	2	3 %	2
TPS	3	7 %	6	10 %	9
TuTo	1	2 %	0	0 %	1
YJK	1	2 %	2	3 %	3
TOTAL	44	100 %	62	100 %	106

11 (5) percent of the players picked came to the camp from Pelicans. Among the others, 11 percent (7) came to the camp from JYP.

Table 3. Hometown

HOMETOWN	PICKED	OTHERS	TOTAL
1.South	12	10	22
2.Häme	14	9	23
3.Keskimaa	1	8	9
4.Kymi-Saimaa	3	12	15
5.Lapland	0	2	2
6.Länsirannikko	7	9	16
7.North	2	8	10
8.Savo-Karjala	5	4	9
TOTAL	44	62	106

75 percent (33) of the players picked responded that their hometown is South, Häme or Länsirannikko. The others answers were evenly divided.

Table 4. Is the respondent's present hockey team the same as the one they started playing hockey?

	PICKED (		OTHER	TOTAL	
Yes	28	64 %	37	60 %	65
Ei	16	36 %	25	40 %	41
TOTAL	44	100 %	62	100 %	106

64 (28) percent of the players picked responded that their present hockey team is the same that the one they started playing. Differences between the groups were not discovered.

Table 5. Reason the possible team switch

	PICKED		OTHER:	S	TOTAL	
Has not change	28	64 %	37	60 %	65	
Quality of the team	7	16 %	7	11 %	14	
Elimination	1	2 %	0	0 %	1	
Other factors	3	7 %	8	13 %	11	
Better development oppor- tunities	4	9 %	9	15 %	13	
TOTAL	44	100 %	62	100 %	106	

16 percent (7) of the players picked responded that reason of the team switch were quality of the team. Among the others the number was 11 percent (7).

# 7.2 Family and friends

In the second category, the respondents' family environment and family circle is investigated. In addition, their fathers' and mothers' sporting backgrounds as well as the sports habits of their possible siblings. The category also investigated the parents' attitude towards the hockey hobby of the respondents'. The respondents were also inquired about their feelings towards their parents' activity in their hobby. Another vast whole in this category was the friends' hobbies, their age and their attitude towards the respondents' hockey hobby.

Table 6. The number of children under 18 in the family

	PICKED		OTHERS		TOTAL
1	17	39 %	21	34 %	38
2	16	36 %	29	47 %	45
3	10	23 %	7	11 %	17
4	1	2 %	5	8 %	6
TOTAL	44	100 %	62	100 %	106

59 percent (26) of the players picked reported that two to three children under 18 live in their home. Among the other the number was 58 percent (36). 25 percent (11) of the players picked reported that their home had three to four children under 18. Among the others the number was 19 percent (12). The survey also investigated the number of children under 15 during the past 10, 15 and 5 years. According to the results, the number on children in the families of the players picked and the other had not substantially changed during the last 5 to 15 years.

Table 7. Mother's sporting background

	PICKED	OTHER			TOTAL
Yes	9	21 %	8	13 %	17
No	34	79 %	53	85 %	87
TOTAL	43	100 %	62	100 %	105

21 percent (9) of the players picked reported that their mother have had national level sporting background in she's youth. Among the other the number was 13 percent (8).

Table 8. Father's sporting background

	PICKED (		OTHERS		TOTAL
Yes	21	*48 %	14	23 %	35
No	23	52 %	48	77 %	71
TOTAL	44	100 %	62	100 %	106

<sup>\*\*\*</sup> P<0,001 \*\* P<0,01 \* P<0,05

48 percent (21) of the players picked responded that their father has sporting background in top level, among the others the percentage was 23 (14). The result between the two is significant, when the p-value for the result is 0, 006

Table 9. Siblings' sports hobbies

	PICKED		OTHERS		TOTAL
Yes	32	73 %	38	63 %	70
No	12	27 %	22	37 %	34
TOTAL	44	100 %	60	100 %	104

73 percent (32) of the players picked responded that their siblings have sports hobbies. Among the others the number was 68 percent (38).

Table 10. Parents' activity in hockey hobby

	PICKED		OTHERS		TOTAL
Very active	31	70 %	34	55 %	65
Pretty active	13	30 %	25	40 %	38
Pretty low	0	0 %	3	5 %	3
TOTAL	44	100 %	62	100 %	106

All the players picked felt their parent's activity in hockey hobby very active or pretty active. Comparing the answers of the players picked and the others, no significant difference was found.

Table 11. Father or mother watching games

	PICKED		OTHERS		TOTAL
Every game	24	55 %	21	34 %	45
Only home games	18	41 %	36	58 %	54
Couple time per month	2	5 %	4	6 %	6
Rare	0	0	1	2 %	1
TOTAL	44	100 %	62	100 %	106

96 percent (42) of the players picked responded that their father or mother is watching every game and home games. The corresponding amount of the others was 92 percent (57).

Table 12. Coach parent relationship

	PICKED		OTHERS		TOTAL
Very often (once a week)	17	39 %	26	42 %	43
Pretty often (once a month)	12	27 %	16	26 %	28
Sometimes (once every six months)	12	27 %	19	31 %	31
Never	3	7 %	1	2 %	4
TOTAL	44	100 %	62	100 %	106

39 (17) of the players picked estimated that their parent are contacted with the coach very often (once a week). The corresponding amount of the others was 42 percent (26).

# How do you see your parents' attitude towards your hockey hobby (playing/training)

The respondents estimated their parents' attitude towards their hockey hobby in four different categories (encouraging, supportive, passive and pressuring), charts 12 to 15. In each category the options were: very, fairly, somewhat, not so much and not at all. 99 percent (105) saw their parents' attitude as very or fairly encouraging, 98 (43) percent of the player picked and 100 percent (43) of the others (chart 12). 99 percent (105) of all respondents felt that their parents were very or fairly supportive, all of the players picked and 98 percent (61) of the others (chart 13). 36 percent (16) of the players picked and 23 percent (14) of the others felt their parents were not at all passive (chart 14)

The alternatives very, fairly, somewhat, not so much and not at all were evenly distributed among the respondents. Not so much or not at all pressuring towards the hobby was felt by 68 percent of all respondents (72). From the players picked 72 percent (32), 71 percent (44) of the others (chart 15) A fairly or somewhat oppressive attitude was felt by 36 percent (16) of the players picked and 24 percent (15) of the others (chart 15). Three respondents (5 percent) saw their parents' attitude as oppressive.

Table 13. Encouraging

	PICKED (		OTHERS		TOTAL
Very	24	55 %	37	60 %	61
Fairly	19	43 %	25	40 %	44
Somewhat	1	2 %	0	0 %	1
TOTAL	44	100 %	62	100 %	106

Table 14. Supportive

	PICKED O		OTHERS		TOTAL
Very	32	73 %	48	77 %	80
Fairly	12	27 %	13	21 %	25
Somewhat	0	0 %	1	2 %	1
TOTAL	44	100 %	62	100 %	106

Table 15. Passive

			PICKED			TOTAL
				2	3 %	2
Very		3	7 %	8	13 %	11
Fairly		6	14 %	8	13 %	14
Somewhat		3	7 %	6	10 %	9
Rather		16	36 %	24	39 %	40
Not at all		16	36 %	14	23 %	30
TOTAL		44	100 %	62	100 %	106

Table 16. Oppressive

	PICKED	PICKED OTHERS		RS	TOTAL
Very	0	0 %	2	3 %	2
Fairly	7	16 %	5	8 %	12
Somewhat	9	20 %	10	16 %	19
Not much	14	32 %	20	32 %	34
Not at all	14	32 %	24	39 %	38
TOTAL	44	100 %	62	100 %	106

Table 17. Father as a coach

	PICKED	PICKED C		OTHERS	
Yes	15	35 %	25	40 %	40
No	28	65 %	<b>3</b> 7	60 %	65
TOTAL	43	100 %	62	100 %	105

35 percent (15) of the players picked responded their father has been a coach for them. Among the others the number was 40 percent (25)

Table 18. How many years has your father coached you

	PICKEI	)	OTHERS		TOTAL	
No	32	73 %	40	65 %	72	
1	1	2 %	6	10 %	7	
2	3	7 %	5	8 %	8	
3	0	0 %	4	6 %	4	
4	1	2 %	3	5 %	4	
5	3	7 %	0	0 %	3	
7	2	5 %	1	2 %	3	
8	1	2 %	1	2 %	2	
9	0	0 %	1	2 %	1	
10	1	2 %	1	2 %	2	
TOTAL	44	100 %	62	100 %	106	

72 percent (32) of the players picked responded that their father has not coached them. Among the others the number was 65 percent (40). Comparing the answers how many years their father has coached them of the players picked and the others, no significant difference was found.

Table 19. During what age has he coached you

	PICKE	D	MUUT	1	TOTAL
No	32	73 %	42	68 %	74
1	0	0 %	1	2 %	1
6	0	0 %	1	2 %	1
C1	2	5 %	0	0 %	2
C2	8	18 %	3	5 %	11
D1	0	0 %	2	3 %	2
E1	1	2 %	6	10 %	7
F1	0	0 %	3	5 %	3
F2	0	0 %	2	3 %	2
G	1	2 %	1	2 %	2
TOTAL	44	100 %	62	100 %	106

23 percent (10) of the players picked responded that their father has coached them during age 14 (C2) and age 15 (C1). Among the others the number was five percent (3).

Table 20. The most significant person affected to ice hockey hobby

	PICKED		OTHERS		TOTAL
	4	9 %	1	2 %	5
Myself	2	5 %	4	6 %	6
Somebody else	5	11 %	2	3 %	7
Family member	30	68 %	43	69 %	73
Coach	2	5 %	10	16 %	12
Friends	1	2 %	2	3 %	3
TOTAL	44	100 %	62	99 %	106

66 percent (29) of the picked players reported that the most significant person for ice hockey hobby is family member. Among the others the numbers were 69 percent (43).

# 7.3 Training

The third category investigated the players' training. The category included questions about the significance of training, attitude towards training, amount of training ja the versatility of training. The players were also asked about the distance to the nearest outdoor hockey rink, and their attitude towards their own skills.

Table 21. Estimation on training hours during one week

	PICKED		MUUT		TOTAL
Less than 8h	0	0 %	1	2 %	1
8-10h	9	20 %	10	16 %	19
10-12h	15	34 %	31	50 %	46
12-15h	20	45 %	20	32 %	40
TOTAL	44	100 %	62	100 %	106

79 percent (35) of the players picked estimated that they train from 10 to 15 hours during one week. Among the others the estimated amounts were 82 percent (51).

Table 22. Estimation of training in addition to team training

	PICKI	PICKED		OTHERS	
10h or more	5	11 %	11	18 %	16
10-6h	21	48 %	30	48 %	51
6-3h	12	27 %	20	32 %	32
3h or less	6	14 %	1	2 %	7
TOTAL	44	100 %	62	100 %	106

75 percent (33) of the players picked estimated that they train from three to 10 hours in addition to team training. Among the others the estimated amounts were 80 percent (50).

Table 23. Training by yourself in addition to team training

	PICKED		ОТН	OTHERS	
Very much	4	9 %	7	11 %	11
Pretty much	29	66 %	40	65 %	69
Arbitrary	10	23 %	14	23 %	24
Not at all	1	2 %	1	2 %	2
TOTAL	44	100 %	62	100 %	106

89 percent (39) of the players picked estimated that they training pretty much or arbitrary by themselves in addition to team training. Among the others the numbers were 89 percent (54).

Table 24. Enjoying training

	PICKED		OTHERS		TOTAL
Very much	19	43 %	32	52 %	51
Pretty much	22	50 %	26	42 %	48
Kind of	3	7 %	4	6 %	7
TOTAL	44	100 %	62	100 %	106

The respondent players estimated the enjoyment of training. 93 percent of the players picked reported enjoying training very or pretty much. Among the others the number was 94 percent (58).

Table 25. How well do you train

	PICKED (		OTHERS		TOTAL
Clearly above average	20	45 %	10	16 %	30
Slightly above average	17	39 %	38	61 %	55
Average	5	11 %	14	23 %	19
TOTAL	44	100 %	62	100 %	106

89 percent (37) of the players picked felt that they train clearly or slightly above average. Among the others the number was 77 percent (48).

Table 26. Can you learn anything by working hard (significance of training)

	PICKED O		OTHERS	TOTAL	
Yes	36	84 %	53	85 %	89
No	7	16 %	9	15 %	16
TOTAL	43	100 %	62	100 %	105

The responded players reported that by working hard can learn anything. 84 percent (36) of the players picked believed so. Among the others the number was 85 percent (53).

Table 27. The significance of training when developing attributes

	PICKED		OTHERS		TOTAL
I will get to the top level	34	77 %	43	69 %	77
I improve, but I will not get to the top level	9	20 %	19	31 %	28
I improve to the certain point	1	2 %	0	0 %	1
TOTAL	44	100 %	62	100 %	106

77 percent (34) of the players picked felt that they will get to the top level while developing the weakest attributes. Among the others the number was 69 percent (43).

Table 28. Distance to the nearest outdoor rink.

	PICKED C		OTHERS	TOTAL	
0-1 km	20	45 %	23	37 %	43
1-3 km	12	27 %	25	40 %	37
3-5 km	6	14 %	4	6 %	10
5-10 km	6	14 %	10	16 %	16
TOTAL	44	100 %	62	100 %	106

The respondents estimated a distance to the nearest outdoor rink. 45 percent (20) of the picked players live less than one kilometers away from the nearest outdoor rink. Among the others the numbers were 37 percent (23).

Table 29. Versatility in sports as a child.

	PICKED		OTHERS	TOTAL	
Very diverse range of activities	16	36 %	17	27 %	33
Pretty diverse range of activities	22	50 %	36	58 %	58
Rarely tested other activities	6	14 %	6	10 %	12
Only ice-hockey	0	0 %	2	3 %	2
TOTAL	44	100 %	62	100 %	106

None of the players picked played only ice hockey in their youth. Among the others the percentage was 3 (2).

#### In which age group has the player played the past season?

The players were asked in which age group they had played during the past season. The options were: same age, a year older and two years older. They could answer multiple options depending on what age groups they had played in during the past season.

88 percent (93) of all respondents has played in their own age group teams. 91 percent (40) of the player picked had played with players one year older, when the corresponding number among the others was 58 percent (36). Statistically the difference was significant between the groups with p-value being > 0,005. 30 percent (13) of the players picked had played with players two years older, the corresponding number among the other was 6 (4). The statistical significance between the groups was very significant, p-value being > 0,001.

Chart 30. Same age

	PICKED		OTHERS		TOTAL
YES	35	80 %	58	94 %	93
NO	9	20 %	4	6 %	13
TOTAL	44	100 %	62	100 %	106

Chart 31. One year older

	PICKED	OTHE		PICKED OTHERS		S	TOTAL
YES	40	91 % **	36	58 %	76		
NO	4	9 %	26	42 %	30		
TOTAL	44	100 %	62	100 %	106		

Chart 32. Two years older

	PICKED		OTHERS		TOTAL
YES	13	30 % ***	4	6 %	17
NO	31	70 %	58	94 %	89
TOTAL	44	100 %	62	100 %	106

# 7.4 Personal traits/ Self-knowledge

In this category the players had to evaluate their own identity as an athlete and as a hockey player, as well as evaluate their physical and mental attributes compared to the top players of their age group. The category also investigated the players' view on being picked for the under 16 national team, and also how they would react if they are not picked. The players were also asked to explain why they play hockey, and where they see themselves in five years' time.

Table 33. Reason for playing ice hockey

	PICKI	ED	OTHI	ERS	TOTAL
Passion	8	18 %	11	18 %	19
Character	1	2 %	4	7 %	5
Other	3	7 %	3	5 %	6
Love	27	61 %	30	50 %	57
Social factors	5	11 %	12	20 %	17
TOTAL	44	100 %	60	100 %	106

61 percent (27) of the players picked reported that the reason for playing hockey is love towards the sport. Among the others the percentage was 50 (30).

Table 34. Appreciating your own attributes

	PICKED		OTHERS		TOTAL
Physical attributes	6	14 %	12	19 %	18
Technical skills	9	20 %	13	21 %	22
Playing skills	24	55 %	30	48 %	54
Mental attributes	4	9 %	5	8 %	9
TOTAL	44	100 %	62	100 %	106

55 percent (24) of the players picked reported that they appreciating playing skills. Among the others the number was 48 percent (30).

Table 35. Realism to get in to the national team

	PICKED		OTHERS		TOTAL
Even if I successful during the camp, I cannot get to the team	2	5 %	9	15 %	11
If I successful, I maybe get to the team	33	75 %	48	77 %	81
I believe, I get to the team	9	20 %	5	8 %	14
TOTAL	44	100 %	62	100 %	106

5 percent (2) of the players picked responded that they cannot get to the team, among the others the percentage was 15 (9). 20 percent (9) of the players picked believed that they will get to the team, among the others the percentage was 8 (5).

Table 36. Reacting to being left out of the team

	PICKED		OTHERS		TOTAL
Not important	1	2 %	5	8 %	6
I maybe get there in the future	3	7 %	7	11 %	10
I continue training and I will get there in the future	40	91 %	49	79 %	89
I will be dissapointet and I will not get to the team never	0	0 %	1	2 %	1
TOTAL	44	100 %	62	100 %	106

2 percent (1) of the players picked felt that it's not important to be in the National team, among the others the percentage was 8 (5). 10 percent of all responded that they may get into the team in future. 91 percent (40) of the players picked responded that they will continue training and will get to the team in future. 79 percent (49) of the others responded that they get to the team by continuing training.

Table 37. Better ice hockey skills than other in same age.

	PICKED		OTHERS		TOTAL
Yes	30	70 %	37	60 %	67
No	13	30 %	25	40 %	38
TOTAL	43	100 %	62	100 %	105

70 percent (30) of the playerd picked evaluated that they has better hockey skills than other in same age. Among the others the percentage was 60 (37).

Table 38. The reason for superior skills

	PICKED		OTHERS		TOTAL	
Gifts	6	21 %	10	27 %	16	
Training	6	21 %	4	11 %	10	
Both	17	59 %	23	62 %	40	
TOTAL	29	100 %	37	100 %	66	

21 percent (6) of the players picked felt that reason for superior skills is cause of training, among the others the percentage was 11 (4).

Table 39. How talented your friends see you

	PICKED		OTHERS		TOTAL
Yes	39	89 %	54	87 %	93
No	5	11 %	8	13 %	13
TOTAL	44	100 %	62	100 %	106

When comparing the answers of the players picked and the others in the question of how talented their friends see themselves, no significant difference was found.

Table 40. The reasons for being talented according to friends.

	PICKED C		OTHERS		TOTAL
Training	8	22 %	24	48 %	32
Gifts	10	28 %	13	26 %	23
Both	18	50 %	13	26 %	31
TOTAL	36	100 %	50	100 %	86

22 percent (8) of the players picked felt that the reason for being talented is because of training, among the others the percentage was 48 (24).

Table 41. A more talented athlete than others the same age

	PICKED		OTHERS		TOTAL
Clearly above average	20	45 %	19	31 %	39
Slightly above average	23	52 %	34	55 %	57
Average	1	2 %	9	15 %	10
TOTAL	44	100 %	62	100 %	106

45 percent (20) of the players picked evaluated to be clearly above the average in talent comparing tot the same age. Among the others the percentage was 31 (19). 2 percent (1) of the players picked evaluated to be in average level of talent comparing to the same age. Among the others the percentage was 15 (9).

Table 42. Better in other sports than friends

	PICKED		OTHERS		TOTAL
Yes	37	84 %	42	68 %	79
No	7	16 %	20	32 %	27
TOTAL	44	100 %	62	100 %	106

84 percent (37) of the players picked evaluated that they are better in other sports than their friends. Among the others the percentage was 68 (42).

# When do feel you are successful in hockey?

Of all the respondents 83 percent (88) answered that felt successful when performing better than others. 13 percent (18) of the respondents felt that they are not successful when performing better than others.

When scoring more points than others 50 percent (22) of the players picked felt they were successful in hockey, when percentage among the others was 26 (16). The result between the two is significant, when the p-value for the result is 0, 01.

Then again 50 percent (22) of the players picked did not feel successful when scoring more points than others. Of the others 74 percent did not feel successful when scoring more points than others. Of all the respondents 97 percent (103) felt they were successful on hockey when their team won and they play well themselves. 98 percent (104) felt they were successful when trying their best and working hard for the team.

Table 43. The feeling of success; I've performed better than rest

	PICKED	KED		OTHERS	
Yes	37	84 %	51	82 %	88
No	7	16 %	11	18 %	18
TOTAL	44	100 %	62	100 %	106

Table 44. The feeling of success; Made more points than others

	PICKED (		OTHERS		TOTAL
Yes	22	**50 %	16	26 %	38
No	22	50 %	46	74 %	68
TOTAL	44	100 %	62	100 %	106

<sup>\*\*\*</sup> P<0,001 \*\* P<0,01 \* P<0,05

Table 45. The feeling of success; Team wins and I've performed well

	PICKED C		OTHERS		TOTAL
Yes	43	98 %	60	97 %	103
No	1	2 %	2	3 %	3
TOTAL	44	100 %	62	100 %	106

Table 46. The feeling of success; I try my best

	PICKED C		OTHERS		TOTAL
Yes	43	98 %	61	98 %	104
No	1	2 %	1	2 %	2
TOTAL	44	100 %	62	100 %	106

#### How do you react to expectations toward you?

96 percent (102) of all the respondents said they do as they are told and adapt to new things quickly. Of the players picked 32 percent (14), 43 percent (26) of the others felt they do not get the best out of themselves because of the expectations towards them.

68 percent (30) of the players picked and 57 (35) percent of the others felt their level of performance does not drop even though there are expectations towards them.

16 percent of the players picked said they may abandon or maybe rebel against expectations towards them. 83 percent (88) said that they will not abandon or rebel against expectations towards them.

Table 47. Reacting to expectations: Adapting

	PICKED O		OTHERS		TOTAL
Yes	41	93 %	61	98 %	102
No	3	7 %	1	2 %	4
TOTAL	44	10 %	62	100 %	106

Table 48. Reacting to expectations: Getting the most out of yourself

	PICKED C		OTHERS		TOTAL
Yes	14	32 %	26	43 %	40
No	30	68 %	35	57 %	65
TOTAL	44	100 %	61	100 %	105

Table 49. Reacting to expectations: Denial

	PICKED C		OTHERS		TOTAL
Yes	7	16 %	10	16 %	17
No	36	84 %	52	84 %	88
TOTAL	43	100 %	62	100 %	105

Table 50. Reacting to expectations: Handling pressure

	PICKED O		OTHERS		TOTAL
Yes	42	95 %	58	94 %	100
No	2	5 %	4	6 %	6
TOTAL	44	100 %	62	100 %	106

#### Where you see yourself in five years?

6 percent (6) of all the respondents answered that they have retired in five years. 2 percent (1) of the players picked said that they will retire in five years, when the percentage among others was 8 (5). 94 percent (100) of all the respondents said that see themselves playing in a recreational league in five years, the percentage among the players picked being 0. None of the players picked saw themselves playing in a recreational league when 92 percent (57) of the other saw themselves playing in a recreational league.

18 percent (8) of the players picked saw themselves playing in Mestis in five years, when the percentage among the others was 32 (20). Of all the respondents 74 percent did not see themselves playing Mestis in five years. Among the others the percentage was 68 (42), and among the players picked 82 (36).

41 percent (18) of the players picked, and 65 percent (40) saw themselves playing in the A-juniors in five years. 59 percent (26) of the players picked and 35 percent (22) of the others did not see themselves playing in the A-juniors in five years. 75 percent (33) of the players picked saw themselves in the SM-liiga in five years, when the percentage among the others was 50 (31). 25 percent (11) of the players picked and 50 percent (31) of the others did not see themselves in the SM-liiga in five years.

11 percent (5) of the players picked and 8 percent (5) of the others saw themselves in the NHL in five years. 91 percent (96) of all the respondents did not see themselves playing in the NHL in five years.

Table 51. In five years; Quit

	PICKED		OTHERS		TOTAL
Yes	1	2 %	5	8 %	6
No	43	98 %	57	92 %	100
TOTAL	44	100 %	62	100 %	106

Table 52. In five years; Amateur/hobby league

	PICKED C		OTHERS		TOTAL
Yes	0	0 %	5	8 %	5
No	44	100 %	57	92 %	101
TOTAL	44	100 %	62	100 %	106

Table 53. In five years; Mestis

	PICKED		OTHERS		TOTAL
Yes	8	18 %	20	32 %	28
No	36	82 %	42	68 %	78
TOTAL	44	100 %	62	100 %	106

Table 54. In five years; A-juniors

	PICKED (		OTHERS		TOTAL
Yes	18	41 %	40	65 %	58
No	26	59 %	22	35 %	48
TOTAL	44	100 %	62	100 %	106

Table 55. In five years; SM-league

	PICKED		OTHERS	TOTAL	
Yes	33	75 %	31	50 %	64
No	11	25 %	31	50 %	42
TOTAL	44	100 %	62	100 %	106

Table 56. In five years; NHL

	PICKED		OTHERS	TOTAL	
Yes	5	11 %	5	8 %	10
No	39	89 %	57	92 %	96
TOTAL	44	100 %	62	100 %	106

Table 57. Dream as a hockey player

	PICKED		OTHERS		TOTAL
Professional	12	29 %	24	41 %	36
Personal achievement	5	12 %	5	8 %	10
National team	7	17 %	11	19 %	18
Other	2	5 %	9	15 %	11
NHL	16	38 %	10	17 %	26
TOTAL	42	100 %	59	100 %	103

29 percent (12) of the players picked dreamed to be professional hockey players, among the others the percentage was 41 (24). 38 percent (16) of the players picked dreamed to play in the NHL, among the others the percentage was 17 (10).

Table 58. What kinds of goals you are set

	PICKED		OTHERS		TOTAL
	1		2		3
I have specific goals in my mind and I work towards the goals every day	23	52 %	23	37 %	46
Goals are just directional	18	41 %	31	50 %	49
I haven't set any goals	2	5 %	6	10 %	8
TOTAL	44	98 %	62	97 %	106

52 percent (23) of the players picked reported that they were set specific goal. Among the others the numbers were 37 percent (23).

# 7.5 The Atmosphere of the Team/ Player Coach Relationship

In this category the players evaluated their own team and coach. The players had to evaluate their current team, and its atmosphere, and choose the alternative that best describes the environmental identity of the team. In this category the players evaluated their coaches by picking the alternative that best describes them. In addition to this the players were also asked to evaluate how much they like their current coach.

Table 59. Encouraging environment

	PICKED		OTHERS		TOTAL
Yes	38	86 %	51	82 %	89
No	6	14 %	11	18 %	17
TOTAL	44	100 %	62	100 %	106

When comparing the answers of the players picked and the others in the question of encouraging environment of the team, no significant difference was found.

Table 60. Strict limits of actions

	PICKED		OTHERS		TOTAL
Yes	28	64 %	37	60 %	65
No	16	36 %	25	40 %	41
TOTAL	44	100 %	62	100 %	106

When comparing the answers of the players picked and the others in the question of strict limits and actions, no significant difference was found.

Table 61. Emphasizing winning and rewarding the best

	PICKED		OTHERS		TOTAL
Yes	28	64 %	29	48 %	57
No	16	36 %	32	52 %	48
TOTAL	44	100 %	61	100 %	105

64 percent (28) of the players picked responded that in the team winning is emphasized and the best are rewarded. 48 percent (29) of the others picked responded that in the team winning is emphasized and the best are rewarded.

Table 62. Intimidation with tests and evaluations

	PICKED C		OTHERS		TOTAL
Yes	3	7 %	3	5 %	6
No	40	91 %	59	95 %	99
TOTAL	44	100 %	62	100 %	106

When comparing the answers of the players picked and the others in intimidation question, no significant difference was found.

Table 63. Atmosphere of the team

	PICKI	ED	OTHERS		TOTAL	
Tense	1	2 %	1	2 %	2	
Wary	0	0 %	2	3 %	2	
Indifferent	3	7 %	1	2 %	4	
Rewarding	7	17 %	7	12 %	14	
Depressurized	13	31 %	18	31 %	31	
Exact	6	14 %	0	0 %	6	
Demanding	5	12 %	8	14 %	13	
Encouraging	3	7 %	13	22 %	16	
Caring	0	0 %	1	2 %	1	
Positive	4	10 %	5	8 %	9	
Disciplined	0	0 %	1	2 %	1	
Constructive	0	0 %	1	2 %	1	
Relaxed	0	0 %	1	2 %	1	

17 percent (7) of the players picked responded that the atmosphere in the team is rewarding, and 12 percent (7) of the others responded that the team atmosphere is rewarding. 22 percent (13) of the other players responded that the atmosphere is encouraging, and 7 percent (3) of the players picked responded that the atmosphere in the current team is encouraging. 14 percent (6) of the players picked responded that the atmosphere is exact, and 0 percent of the others responded that there is exact atmosphere in the team.

Table 64. Most descriptive of your coach

	PICKED		OTHE	RS	TOTAL	
Strict	4	10 %	8	13 %	12	
Unbiased	6	15 %	16	27 %	22	
Tender	0	0 %	1	2 %	1	
Unknowing	0	0 %	3	5 %	3	
Demanding	18	44 %	24	40 %	42	
Preferential	2	5 %	1	2 %	3	
Rewarding	4	10 %	0	0 %	4	
Supportive	7	17 %	7	12 %	14	
TOTAL	41	100 %	60	100 %	101	

17 percent (7) of the players picked responded that the coach is supportive, and 12 percent (7) of the others responded the same. 27 percent (16) of the others and 15 percent (6) of the picked players responded that the current coach is unbiased.

Table 65. Do you like your current coach?

	PICKED		OTHERS		TOTAL
Very much	19	43 %	25	40 %	44
Pretty much	15	34 %	22	35 %	37
Okay	8	18 %	14	23 %	22
I do not like my coach	2	5 %	1	2 %	3
TOTAL	44	100 %	62	100 %	106

18 percent (8) of the players picked responded that the current coach is ok, and 23 percent (14) of the others responded that the current coach is ok. 5 percent of the players picked didn't like their current coach, and 2 percent of the others responded they didn't like the current coach. When comparing the answers of the players picked and the others, no significant difference was found.

# 8 Conclusion

This thesis was conducted as a quantitative research, which investigated the backgrounds of the players attending the 2011 Huippu Pohjola camp. The aim of the background research was to compare the answers of the players picked for the age group national team to answers of the others players attending the camp. The aim of survey was to consider through the answers if the Finnish Ice Hockey Association should use background surveys like this when scouting players, and can the scouting systems reliability be evaluated, and what factors define success at the Huippu Pohjola camp. In the results, information supporting the theory about what factors affect the above mentioned was found.

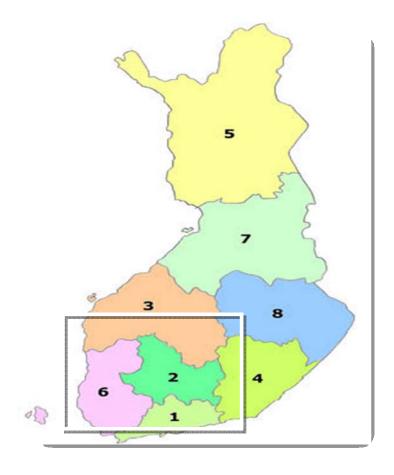
In reality, there are a lot of things that needs to be investigated. What makes a player at a given moment better is easy to define. Our viewpoint from the start supported the fact that sport specific skills, playing skills or physical attributes were not the only things that define the top player of the future. Deviations between the players are easy to discover through these things, and there is a fair amount of excellent tools to do this. Mental, social, motivational, attitude, and personality related factors require deeper examination, and in sports they are the factors that define future success. Training habits, attitude towards training, genetic heritage and a favorable growth environment are important factors when looking for and finding the talents of this moment. The factors mentioned last were the focal points of this study.

Physical attributes investigated included height and weight. In pure combat sports physical strength is important in order to succeed. Especially at the brink puberty during the beginning of the growth spurt one can gain an edge with it. Players that are chronologically the same age can be biologically 2-4 years apart (Hakkarainen, 2009). The average height of the picked players was 176,5 cm, and the average height of the others was 174,4 cm. The standard deviation of the group of the players picked was  $\pm 6$  cm, and with the others it was  $\pm 5$  cm. The difference between the averages of the groups was 2.1 cm. The statistical significance between the groups was almost significant (p<0,044). The average weight of the players picked was 69,7 kg, and with the

others it was 66,4. The Standard deviation was in both groups was  $\pm$  7 kg. The statistical significance between the groups was al almost significant (p<0,020). The players picked to the national team were physically larger than the others.

The 106 players at the camp came from eight different regions. The highest amount players came from the Häme region (23), and lowest amount from the Lappi region (2). An interesting fact was that 75 percent (33) of the players that were picked came from the South, Häme region or West Coast (Figure 4).

Figure 4.Regions



The image shows the eight regions of the country where the players came from.

Through birth, genetic heritage and growth environment we inherit a certain birth talent that is affected by the socialization with exercise and sports. 48 percent of the players that were picked had a father that had played some sport a national level, which is a statistically significant result (p < 0, 01) compared to the others (23 %). With the mothers the corresponding figure was 21 percent. In the open questions 68 percent of the players picked answered that a family member was the biggest factor when starting to play hockey and 73 percent responded that their siblings also played sports. 59 percent of the players picked responded that two to three children live in their family (others 58). It is probable that stimulus towards exercise and hockey has been considerable, and that one's own father has possibly been the role model or active encourager for starting to play hockey. 70 percent of the players picked considered their parents' attitude towards their hobby very active (others 55%), and 55 percent said that their parents come to watch every game (other 34%). The players also estimated how often their parents were in contact with their coaches. 39 percent of the players picked estimated that their parents were in contact with their coach once a week (others 42%). The players were also asked what their parents' attitude towards their hobby was. The answers were particularly interesting as about one third (36%) of the players picked felt their parents' attitude towards their hobby was somewhat or fairly pressuring (others 24%). From the questions that covered family background the conclusion that hockey is hobby for the whole family, and that parents are actively involved in it. Leaning on Gagne's theory and catalysts it can be said that role of external influencers has been significant when the development process of this moment and the present sport specific potential has been reached. In the category that investigated family background, it became evident that of the players picked 23 percent had had their father as a coach in the C2 and C1 stages (others 8%).

79 percent of the players picked responded that their weekly training amount was 12-15 hours (others 82%). When asked how much they train in addition to team training sessions 11 percent of the players picked responded that over ten hours a week (others 18%). In practice this means that 15 percent of all the players train over 25 hours a week. 48 percent of the players picked and others estimated that they trained six to ten hours in addition to team training. According to Ericcson's theory there should be two

to three hours of sport specific stimulus a day during a 10 year period in order to have a chance to make it to the top. Based on the answers, this amount is reached by half of the players attending the camp, including both groups. 66 percent of the players thought that they trained a lot in addition to team training (others 66%), and 43 percent of the players picked enjoyed training a lot (others 52%). The study also investigated what kind of an attitude towards training the players thought they had. The options were: *Clearly above average, slightly above average and average*. A statistically significant difference was found between the groups (p<0,001).

The functionality of the scouting system can be evaluated with different kinds of monitoring methods. If players are monitored in the long term, it can be detected if the player has achieved their target of becoming a professional. A player monitoring study conducted in 2010 states that only a fraction of the players selected to the Huippu Pohola camp become professionals. The study included all the players born in 1985-1991 that were selected to the Huippu Pohjola camp of their age group. Of the players picked (742), only 15 percent currently plays or has played hockey as a professional (Hyttinen & Ohtonen, 2010).

In the personal traits and self knowledge category the players were asked how talented in hockey skills they considered themselves compared to others. 63 percent of all the players saw themselves as better hockey players than others their age. 50 percent responded that the reason for this is talent and training (others 26%), 48 percent of the others responded that the reason was training (picked 22%). When the players evaluated their talent compared to their friends, 45 percent felt that they were considerably more talented than average. In the study we also asked how talented do the players see themselves in other sports compared to their friends. 68 percent of the others considered themselves more talented. The answers of picked players reflect their awareness of their own strengths and weaknesses compared to others. In Gagne's model the significance of frame factors has been seen important when growing into a special talent.

In sports psychology athletes have been described as outcome oriented or task oriented. Task oriented athletes often are ready to put in more effort to develop, handle dis-

appointment better, gain confidence when they learn new things and are not afraid of failure. In other words they are interested in their own development and are ready to persistently to help themselves achieve a task. Outcome oriented athletes measure their own success by comparing themselves to others and gain confidence in that way. Persona types like this put in less effort when performing tasks, avoid challenges and possibly quit the sport at some point (Roberts, 2011). In the study, players were asked tell when they feel they are successful. 50 percent of the players picked responded that they felt successful when they scored more points than others. Among the other players, the corresponding number was 26 percent. The difference between the answers of the groups can be seen statistically significant (p<0, 01). 64 percent of the players picked responded that winning is emphasized and that the best players are rewarded in their club teams (others 48%).

Setting goals is important in sports. Goals give the activity a reason and aim to train hour after hour. In addition to long term goals, it is good to set goals by oneself or with a coach. Reaching short term goals gives confidence and motivation to set more demanding goals. 60 percent of the players attending the camp saw themselves playing in the SM- liiga in five years (picked 75%, and others 31 %). 25 percent of all the players said that their dream would be to play in the NHL. 38 percent of the players picked and 17 percent of the others. Only 8 percent of all players had not set any goals for themselves for the current season.

Based on the findings it can be stated that a tool like this should be used for scouting talents because statistically significant facts were discovered. When starting to work on the survey we did not have a concrete model ready. Most of the questions were made after getting familiar with theories. The results prove that the material has traces that internal and external influences should be investigated during the scouting age as differences between the groups were found. The questions of the survey certainly need development but the tool should absolutely be developed to ensure data is gathered. The top players of the future cannot be scouted for certain with a survey, but by gathering follow up data it can maybe be predicted who has a chance to make it.

What is it that defines success at the Huippu Pohjola camp? Based on the results of the study it can be stated that physical development has an effect on being picked for the national team. Players that made their way to the national team came from families with significant sporting backgrounds. In our opinion it can be stated based on the answers that external influences like parents, friends and physical environment are significant. With the parents it can be seen as an active and sometimes pressuring involvement in the hobby. The current talent level of the players did not come unconsciously, it was supported externally. The players picked for the first age group national team had without exception also played games with players one or two years older than them, which also supports the possibility to be successful at the camp. The most worrying finding was that most of the players at the camp train less than enough but they still feel they training a lot compared to others.

It is obvious that the priority of the national teams is to succeed on an international level. The national teams are under constant pressure to succeed against other top hockey nations. If the teams do not succeed at an international level, people start to talk about weak player development and current level of Finnish hockey. Because of this the best players at a given time are picked for the team, and the aim is to achieve success with the best possible players. As the players get older and the biologically later developing players are picked for the team when they achieve the same physical level. As the national teams pick the best players for each event, variability in the players occurs naturally. It can be stated that that players are picked on order for the national teams to succeed in the short term. Correspondingly, succeeding in the long term requires consistent long term monitoring of the development process and coaching at the national team level. If a player would be monitored in national team and club coaching from the Huippu Pohjola camp the under-20 national team, a higher quality of player development could be achieved. Making this possible would require that a larger amount of players would be monitored and that larger amount players would coached at the national team level, two national teams per age group for example. With this model the most talented players of each age group could be kept in the sport, and above all under top coaching throughout the player path. We believe that a larger number of players per age group in the national team throughout the player path

would guarantee higher quality and more successful players and national teams in the future.

# Bibliography:

Bloom, B. 1985. Developing talent in young people. New York: Ballantine Books.

Byoung-Goo, Ko. Hai-Mo, Gu. Dong- Ho, Park. Jin- Ho, Back. Seong- won, Yun. Myung-Chun, Lee. Jong-Gak, Lee. Duk-Sun, Chang. & Seung-Yun, Shin. 2003. The Construction of Sports Talent Identification Models. International Journal of Applied Sports Sciences, Vol 15, No. 2, 64–84. Korea Sport Science Institute, 2003.

Coyle, Daniel. 2010. What is talent. IIHF Youth coaching symposium. Seminar. 2010. Germany: Viewed:

http://www.iihce.fi/suomeksi/Seminaarit/IIHFYouthCoachingSymposiumHeidelberg 2010/tabid/715/Default.aspx

Darlene A. Kluka, Ph. D.1999. Long-term athlete development systematic talent identification.

Deci, E.L., & Ryan, R.M. (1985). Intrinsic motivation and self determination in human behavior. New York: Plenum Press

Ericsson, K.A. 1996. The road to excellence. The acquisition of expert performance in the arts and sciences, sports and games. Erlbaum. Mahwah.

Ericsson, K.A., Krampe, R.T. & Tesch-Römer, C. 1993. The role of deliberate practise in the acquisition of expert performance. Psychological review. pp. 363-406.

Farrow, D. Baker, J & MacMahon, C. 2008. Farrow, D, Baker, J. & MacMahon, C. Developing sport expertise. pp. 30,31,62-63. Routledge. NY.

Gagne, F. 2003. Transforming gifts into talents. The DMGT as a developmental theory. Colangelo, N., David G.A. Handbook of gifted education. Allyn and Bacon. pp.60-74. Boston.

Gagné, F. 2005. From gifts to talents. The DMGT as a developmental model. R. J. Sternberg & J. E. Davidson. Conception of giftedness. 2<sup>nd</sup> edition. New York: Cambridge University press.

Gladwell, M. 2008. Teoksessa Gladwell. M. Outliers: The story of succes. Little Brown. New York.

Hakkarainen, H. 2009. Talent forum "fysiologinen näkökulma". Powerpoint presentation. Viewed: 7.2.2014.

Holopainen, M., Pulkkinen, P. 1999. Tilastolliset menetelmät. pp.91. WSOY.

Hirsjärvi, S. Remes. P & Sajavaara. P. 2004. Teoksessa Hirjsjärvi. S. Tutki ja kirjoita. Kustannusosakeyhtiö Tammi. Helsinki.

Hyttinen & Ohtonen. 2010. Pohjolaleirin seurantatutkimus. IIHCE. Read: <a href="http://www.iihce.fi/DesktopModules/A Repository/Download.ashx?id=315">http://www.iihce.fi/DesktopModules/A Repository/Download.ashx?id=315</a> Read: 8.8.2013

Jaakkola, T. 2010. Teoksessa Jaakkola, T. Liikuntataitojen oppiminen ja taitoharjoittelu. PS-kustannus.

Kaski, S. 2006. Kaksi, S. Valmentautumisen psygologia kilpa- ja huippu-urheilussa. pp. 31–39, 64–73. Edita. Helsinki.

Kaskinen, K. 25.5.2013. U17 National team Head Coach. FIHA. E-mail.

Mero, A. Nummela, A. Keskinen, K & Häkkinen, K. 2004. Teoksessa Mero, A. Urheiluvalmennus. pp. 400-403. VK-Kustannus Oy. Jyväsylä.

Mäkelä, I. 27.10.2014a. Jr. National Team Coach. Palloliitto. E-mail.

Mäkelä, I. 27.10.2014b. Jr. National Team Coach. Palloliitto. E-mail.

Nicholls, J.G. (1989) The competitive ethos and democratic education. Cambridge, MA: Harward University Press

Nieminen, J. 8.2.2014. U16 National team Head Coach. FIHA. E-mail.

Nurmi, J.-E., Ahonen, T., Lyytinen, H., Lyytinen, P., Pulkkinen, L. & Ruoppila, I. 2006. Ihmisen psykologinen kehitys. 1.-2. Edition. WSOY. Helsinki.

Puhakainen & Suhonen, 1999. Puhakainen & Suhonen Valmentaja & Filosofi. pp.26–27, 68–71. WSOY. Juva.

Roberts, G.C. (2001) Understanding the dynamics of motivation in physical activity: The influence of achievements goals, personal agency beliefs, and the motivational climate. Teoksessa G.C. Roberts, advances in motivation in sport and exercise (1-50) Champaign, IL: Human Kinetics.

Tulevaisuuden tähdet 2014. National team event. Kuortane. FIHA. Read: <a href="http://www.finhockey.fi/alueet/keskimaa/tulevaisuuden-tahdet/tulevaisuuden-tahdet-2014/">http://www.finhockey.fi/alueet/keskimaa/tulevaisuuden-tahdet-2014/</a> Read: 25.2.2014

Uusikylä, K. 2009. Mikä ihmeen "lahjakkuus" mistä se syntyy, mikä sen tappaa. Luecture material. 17.11.2009.

Valsta, T. Oppimis- ja kehityspsykologia. Lecture. 25.10.2010. Vierumäki.

-00 Pikku-Pohjola 2013. Pikku-Pohjolaleiri 2013. FIHA. Read: <a href="http://www.finhockey.fi/alueet/etela/aluejoukkueet/00-pikku-pohjola-2013/">http://www.finhockey.fi/alueet/etela/aluejoukkueet/00-pikku-pohjola-2013/</a> Read: 10.2.2014

## Appendix

Attachment 1: Backround survey questionnaire



### Pohjolaleiri kysely 1996-ikäluokalle

Pitkäaikaisseuranta

Jukka Aho & Samuel Tilkanen

DP 9

2011

# Huippu Pohjola kysely 2011

Perustiedot
Etunimet:
1.1.2 Sukunimi:
Syntymäaika: Pv/Kk/Vvvv
Pituus:Cm /
Paino:Kg
1.2.4 Kotipaikka: 1. Etelä
2. Häme
3. Keskimaa
4. Kymi-Saimaa
5. Lappi
6. Länsirannikko
7. Pohjoinen
8. Savo-Karjala
Sähköposti:
Perhe / Ystävät
Kuinka monta alle 18-vuotiasta lasta kodissasi asuu tällä hetkellä?lasta
Kuinka monta alle 18-vuotiasta lasta kodissasi on asunut viimeisen:
15-vuoden aikana
10-vuoden aikana
5-vuoden aikana

1 2 3 4 5 6	Isän ja äidin kanssa Isän kanssa Äidin kanssa Isän ja äitipuolen kan Äidin ja isäpuolen ka Muu?	nssa		-	
	rro omin sanoin sisa			•	veljeni pelaa jä
äki	ekkoa B-junioreissa	•	·	ija)	
	1 = Kyllä				
Ha	rrastavatko vanhemj	pasi urheilua	a?		
3 4	Jääkiekkoa Jalkapalloa Salibandya Golfia Muuta urheilua			_}	
On	ko vanhemmistasi jo	ompikumpi	urheillut nu	oruudessaar	n SM-tasolla?
<ul><li>2.3.</li><li>2.3.</li></ul>	1 <b>Äiti</b> Kyllä 2 Laji? 3 <b>Isä</b> Kyllä / Ei 4 Laji?				
	ko isäsi koskaan toii inka monta vuotta			Kyllä	/ E
mis	sä ikävaiheessa				
Kui	inka aktiivisena pidä	it vanhempi	esi osallistui	mista omaar	n jääkiekkohar
rasi	tukseesi?	•			,
1 2 3 4	Erittäin aktiivisena Melko aktiivisena Melko vähäisenä Erittäin vähäisenä				
Kui	inka usein isäsi tai ä	itisi on kats	omassa ottel	luitasi?	

Kenen luona asut tällä hetkellä?

Jokaisessa pelissä Vain kotipeleissä

1

3	Pari kertaa kuukau	ıdessa				
4	Kerran kuukaudes	ssa				
5 6	Harvemmin Ei koskaan					
O	EI KOSKaaii					
Kui	nka usein isäsi ta	i äitisi on	katsomassa	joukkueesi	harjoituksia	?
1	Aina					
	Usein					
3	Joskus Ei koskaan					
•	II Kontani					
Koe	etko isäsi tai äitisi	tietävän p	oaljon jääkie	kosta?		
1	Erittäin paljon					
2	Melko paljon					
3	Jonkin verran					
4	Ei juuri mitään					
Arv	ioi kuinka usein v	anhempa	si ovat yhtey	dessä valm	entajaasi?	
2	Erittäin usein (ker	ran viikoss	a)			
3	Melko usein (kerra		,			
4 5	Jonkin verran (ker Ei koskaan	ran puoles	sa vuodessa)			
5	Li Koskaan					
Mil	laisena koet vanh	empiesi s	uhtautumise	n jääkiekko	harrastukse	esi
(pe	laamiseen, harjoit	telemisee	n) <i>A= Erittä</i>	in, B= Mell	ko, C= Jokso	eenkin, D= E
niii	nkään, E= Ei lain	kaan.				
Inn	ostavana	Α	В	С	D	E
Tuk	tevana	A	В	С	D	Е
Pas	siivisena	A	В	С	D	E
Pair	nostavana	Α	В	С	D	E

Koetko että vanhemmillasi on tarpeeksi aikaa harrastuksesi tukemiseen?

$$1 = \text{Kyll\ddot{a}}$$
 /  $2 = \text{Ei}$ 

Haluaisitko että vanhempasi käyttävät enemmän aikaa harrastuksesi tukemiseen?

$$1=Kyll\ddot{a}$$
 /  $2=Ei$ 

Millaisena koet vanher	npiesi läsnäolon	otteluissa tai	harjoituksissa?
------------------------	------------------	----------------	-----------------

- 1 Positiivisena
- 2 Ei vaikutusta
- 3 Negatiivisena, miksi?

Kuka on merkittävin jääkiekkoharrastukseesi vaikuttanut henkilö?

\_\_\_\_\_

Pelaavatko lähimmät ystäväsi jääkiekkoa

1= Kyllä / 2= Ei

Harrastavatko lähimmät ystäväsi urheilua (muu kuin jääkiekko)?

1= Kyllä / 2= Ei

Pidätkö itseäsi taidoiltasi parempana jääkiekkoilijana saman ikäisiin verrattna?

1= Kyllä / 2= En

Jos vastasit kyllä, luuletko sen johtuvan kovasta harjoittelustasi vai luuletko sen johtuvan lahjoistasi?

1= Lahjat 2= Harjoittelu 3= Kummatkin

Tunnetko olevasi ystäviäsi / koulukavereitasi parempi muissa urheilulajeissa?

1= Kyllä / 2= En

Koetko lähin	npien v	stäviesi <sup>.</sup>	pitävän	sinua la	ahjakkaana?
iiocuio imi	-p	00001	P100 0011	011144	wii jaiiiiaa aiia.

Jos vastasit kyllä, luuletko heidän ajattelevan sen johtuvan kovasta harjoittelustasi vai lahjoistasi?

Ovatko lähimmät ystäväsi sinua?

#### Käyvätkö lähimmät ystäväsi katsomassa otteluitasi?

- 1 Aina
- 2 Melko usein
- 3 Joskus
- 4 Ei koskaan

#### Jos käyvät, miten koet sen?

- 1 Positiivisena
- 2 Ei vaikutusta
- 3 Negatiivisena, miksi?

Harjoittelusta / jääkiekosta
Jääkiekkoseura, jota edustat
Onko jääkiekkoseurasi sama kuin se, jossa aloitit pelaamisen?
1= Kyllä
2= Ei
Syy miksi olet vaihtanut
seuraa?
scuraa:
Varra milai malaat iäälrialdaa
Kerro miksi pelaat jääkiekkoa?
Onko seurassasi mahdollisuus harrastaa muita lajeja jääkiekon lisäksi? (Onko
seuran nimen alla esimerkiksi jalkapallo jaos)?
$1=Kyll\ddot{a}$ / $2=Ei$
Ikäluokat, missä olet pelannut tämän kauden aikana
1= Saman ikäiset 2= Vuotta vanhemmat 3= 2 vuotta vanhemmat
Jos olet pelannut vanhemmissa, miten koet pärjääväsi siellä? kerro omin sanoin.

Oletko joskus har	rastan	ut muita u	rheilulajeja j	jääkiekon lis	äksi? (esim. Lu-
milautailu, judo, s	aliban	dy, muut l	lajit)		
Pallopelit		Kyllä	/	Ei	
Kamppailu lajit		Kyllä	/	Ei	
Muut lajit		Kyllä	/	Ei	
Harrastatko tällä	hetkell	lä muita ui	rheilulajeja j	ääkiekon lis	äksi? Merkitse laji
viivalle ja arvio ha	rrasta	mistasi			
Harrastan lajia ki	lpailur	nielessä (t	oinen päälaj	i =A)	
Harrastan lajia kil	lpailur	nielessä jä	äkiekon ohe	lla (sivulaji :	=B)
Harrastan lajia sa	tunnai	sesti omal	ksi ilokseni?	(harrastus =	= C)
1			A	В	С
2			A	В	С
3			A	В	С
4			A	В	С
Kuinka paljon nau	ıtit ha	rjoittelusta	? A= Erittäi	n paljon, B=	Melko paljon, C=
Jonkin verran, D=	En eı	rityisemmi	n nauti harj	oittelusta, E	= En pidä harjoit-
telusta					
	Α	В	С	D	E
Minkälaisena har	oitteli	jana pidät	itseäsi? A=	Selväsi kesk	itason yläpuolella, B
Hieman keskitaso	on yläp	ouolella, C	= Keskitasoa	a, D= Keskit	tason alapuolella, E=
Selvästi keskitaso	n alap	uolella			
	$\mathbf{A}$	В	С	D	E
Kuinka paljon har	joittel	et omatoin	nisesti joukk	kueharjoitus	ten lisäksi? A=
Erittäin paljon, B	= Mell	ko paljon,	C= Satunna	isesti, D= E	n juuri harjoittele
joukkueharjoitust	en lisä	ksi			
•	Α		В	С	D

	- /	•	,		iisesti yhden v l0h, C=10-12h	
		A	В	С	D	
kueharjoit	usten lisä	ksi (ulkojää	it, koululiik		en harjoitteluu akerho tai mu hemmän	,
	_	A	В	С	D	
sa lajeissa k 1= Kyllä	uin jääkiek / ojäillä pela /	xossa 2= Ei aamisen kehi	si / kouluka ttäneen sinu		ssa pelaamisest	a myös muis
	_Km			, .	t useimmiten? oaa-aikasi eri ur	heilulajien

Arvioi kuinka monipuolisesti olet lapsuudessa käyttänyt vapaa-aikasi eri urheilulajien parissa jääkiekon lisäksi? A= Erittäin monipuolisesti eri lajien parissa, B= Melko monipuolisesti eri lajeja parissa, C= Satunnaisesti kokeillut muitakin lajeja, D= Ainoastaan jääkiekon parissa

A B C D

Uskotko muilla harrastuksillasi olevan vaikutusta jääkiekkotaitoihisi? Perustele. (esim.
olen pelannut jääpalloa jääkiekon ohessa ja uskon, että se on parantanut luisteluani)
Pidätkö itseäsi lahjakkaampana urheilijana muihin saman ikäisiin verrattuna? (esim.
menestyminen koulujenvälisissä urheilukisoissa)
Koen olevani selvästi keskitason yläpuolella
Koen olevani hieman keskitasoa yläpuolella
Koen olevani keskitasoa
Koen olevani keskitason alapuolella
Miten realistisena pidät U-16 maajoukkueeseen pääsyä?  Vaikka onnistun leirillä, tuskin pääsen maajoukkueeseen  Jos onnistun leirillä, ehkä pääsen maajoukkueeseen
Uskon pääseväni maajoukkueeseen
Missä näet itsesi 5- vuoden kuluttua? (voit valita useamman)
Olen lopettanut
Harrastesarjassa
U-20 maajoukkueringissä
SM-liigassa
A-junioreissa
Mestiksessä
NHL:ssä

Jos et pääse nyt U-16 maajoukkueeseen, miten suhtaudut?
Maajoukkueeseen pääsy ei ole tärkeää
Saatan päästä seuraaviin maajoukkueisiin siitä huolimatta
Jatkan harjoittelua ja pääsen maajoukkueeseen myöhemmin
Petyn ja totean tulevan maajoukkueurani olevan tässä
Valmentajasi kertoo sinulle, että luisteluasi täytyy kehittää kaikilla osa-alueilla
(nopeus, voima, asento, potkutekniikka yms.). Kuinka pitkäjänteisesti olet val-
mis tekemään töitä ongelman eteen saadaksesi tuloksia?
Saan tuloksia välittömästi aloitettuani kovan harjoittelun
3- kuukautta
6- kuukautta
Vuoden
2- vuotta, ehkä pidempäänkin
Minkä takia harjoittelet? (voit valita useamman vaihtoehdon)
Pelien takia
Kehittymisen takia
Vanhempien takia
Valmentajan takia
Muu?
Uskotko että kovasti harjoittelemalla ihminen voi oppia mitä vain?
1=Kyllä / 2=Ei
Olatka indrug kakanut harioittalayasi isalam massa kasi isalam itassi wasilaib as
Oletko <i>joskus</i> kokenut harjoittelevasi jonkun muun kuin itsesi vuoksi? pe-

rustele?

1= Kyllä /

2= Ei

# Ominaispiirteet / itsetuntemus

Milloin tunnet menestyväsi jääkiekossa? Ympyröi kyllä tai
---

Kun suoriudun paremmin kuin muut

Kun olen tehnyt enemmän pisteitä kuin muut

Kun joukkueeni voittaa ja suoriudun itse hyvin

Kun olen yrittänyt parhaani ja tehnyt kovasti töitä joukkueeni voiton eteen

Kun olen harjoitellut kovasti ja tunnen kehittyväni pelaajana

Asetatko tai oletko asettanut itsellesi tavoitteita?

Kyllä olen asettanut

En ole asettanut

Kuinka tarkasti olet asettanut tavoitteesi? A= Tavoitteeni on joka päivä mielessäni ja teen niiden eteen päivittäin töitä B= Tavoitteet ovat vain suuntaa antavia C= En ole juurikaan asettanut tavoitteita.

Oletko aso	ettanut tav	oitteita urasi sul	nteen esimerkiksi v	almentajasi kanssa?					
1=Kyllä	/	2=Ei							
4.49.1	Jonkun	Jonkun muun kanssa?							
Mikä on u	ınelmasi jä	äkiekkoilijana? k	serro omin sanoin.						
	<del></del>								
				en jääkiekkoilijana? A= Fyys Henkisiä ominaisuuksia.	sisiä				
	A	В	С	D					
Arvioi ha	rjoittelun	merkitystä, (jo	s olet esimerkiks	i hidas ja luistelu on selvä	isti				
heikoin o	sa-aluees	i.) <i>A= Pääsen</i>	harjoittelemalla l	nuipputasolle B= Harjoit-	,				
telemalla	kehityn,	mutta en pääse	e luistelussa huip	putasolle C= Harjoittelen	nalla				
kehityn v	vain tietty	yn pisteeseen a	asti D= En pysty	juurikaan kehittämään					
nopeutta	ni, sillä h	itaus johtuu ge	eneistä.						
A	В	С	D						

### Valmentaja

v alliic	iitaja							
Pidätkö tämänhetkisestä valmentajastasi?								
	Erittäin paljon							
Melko paljo	Melko paljon							
Ihan ok								
En pidä val	mentajastani							
Onko valm	entajaasi help	opo lähestyä?						
1= Kyllä	/	2= Ei						
Tunnetko valmentajasi olevan kiinnostunut juuri sinun kehityksestäsi?								
Valmentaja	antaa minull	e paljon yksil	löllistä palautetta					
•	/							
Valmentaja	Valmentajani tuntee heikkouteni, mutta puuttuu niihin vain toistamalla niitä							
1=Kyllä	/	2= Ei						
Valmentaja	ni tuntee mir	iut ja potkii r	minua koko ajan eteenpäin heikkouksieni paran-					
tamiseksi								
	1= Kyllä	/	2= Ei					
En koe val	mentajani o	olevan kiinn	ostunut kehityksestäni, tärkeintä hänelle on					
joukkueen	menestys							
	1= Kyllä	/	2= Ei					
Oletteko asettanut valmentajan kanssa minkäänlaisia yksilöllisiä tavoitteita?								
	1= Kyllä	/	2= Ei					
Kuinka usein keskustelette valmentajan/valmentajiesi kanssa muista asioista								
kuin jääkiekosta? (esim. koulusta, kavereista, tuntemuksista, miltä kroppa								
tuntuu ym	s.).							

13

Säännöllisesti tietyin väliajoin

2 3	Valmentaja kyselee tunte Emme koskaan, valmenta	,		ni				
Mitkä	i seuraavista kuvaa valm	entajaasi parhait	en? Ympyrö	i kolme				
	1.Ankara	5. Vaativa		9.Kannustava				
	13.Rohkaiseva							
	2.Tasapuolinen	6.Suosiva		10. Välittävä				
	14.Negatiivinen							
	3.Lempeä 7.Väh	11.Asiantunteva						
	15.Positiivinen							
	4.Tietämätön 8.Pall	kitseva		12.Rehellinen				
	16.Epärehellinen							
Tunn	etko pystyväsi luovaan j	a rohkeaan itsesi	toteuttamis	een valmentajasi				
alaisu	udessa ("virheitä tulee l	kaikille")?						
	1=Kyllä	/	2=Ei					
	ı suhtaudut valmentajan	,						
Teen	niin kuin käsketään ja s	opeudun nopeas	ti uusiin asio	oihin				
	1=Kyllä	/	2=Ei					
Josku	s minuun kohdistuvien	odotusten takia e	en saa itsestä	ini parasta irti				
	1=Kyllä	/	2=Ei					
Saatan hylätä ja ehkä kapinoida jotkut minuun kohdistuneet odotukset								
	1=Kyllä	/	2=Ei					
Ylitän odotukset ja nautin pelaamisen ilosta, sillä toteutan itseäni								
	1=Kyllä	/	2=Ei					
Arvio	seurajoukkueesi ilmapii	iriä						
Joukk	xueessa rohkaistaan uud	en kokeilemiseer	ı					
	1= Kyllä /	2= Ei						

1= Kyllä / 2=Еі

On avoin ilmapiiri ja saadaan kehuja yrittämisestä

Asetetaan tiukat rajat toiminnalle

$$1 = \text{Kyll}\ddot{a}$$
 /  $2 = \text{Ei}$ 

Parhaat pelaajat palkitaan ja voittamista korostetaan

$$1 = \text{Kyll}\ddot{a}$$
 /  $2 = \text{Ei}$ 

Pelaajia pelotellaan testeillä ja arvioinneilla

$$1 = \text{Kyll}\ddot{a}$$
 /  $2 = \text{Ei}$ 

Joukkueessa on turvallinen ilmapiiri ja pelaajille annetaan rauhassa aikaa kehittyä

$$1 = \text{Kyll\ddot{a}}$$
 /  $2 = \text{Ei}$ 

Mitkä seuraavista asioista kuvaa seurajoukkueen ilmapiiriä parhaiten. Ympyröi parhaiten sopivat

- 1.Jännittynyt 5.Paineeton 9.Välittävä 13.Rento
- 2. Varovainen 6. Tarkka 10. Positiivinen
- 14.Negatiivinen
- 3. Välinpitämätön 7. Vaativa 11. Kurinalainen
- 15.Aikaansaava
- 4.Palkitseva 8.Rohkaiseva 12.Rakentava