

Performance tool for hockey goalies

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<p>The thesis deals with the mental side of an ice-hockey goalie. The purpose of making this research is the figure out the meaning of mental skills for an ice-hockey goalie and also provide material for the coaches season-period research about the factors which influence an athlete. This reseach gives opinion and tools for everyday work with goalie or athlete at the side of mental skills.</p> <p>The theoretical part of the thesis tells about mental toughness. The main factors in mental toughness are self-confidence, concentration, goal-setting and coping with stress and anxiety. Mental toughness builds up everything that we do or we not do. If an athlete is mentally tough, his self-belief will not change under different factors affecting. For high performance of the athlete the requirement is to have high self confidence. Self confidence affects to an athlete's life in many sectors. Self confidence is also influenced by an athlete's life. Goal-setting motivates an athlete to reach the success. Concentration and orientation of an athlete's attention an part of human mental self regulation. Directing the concentration is very important factor. Athlete should be able to perform under stress he will have in different situations and many levels of life.</p> <p>The empirical part of the thesis was made during the season 2011-2012. It was done about one ice-hockey goalie who was on the way to be a high level goalie. During the season there were 22 games which are discussed in the thesis. The research was made by interviewing the goalie before, during and after the games. The interviews were made with a performance tool. Performance tool was created to help coaches and goalies to notice the mental factors of the games.</p> <p>During the research it became very clear that training the mental side of the game and getting results from it takes a lot of time. The season results raised by the time, there was a clear difference between the beginning and the end of the season. One reason for that was the improvement of deeper discussions between the coach and the goalie. Many times it can be noticed that a lack of clear goal-setting was one of the main factors to having mental problems during the games. Coping with pressure from outside was also difficult.</p>	
Keywords Mental toughness, self-confidence, goal-setting, concentration, arousal regulation	

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1 Introduction

"If you think WIN, you will lose, if you think honor, you will lose, if you think opponent, you will lose, if you think your fitness, you will lose. What is left, the sport"
 (Nikulainen & al. 1995, 5-20).

Ice hockey is about two teams with their equipment, goals, lines and rules which make boundaries to the actions of the players and define sanctions for players who break the rules. The purpose of the ice hockey game is to score goals and to prevent the opponent from scoring. The team that scores more goals than the other wins the game. An ice hockey game includes an unlimited amount of changing game situations. Each situation is made of the amount of both teams' players on the ice, the place of the puck and the place where all players are positioned. Other changing factors are the movement directions of the players and the puck in relation to the rink and their movement velocity. (Lamminaho & Westerlund 1992, 2)

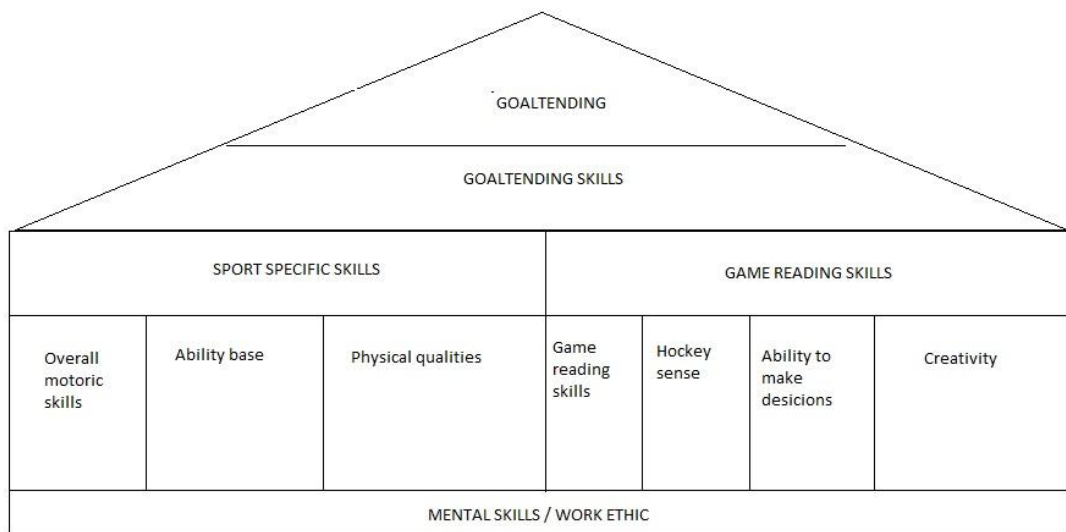


Figure 1. Structure of goaltending game (Näckel 2004, 1).

Figure 1 shows that mental skills are the base of goaltending game. (Näckel 2004, 1).

1.1 Why I chose this project

I chose this project because I have been interested in hockey since I was a little boy. My career ended in injury when I was 22 years old. At the same time I realized that I'm not the guy who becomes a pro level goalie. I was lucky to get change to start my coaching career right away in the same team where I stopped playing ice hockey. I have always been really interested in ice-hockey and the details which make the difference between a regular goalie and a pro level goalie.

When I started studying in The Vierumäki Unit I got my first contact with Markus Arvaja he is one of the teachers who are specialized in the mental side of sport and I started to realize the difference between different goalies and what happens on their mental side. When you see young adults on a high level of hockey they usually look like they are made of the same model, of course there are differences in size, height and techniques but I mean the first sight. In today's hockey the goalie has a major affect to the result of a hockey game.

It is really interesting to find the tools and the right ways of working for the people who you are working with all season. I have had chances to work with fantastic coaches, teachers, mentors, organizations and people through my life and I got a lot of experience and knowledge from that journey. I have had a few years now away from hockey coaching, and in that time I have been as a coach in the banking sector. I have realized a lot of new things and a totally different perspective to coaching. That is the reason why I want to share this thesis with you.

1.2 Benefits of the thesis

This thesis presents the "Performance tool for ice hockey goalie" – a guide for goalies and coaches. The idea is to help an athlete in everyday life during the season. In Finland we have a really good level of goalies and coaches, we have good knowledge of the tactical and technical game and how we play basic situations but we don't have enough tools to improve the goalies' mental side. This guide helps analyse the goalie's mental side and it will open that side for coaches. Mental toughness (will be the one which) makes the difference between goalies.

2 Mental toughness

Influencing the mental skills of an athlete happens quite slowly. It is a kind of education project athlete childhood and time of young adult has to use for education process with athlete. The coach has to know what are the athlete's current qualities are and how those qualities should be developed those qualities. The coach has to believe that the athlete has a chance to improve. The coach has to have skills in long term and determined development to reach goals. Mental toughness builds up everything that we do or we don't do, has to lack things that feel minor. That is the only way to continue a long term development to mental toughness. (Näckel 2004, 10-11.)

2.1 Mental skills

The main objective of coaching the mental side or mental skills is that the athlete recognizes and realizes his own mental strengths and which of those he can develop. (Lamminaho & Westerlund 2010, 3). A psychological skill is compared to physical skills and those can be taught, learned and practiced (Weinberg & Gould 2007, 248). Athletes need skills like arousal regulation, imagery, self-confidence, goal setting and concentration. (Weinberg & Gould 2007, 273-392.)

It has been said that it is easy to be good, but it is not easy to be the best. It is often said, that in sport the mentally strongest athlete wins. When the athlete tries to reach the high level, it is important that he thinks what his mental strength is. Mental strength could be seen as the athlete's skill to survive and keep oneself together despite environmental disruptions. (Kaski 2006, 104.)

A mentally strong athlete can fail and make mistakes. That kind of athlete however stands the change of emotional experiences. His self-belief will not change. He knows that he is very skillful in his field. He is a soul winner. His belief in his own knowledge and skill is so large that single errors won't fall him down. A mentally strong athlete doesn't mean that he has to be strong outside of the field, too. A mentally strong athlete can be sensitive, helpless and weak. A mentally strong athlete doesn't have to be arrogant and he doesn't have to make other people feel small. Being mentally strong means respect for oneself and respect for others. Mentally strong athlete knows how to fire up in sport and competition event again and again and how to jump into the moment. He doesn't worry about the extra pressures. Sport is not his personality but he does sport because he enjoys it and wants to reach new goals in it. In the moment he puts everything in it. (Kaski 2006, 105-108.)

2.2 Self-confidence

Believing to in your own abilities and trust in overcoming failures is the base of good self-confidence. (Näckel 2004, 7). Self confidence consists of an athlete's experience of being himself. High self-confidence is a requirement for a high performance of an athlete. Normal notions of viewing human mental elements are self-esteem, self-confidence and self respect. (Nikulainen & al. 1995, 5-5.)

Self-esteem is accepting and knowing yourself. If an athlete's self-esteem is weak, it is impossible for the athlete to realize his own behavior in different situations. An athlete suffers from lack of self-confidence and insecurity. Self-esteem demand long term development. Affecting factors know yourself, successes and know how to turn failing into winning. Self-esteem starts to build up in childhood. Friendships and a safe home environment are the base for building up a good self-esteem. An athlete's self-confidence is changing all the time depending an situation and the main factor behind it is self-esteem. (Nikulainen & al. 1995, 5-5.)

Self confidence is mind thinking and feeling during performance. It is how confident the athlete feels himself when performing different kinds of missions when achieving his goals which have been set before. Overall thinking that athlete can be really high level on one level in life and weak on the other. A high performance level athlete can feel like being an top in an ice hockey rink but if we make that athlete for example sell something in a face to face situation, the athlete can perform on a really low level or can't perform at all. (Leppänen & Leppänen 2017, 22-23.)

Self-confidence affects our life and how we set goals, how actively we work and how much we are putting effort in achieving those goals. Self confidence is the base where a human build up plans about own action and perform those. A human anticipates his chances to have success, if we assume to success we have it easier to set goals and plan our journey to success. Self-confidence is a really important skill to success in business, sport and human relationships. (Leppänen & Leppänen 2017, 23.)

Leppänen and Leppänen (2017, 23) has made a list what you can see if self confidence is high:

- Athlete sets higher goals
- Athlete searches challenging missions
- Athlete get a more energy from challenges
- Athlete performs better against adversity

Self-esteem and self-confidence are developing when an athlete is aging and is dealing with different kinds of experiences and events. Problem solving and handling situations also develop an athlete. The athlete starts to know himself and his routines will develop. A young athlete's self-esteem can change a lot depending on problems of growing, support from friends or home and development process. Goal-oriented training, knowing your own weaknesses and strengths will develop self-esteem and self-confidence. The athlete arrives to a competition location in a confident state of mind. The athlete will know his own abilities, weaknesses and be prepared for the performance. (Nikulainen & al. 1995, 5-6.)

Lack of self confidence affects the athlete's daily performance. The athlete blocks or doesn't see his dreams and goals. The athlete has problems in getting grip of chances which life gives to the athlete or new ways to achieve his goals and dreams. One of the biggest things to understand for the athlete is that he knows himself with his unique strengths and weaknesses. (Leppänen & Leppänen 2017, 23). If the athlete's self-knowledge is weak, self-confidence starts to change in competition situation. Result reflects usually for the athlete to overachievement or athlete is starting to hope for canon performance. (Nikulainen & al. 1995, 5-6.)

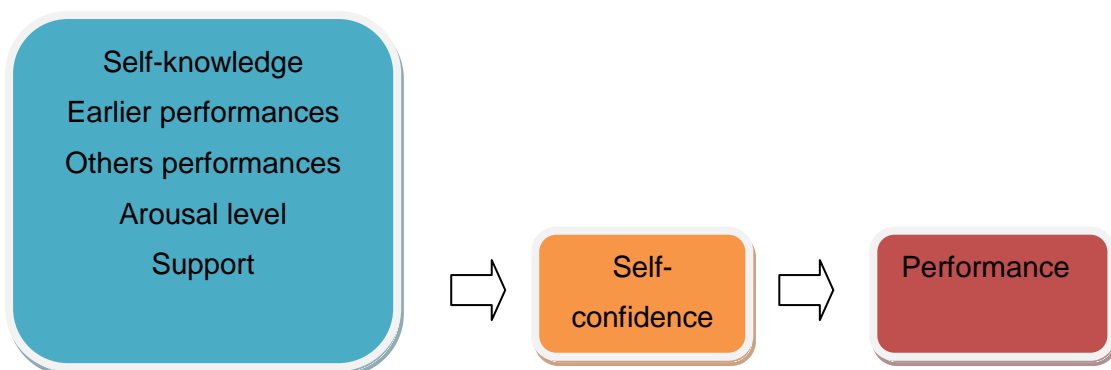


Figure 2. Structure of self-confidence and affects in performance. (Nikulainen & al. 1995, 5-6.)

The chart can be analyzed in two different ways. Positive self-confidence starts to build up when all those factors are in order and the result is a good performance. Negative self-confidence starts to build up when one or more factors are missing and it will affect the performance in a negative direction. When the results start to go up and down, the athlete will make mistakes and the result will be bad. (Nikulainen & al. 1995, 5-6.)

Major factors in developing self-confidence continuously are constant improving of self-esteem and earlier performances in competitions. The athlete's own expectations or other

athletes' performances may not affect his performance especially in a negative way. In goaltending game the arousal level, a lack of focus, anxiousness and a feeling of audience or support have a huge effect on the athlete's performance. A feeling of audience and support from the fans are a really important factor for the athlete, but it is important to handle the situation in the way that the athlete doesn't get more pressure from it. (Nikulainen & al. 1995, 5-6.)

All the problems the athlete creates in his own mind start to affect how the athlete makes decisions, thinks and acts. When playing as a goalie decisions have to be done by the athlete himself and he has to carry the responsibility for them. Mistakes are normal, but the athlete has to learn from the mistakes. Finally the performance starts to get better and the athlete makes fewer mistakes. The athlete starts to enjoy the performance. (Nikulainen & al. 1995, 5-6.)

2.3 Personality

It is important for an athlete to realize his own personality. Humans are categorized in two groups. One type is a busy outgoing person with lack of relaxing and listening skills and the other type is a calm enjoyer with no need to achieve. An athlete has to emphasize his best personal qualities and eliminate the personal weaknesses. (Nikulainen & al. 1994, 5-7.)

Athletes can be divided in two categories according to personal and own acting. The competitive type of athlete has a primary need to compete and specially to compare his own performance to others. Competition has an important role when the athletes improve, but it can cause problems if the athlete often underachieves. The mission orientated athletes aim for continuous improvement. (Nikulainen & al. 1994, 5-7.)

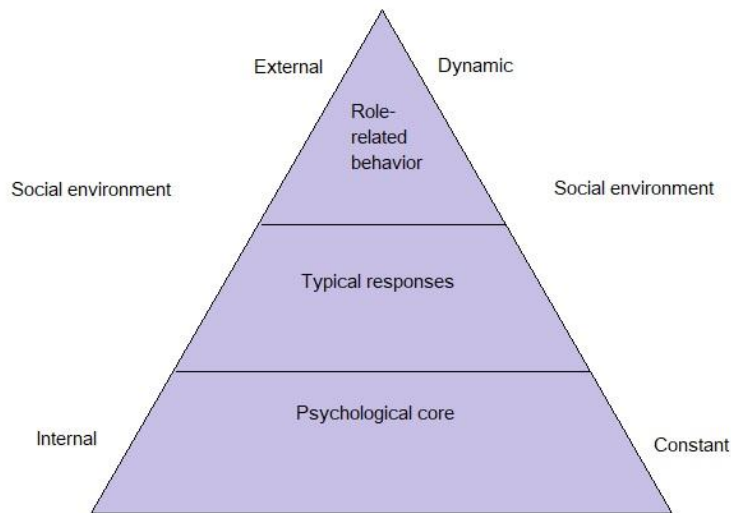


Figure 3. A schematic view of personality structure. (Weinberg & Gould 2011, 28.)

Personality attaches characteristics together which makes a person unique. Personality can be divided into three separate but related levels. Psychological core is the most basic level of personality; it includes attitudes and values, motives and interests, and beliefs in self-worth. Psychological core it is the real personality of a person, there are external factors involved. Typical responses is learned personality, person adjust his behavior to the environment. Role-related behavior depends on a person's role in different environments, a person acts differently in different situations and it is the most changeable aspect of personality. Roles can conflict with each other (Weinberg & Gould 2011, 28.)

2.4 Motivation and motives

Motivation can be explained by the intensity and direction of one person's effort. The factors which are involved in motivation are personal and situational. The personal factors are for example the interests, goals, needs and personality of the person. The situational factors are the team's win-loss record, the coaching style and the attractiveness of the facilities. If we know how these two factors interact we can understand the person's motivation (Weinberg & Gould 2011, 51-54.)

Motivation is one of the hardest measurable things in human psychology. An athlete's all functions are based on motives. Motivation can be measured by asking questions like why the athlete does sport, why the athlete sacrifices so much time on training and what is the motivation to do sport? (Nikulainen & al. 1995, 5-8). It is an important skill to be able to

motivate the athlete to concentrate on benefits more than to concentrate on disadvantages. The athlete is more motivated when he realizes how much benefit goal achievement gives to him or for the team. If the athlete sets the own goals or at least is involved in goal setting, he is more motivated to reach the goals. (Furman, Pinjola & Rubanowich 2014, 158-160.)

Motives can be divided into two different categories. Primary motives are necessary motives for the athlete like eating, drinking, need for oxygen and need for heat. Secondary motives are normally psychological and social needs, for example need to get accepted, the need of success and the need to have people around. Those can also be inner and outer motives. The inner motives are the athlete's own needs to learn to have fun or feeling lack of condition. The outer motives are getting benefits like trophies, money or respect. A common factor for these motives is a good feeling or a reward which makes the athlete act towards the goal. (Nikulainen & al. 1994, 5-9.)

2.5 Goal-setting

Every athlete has his own reasons to do sport. Setting goals is one option for an athlete to think about own motives. Competition level requires commitment to own goal-setting. Goal-setting motivates the athlete for example to practice harder compared with an athlete without goal-setting. It depends on the athlete's mental strength how well he can direct his motivation into sport or how well the athlete can handle pressure. It is important to understand the level of motivation; with too low motivation the athlete can't reach the goals, but too high motivation can have a negative impact for example fear of underachievement. (Nikulainen & al. 1994, 5-9.)

The goals can be outcome goals, performance goals and process goals. The outcome goals are focused on the competitive result and it also depends on your opponent, you can play a great game but still lose and fail to achieve the outcome goal. The performance goal is focused on achieving a person's best result and tries to beat the previous result. The process goals focus on a person's performance execution. An athlete should set all those three goals, because all those factors have an important role in directing behavioral change (Weinberg & Gould 2011, 344.)

Setting goals is not the easiest things for the athlete and the hardest thing is to set the right kind of goals. The benefits of specific goals if we compare them with general goals like "jump higher" are that they start to form the athlete's behavioral change (Weinberg & Gould 2011, 348.)

Weinberg & Gould (2011, 349) made a list for setting goals:

1. Set specific goals
2. Set realistic but moderately difficult goal
3. Set long- and short term goals
4. Set Performance and process, as well as outcome goals.
5. Set practice and competition goal
6. Record goals
7. Develop goal achievement strategies
8. Consider the individual personality and motivation
9. Get commitment that athlete has commitment to the goals
10. Provide support to reach the goals
11. Provide evaluation of and feedback about goals

2.6 Concentration

Concentration skill is the main factor of high performance. Perfect concentration requires skills to focus and high motivation. In a perfect situation the athlete doesn't lose focus during the performance. The athlete has to adjust his concentration during the performance and understand in which situation the athlete needs high motivation and when the athlete can lower capacity of concentration. (Nikulainen & al. 1994, 5-10.)

Concentration and orientation of your attention is a part of human mental self-regulation. Self-regulation means concentration skill. A human can concentrate only 1-5 minutes on something, that's why it is not good to say to a young athlete one day before the main event that now you have to concentrate on tomorrow's game. If the athlete starts thinking about his own performance too early (one or more days before), the athlete's brain is tired when the athlete should perform the best. (Kaski 2006, 91.)

An athlete can improve his concentrate skills, but usually it is done undetected. When an athlete gets experiences during his life, it usually leaves an image and memory traces about performances which go right and performances which go wrong. If these experiences don't change sufficient accuracy in conceptual form, it leaves athletes own concentration skill perception on a low level. If the athlete doesn't know what is the best way to concentrate is, then in a hard situation the athlete can't find the right performance in his mind. (Kaski 2006, 92.)

Depending on the situation and the type of sport, the athlete must be able to direct his attention to a large area or to narrow it to one point. For example, an ice hockey goalie should be able to consider as the game progresses, the opponent locations and the puck as the game. Concentration should be directed to a large area. Otherwise the comments of the audience or opponents skill level or the own inside processes steal the attention.

Direction of attention is totally different in different sports and it is different even between individuals. When talking about good concentration skill, it is good to remember that it is experimentally different for different athletes. (Kaski 2006, 92.)

2.7 Arousal regulation

Today's athletes have more stress and pressures to be successful, the media attention and sponsors increase the pressure to perform at a high level in competitive sport. Athletes cope with the pressure different ways. In a high stress situation it can cause physical illness. (Weinberg & Gould 2011, 271.)

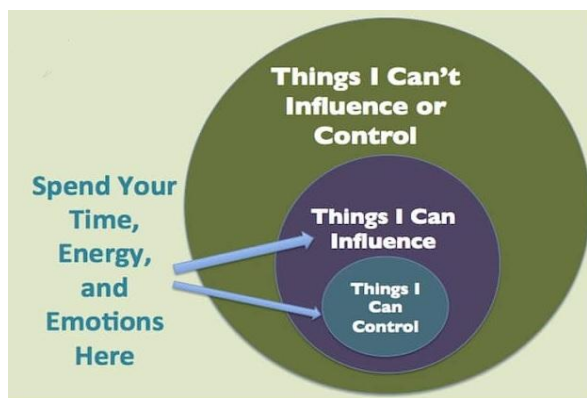


Figure 3. Circle of affection. (Aikatra 2018.)

The circle of affection helps an athlete to share his energy in the right directions. In the inner circle are things that the athlete can control himself. The things can be like the athlete goes to practice and games on time. In the middle circle are things that athlete can affect but he can't control. The athletes choose right bus, but he can't drive that bus. In the last circle are things that the athlete can't control or influence for example if bus collides or breaks, and the athlete has no time to go to practice or a game on time. If the athlete only concentrate's on that he came late because of the bus then his focus is in the wrong sector and he should try to concentrate on the practice or game which the athlete can affect and have control on how the practice or game goes. (Aikatra 2018.)

The athlete should not let any other thoughts in his mind, but those which have a straight impact on his performance. Handed situation focused performance includes athlete abilities to handle inner drive techniques. The athlete can learn those techniques through experiment or analyzing his performance carefully. Different athletes benefit from different feelings, an a high performance is done or an athletes own optimal emotional level of feel-

ing. A trigger feeling either rises or lowers the performance. Those feelings are for example an aggressive feeling or a feeling of satisfaction. Feelings which help the athlete to success during the performance can be either positive and/or negative depending on the type of athlete. (Nikulainen & al. 1994, 5-11). If an athlete has a pronounced need of success, the athlete starts to build up too high expectations. The expectations are not a problem for the athlete, but when the expectations are too high or too hard to reach we start to talk about overachievement. (Tehy 2013.)

Underachievement means that the athlete does something under his own normal level. Underachievement is often due to the athlete's overachievement. The athlete doesn't believe that the normal level is enough for a good result. When the athlete knows that he is in a good shape and believes that he doesn't need miracles to succeed in the competition, only the normal level is enough. It can also be seen as a fact that if the athlete doesn't take any risks, the athlete's performance is average but there is no fighting till the end. Underachievement can also be seen as a lack of confidence and then the opponents take the mental advantage. (Kaski 2006, 201-202.)

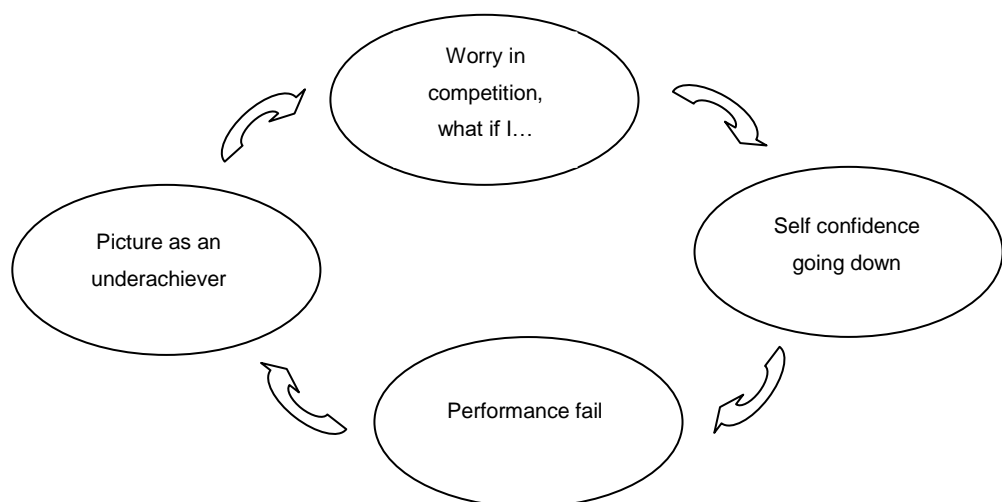


Figure 4. Negative vicious circle (Kaski 2006, 202.)

When an athlete underachieves a lot, the opponents and the audience usually start talking like this: "a good athlete but in competition environmental underachieves". This kind of situation can be lead to in a negative vicious circle. (Kaski 2006, 202.)

2.8 Stress and anxiety

Anxiety is a negative emotional state for an athlete. It is characterized by worry, nervousness and apprehension and associated with activation or arousal of the body. (Weinberg

& Gould 2007, 78). Stress is defined as “a substantial imbalance between demand and response capability, under conditions where failure to meet that demand has important consequences”. (McGrath 1970, 20).

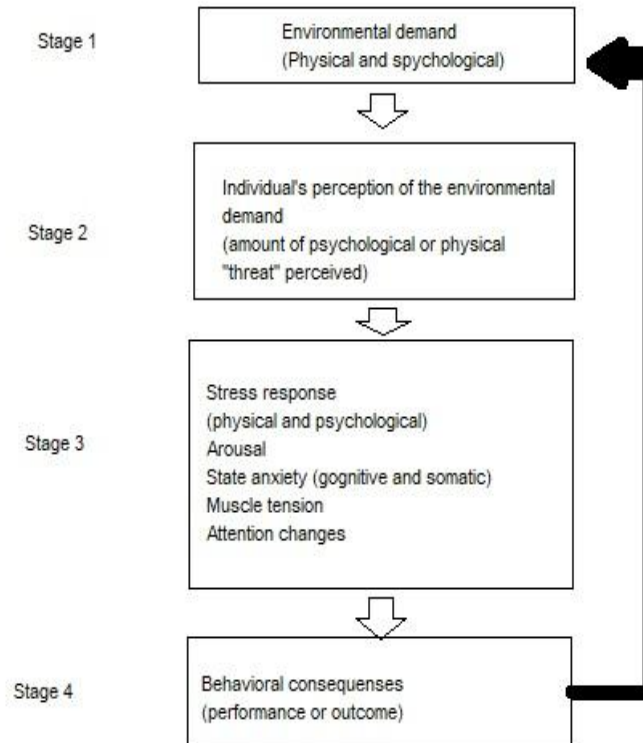


Figure 5. The four-stage stress process. (Weinberg & Gould 2007, 82-83.)

At the first stage demand is placed on an individual. The demand can be physical or psychological, for example the athlete has to show a new skill in front of the team or the athlete's parents are pressuring on the athlete to perform well. The second stage is the individual's perception of the physical or psychological demand; people perceive demands in different ways. Athlete's can feel threatened or enjoy the attention of being in front. This depends on how the athlete perceives the world. The third stage is about how the athlete responds to a perception of the situation. It can increase worries, heighten physiological activation, change in concentration or increase muscle tension. Stage four is the behavior of the athlete under stress. The outcome can vary between poor and success. (Weinberg & Gould 2007, 82-83.)

2.9 Competition routines

Competition routines are a very important part of preparing for the performance. Routines bring a feeling of safety for the athlete "situation is familiar for me, I have done this earlier. There is nothing to worry about." When the athlete's security and his feeling of capability increase, the situation goes forward as normal at the competition. (Kaski 2006, 119.)

Kivekäs also says that routines give a feeling for young athlete of safety in everyday's life, an adult or coach can strengthen that feeling for supporting young athlete with positive feedback or given structure feedback when athlete is doing right in given guidelines or when athlete offend of giving routines. (Kivekäs 2009, 74). Competition routines can happen the day before main event, whole competition day or just a moment before starting point. When competing in any top sport, nothing should be left to chance, it is essential to prepare properly every time. (Kaski 2006, 119.)

It is important that the athlete knows himself so well, that he knows how to prepare for a competition. The coach also should know his athlete so well that he can support and say the right things in the right moments. Preparing is different in different sports, for example there are a lot of games during the season in ice-hockey and if you think about for example a marathon runner, he runs only a few times during the season. So preparing has to be done in a different way. (Kaski 2006, 120.)

Every athlete should write down feelings and preparing routines, if there are a lot of differences between routines, and the results go up and down during the season, the athlete should analyze his feelings and routines. The athlete can find out the right way to prepare for a competition with that method. Competition routines can be one single thing, for example the athlete can always keep some lucky amulet with him or he can put his gear on in the same order or he can shout something before the performance. (Kaski 2006, 120.)

Competition routines can also be an enemy for the athlete; if the athlete forgets to do some routine before the competition and he loses his confidence before the performance. Then the routine becomes an enemy for the athlete. (Kaski 2006, 122.)

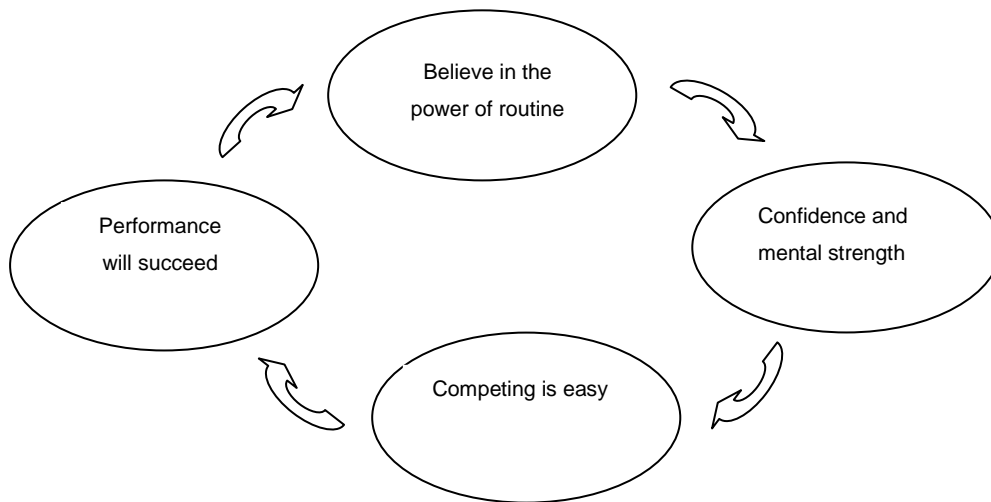


Figure 5. Positive competition circle. (Kaski 2006, 122.)

Optimal performance from the athlete demands an optimal tactical performance readiness. Tactical side of sport comes in to the picture when athlete or goalie has good enough base from technical side. Also physical demands like strong will, game reading and skill to understand the sport. (Mero, Nummela, Keskinen & Häkkinen 2004, 371.)

- **Overall tactic**
- **Sport specific tactic**
 - **Team tactic**
 - **Personal tactic**

Figure 6. Tactics. (Mero & al. 2004, 371.)

Tactic means the coach and the athlete and their co-operation based on a planned execution layout which is based on the athlete's own and the opponent's team performance ability. The overall tactic is based on overall rules of tactic at performance executing. Sport specific tactic is different in every sport and needs to be practiced well. The team tactic is about defense tactic, offence tactic and special situations. The personal tactic is different in different the sports and also depends on which position the athlete is playing. In team sport tactical thinking includes situations with multiple chances. (Mero & al. 2004, 371.)

Tactical action can be divided into two categories: preparing for the competition and executing the competition. Preparing for the competition means all those actions which are made before the competition so that the athlete can compete in optimal circumstances. A competition plan is made for the competition. Executing the competition means all those actions which athlete makes during the competition to get the most optimal result. These two categories are independent and highly sport specific.(Mero & al. 2004, 371-372.)

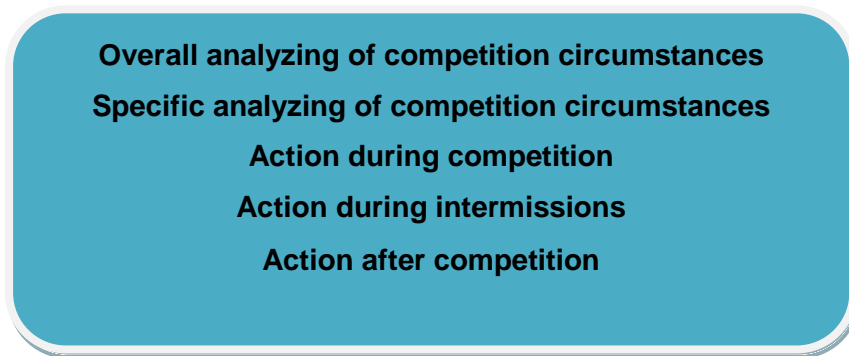


Figure 7. Tactical competition plan. (Mero & al. 2004, 372.)

Optimal success in competition is the goal for tactical actions. It requires that the athletes, the team and the coaches are successful. It can be divided into three phases: planning and analyzing the competition situation including all the inner and outer factors, conceptualizing optimal an solution model including the athlete's own and the opponent's abilities and executing tactical operation using the athletes technical readiness and physical quality. The duration of these three phases depends on the athlete's abilities to understand and realize the opinion complexity of the competition as soon as possible, to create suitable action plans and to execute them. (Mero & al. 2004, 327.)

2.10 Comfortable adult

A person is often looking for confidence and close relationships from people around the team. (Näckel 2004, 10). Feeling confidential with a comfortable adult is the main factor for feeling safe. When a young athlete is feeling safe in company of a comfortable adult who is fair, easy to come close and trustable, the athlete can be emancipated and act like himself. The coach is or parent's coldness can prevent building an open and confidential atmosphere. The coach or parent has to create a connection with the child so that child can trust the adult. (Kivekäs 2009, 14.)

Focus an briefing realistic objectives and expectations influences feeling safe. When a young athlete knows what the expectations are, the athlete can handle the successes or

failures in a realistic perspective. Feedback from the adult helps the athlete to understand directed expectations and also realize the athlete's own behavior. (Kivekäs 2009, 12). Rules and limits are an important part of building human autonomy. The rules create a safe environment and increase the athlete's courage to bring himself out in a the team environment. The rules and limits should be plan together with the athlete, because then the athlete understands and respect's them then. (Kivekäs 2009, 13.)

3 The aims of the project

This thesis' main goal is to find out the performance level of a young athlete. I want also to get more information on what kind of factors like stress, pressures and thoughts are on a young athlete's mind during the season. In a game situation I have normally filled up a shooting map for the goalie but I have totally ignored the mental side. This is the first time in my coaching career when I start to collect information also from the mental side of the game. My goal is to find out the factors which affect a goalie's performance. And I aim to find a way to keep a goalie's mental level stable during the season games.

3.1 Methods

In this research I have used the case study method. It was chosen because it is the way to figure out one individual, in this case the goalie. In the case study method the data is specific information about one or many cases related to each other. The case study methods can be used on an individual, a group or a society. The goal is to understand the different situations. (Hirsjärvi, Remes & Hurme 1998, 130.)

An interview is the most used method of collecting data. It is flexible discussion and it fits many different kinds of research. (Hirsjärvi & Hurme 2001, 34). An interview is a discussion which is guided by the interviewer. An interview is interaction where physical, social and communicational factors affect. (Eskola & Suoranta 1998, 86). The benefits of an interview compared other data collection methods is the flexibility to collecting data and construing answers. (Hirsjärvi, Remes & Hurme 1998, 201). This Research has been made with a theme interview. It fits this research because the aim is to collect data more deeply than structured questionnaire can do. A theme interview is good for the athlete because the order and form is flexible. The themes are the same in every game. (Hirsjärvi & Hurme 2001, 47-48.)

The sample consists of 22 different interviews during the season 2011-2012. The interview was made before, during and after the game with the performance tool. These 22 games are almost all the games during the season.

3.2 Performance tool

The performance tool has been developed to help a coach and a goalie to realize what happens during one single game. The most effective way is to get the first comment from the athlete's after he has heard if he is a starting- or backup goalie. This point is important

because the coach can get the first feeling from the athlete and know how the decision affects to the athlete. When the coach has enough information from the athlete about how the decision and how the first feeling affect's the choices and motivation the coach can get involved with the person and help the person understand how choices, motivation and positive thinking affect the big picture.

The feelings of the game morning's are also important data, does the person feel tired or is there something that could affect the performance or the result of the game. The tool also collects the person's feelings after warm-up, during the game and when the game is over. Coach also gets important data from the person's self-confidence, own performance, how the person feels about his performance during the game and what is the priority of the game. The coach can make own notes to the comment area if something unusual happens or if the person has something in mind. The coach also makes notes on how the goalie handled the first save, co-operation with players and how the goalie reacts to for example penalties.

Some feelings are collected in numbers. The scale is from 1 to 5. One means that the athlete's performance has been underachievement of his own level. Five means that the athlete can reach his own level under pressure. The other goalie's feelings are collected in discussions between the coach and the goalie. The coach is doing observation of the goalie during the game and during the discussions with the goalie. The coach should observe physiological behaviour and the body talk of the goalie.

4 Implementation of the project

The goalie was a 1996 born ice hockey goalie; he played the season 2011-2012 in Lahti Pelicans B1 juniors. He was one of the three goalies; the other goalies were born in 1994. My main focus during that season was to find out the goalie emotional performance during the games. The goalie target was to play a lot of perfect shifts, a lot of perfect periods and this way as many games as possible in an a good level during the season.

In Finland there are a lot of technically good goalies in different levels in Finland. So I think that the main reason why somebody plays in on a good level and is successful year after year is the individual mental ability. The goalie biggest weakness is to let easy goals during a single game. To put it more specific, he somehow misses emotional performance during one shift and he's not ready to play a single situation. So our target was to overcome this weakness and try to go step by step forward and reach the next level in his career. Somehow the case sounds like a normal problem for every ice hockey goalie, but the thing is hard because he can play on a very good level under hard pressure.

The goalie achievements:

- Pikku Pohjola -camp 2010: number one goalie, 1st place, future talent goalie),
- Pohjola-camp 2011 (number one goalie, 1st place, all-star goalie, technique award)
- Junior national team U16 2011-2012 (a few tournaments during the season).

The only mistakes happened at the beginning of the season 2010-2011 when C1 juniors tried to qualify for the SM-series (highest level in C1 juniors). The goalie was under huge pressure there and played under his average level. He played a few very good games, but during this qualification there were too many bad games. The same thing happened in C1 juniors playoffs when the goalie played as the first goalie of the team. During those playoffs he played on a very good level for a few games and then under his average level a few games at the end. The C1 juniors ended up third in division 1, that wasn't what the Team and the goalie expected. In U16 National team, he played one exhibition game against Germany and one tournament game against the Czech Republic. The first international game against the Czech Republic ended as a shutout with 29 saves.

4.1 Season 2011-2012

This was my first season in B1 juniors in Lahti and all my goalies were new for me. So the situation for the goalie was that he had a new goalie coach, new rules and a new playing style. The first thing that we had to build was trust and to get to know each other. He was also in a situation where he was the youngest goalie in the team, his own age boys still

played in C1 juniors and he was now ranked on two levels. The difference between those levels is huge; on this level making mistakes was really bad and almost every time you had to pay a high price for any mistake. That could mean that you ended up as a backup goalie or even out of the roster.

The season started for the goalie within the B1 summer training period and after that period he got a place in B1 juniors. Just before the season started, Pelicans Ltd signed a contract with another goalie. He came from Joensuu and he was born in 1994 that meant that he could also play with the B1 team. That was the first situation which affected the goalie self-confidence and our plans on how the goalies play during the season.

We had our first goal setting meeting with the goalie at the beginning of April 2011 and at that meeting we decided short term-, long term-, physical-, mental- and technical goals for the season 2011-2012. The short term goals were to reach a place the SM-series in C1 and B1 juniors. He was going to play at the qualification in C1 juniors at the beginning of the season. Another short term goal was to maintain a place on the National level at the beginning of the season.

The long term goals were to continue playing with the U16 national team and keep the place during the season. Another goal was to play in the A-juniors and of course play in the SM-league someday in the future. The physical goals were to improve flexibility and get varying training as much as possible during the season. The technical goal was to find out how to meet the puck in the correct body position and how to do the upper body twist in close play. The mental goal was to improve concentration skills and find out about the emotional performance, but the main object was to really figure out how we can concentrate better and how we can find a good emotional performance during the whole season..

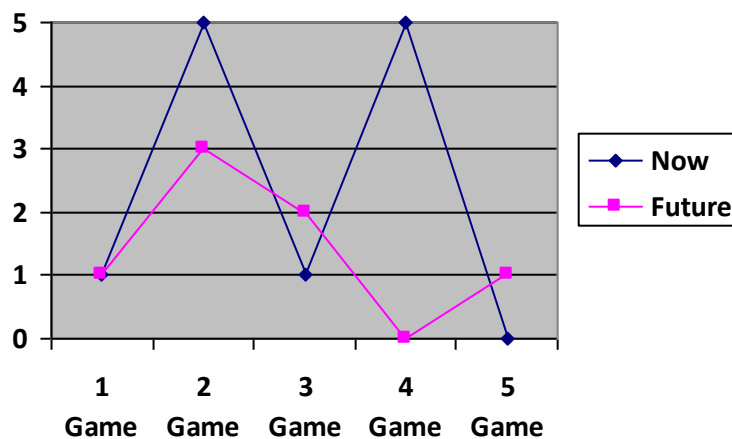


Figure 8. Game performance

Figure 8 shows hypothetical game performances. Now the level of performances are changing a lot, but we are aiming to have a more stable level and less allowed goals in the future.

5 Results of the project

My research included 22 different games when the goalie played. The average saving percent in those games was 85%, the variation was between 79%-100%. There was a clear difference between the beginning of the season and the end of the season. When the season is separated in sections the average of the first part was 80%, December 87%, January 83%, February 88% and March 88%.

Self-confidence before the games was at a good level during the season, only during the first game in C1 juniors the self-confidence was at low level. The feelings before the games also were at a good level, there were no differences or conclusions if thinking about results of the games. At the beginning of the season talking about feeling was only one or few words. When season went on further, the talking about feelings was more like a conversation. The feelings after warm-up were usually different explanations what bothered of mentally during the first part of the season, but at the end of the season feelings after warm-up were neutral.

During the early part of the season we had few games where the result wasn't good. In those games the goalie saw that the team didn't play well in front of him. In those games the co-operation with players was bad, they had lack of confidence or lack of communication. After Christmas the team started to perform at its own level and the team playing started to go in the right direction.

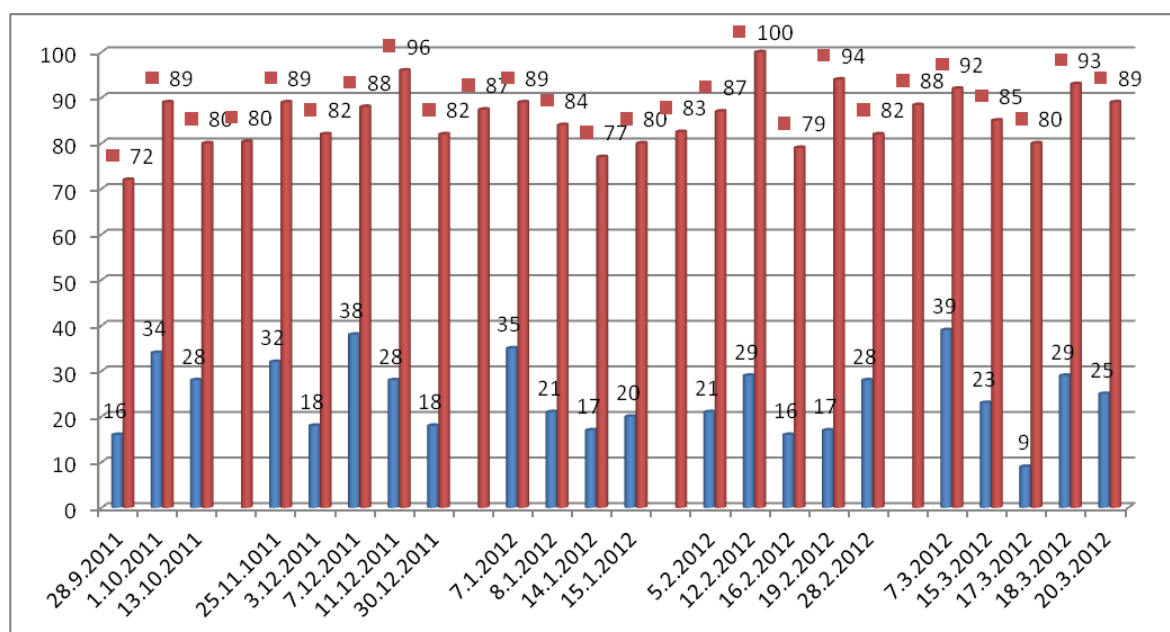


Figure 9. Saves and saving percent 2011-2012

Figure 9 is the summary of the game results shows that when the goalie got more than 30 shots, the level of performance, concentration and self-confidence were higher.

6 Discussion

At the beginning of the season the goalie was a goalie who had reached a lot of success without knowing how or what reasons are behind that success. In this thesis and with my performance tool we took little steps which will help him in the future. When I was working with the goalie, I realized that coaching the mental side of the game and getting results from it takes a lot of time, discussions and learning from the coach and the goalie. Mistakes are also unavoidable on that kind of a journey.

Our season together got better all the time, there was a clear difference between the beginning and the end of the season. The discussion improved and become deeper. At the same time the goalie started thinking more about the individual side. My role was also bigger in helping him to focus on the right things on the mental side and in helping him understand the demands of the game.

One season is nothing if we really want results from the athlete; my suggestion is to continue working with the athlete for 2-3 years. The mental side of the game is one of the slowest and widest areas to improve. At the beginning of the season the goalie had only a few games to play, so we couldn't get the tool in action right away. At the same time the results were poor. Early part of the season athlete struggled to get rid of bad result in a mental side and in my thesis we didn't go from poor to excellent performance at once. During the middle part of the season the feeling at the warm-up session improved and the self-confidence before the game correlated with the success in games. During the last part of the season we had no problems to go on after a poor game.

During the season we faced three different phases of struggling. The first was the beginning of the season when we had a lack of discussion. The second phase was when the goalie goal was to take a place in the Youth Olympic Games and he was not chosen. That was a tough bite for a young athlete and we discussed that many times in our conversations. The last disappointment for the goalie was the end of the season when he didn't fit in the U16 tournament roster and at the same time he had a bad play-off round with the C1. In the next part we go through the season step by step.

The season started in April 2011 with the try-out event; after the event the goalie took a place in the B1 juniors' roster. He also knew that he was going to play the beginning of the season with C1 juniors when preliminary C1 SM-series starts the (highest level). The club's and the team's expectations and goal were to get qualified, because last season had been successful and the team has qualified in the SM-series.

The year before the goalie was a backup goalie at the beginning; the team started with a 1995 born goalie. During the qualification the goalie took the place as the starting goalie. So he was sure that he was going to start this year's qualification for starting goalie. The situation was new and the goalie owns expectations were high at this point.

Before the C1 juniors' qualification he played three training games with the B1 juniors. The team lost the first game against Tampere Ilves 6-4. Joonas played at the average level comparing his skills. The first game is always the first and I got some information on what his performance was in a game situation. In the next game against Forssan Palloseura, which the team won 14-0, the numbers were huge and the difference between the teams was also huge. The goalie played 26 minutes at a very good level of performance, but during the second half of the game opponent didn't challenge the goalie anymore, so the last part was too easy for the goalie. I observed that the goalie could keep a good or a very good mental level during the last part of the game. The last game before the qualifications was against Helsinki HIFK, one of the best teams in the series, in that game the goalie played a shutout. The goalie was the best player in the game and I was very happy after the game. I think that it was the best way to start the season and go forward.

The goalie trained the whole season 2011-2012 with the B1 juniors. He was really confident of our team and his training motivation was high during the whole season. The only problem was that he wasn't very self-confident when he was going to play with the C1 juniors. I think the biggest problem was his role in that team, in other words he didn't know his role. Afterwards we had a lack of communication and co-operation with each other. The feedback between the teams and the goalie was usually defective and I should also have supported him more at that point. Sometimes we got information from the C1 team that the goalie was tired and sometimes he didn't give his full effort. I was surprised and felt sad for the goalie because he wasn't like that when he was with us. I don't know what the real reason behind that was.

The person who he could trust in team C1 was the team's goalie coach; he gave good tips for the goalie during the season. I think the communication and co-operation with that coach was very important during the season. That coach thinks about hockey pretty much in the same way as I do, so the difference between our team and his behavior wasn't too big. That was good for the goalie, because we spoke the same language with him.

I think one of the reasons why the qualification wasn't so good for the goalie in C1 juniors was that, he didn't know his place or role in that team; also the expectations from the club were bigger than the goalie had ever felt from outside. We didn't get the best out of him

during the qualification. The biggest reason was that he didn't play well enough and the level between the games varied so much that we couldn't find the right emotional level of performance. I had the same issue on my table, I didn't have the right tools for him, that same thing we had earlier this season. I should be more systematic and demanding with him.

The qualification went wrong and the C1 juniors didn't get that place in the SM-series, which was a huge disappointment for the goalie, the team, the club and for me. The team should have been good enough to get that place, but you never know what happens in those games; the margins are really small at that level. Maybe the team wasn't ready at that point of the season, but like I said the goaltending game wasn't at the level it is supposed to be in qualification. The first enemy for the goalie after the qualification was that he didn't know his place between the teams. The team's communication should have been better at that point, the athlete can feel insecure. He didn't play much with the B1 at the beginning of the real season, which was also one reason for the lack of self-confidence. At the same time in the C1 juniors he was more as a backup goalie than a starting goalie. That time was my first learning phase. I should have discussed more with the goalie where to focus and told him to leave behind things which we couldn't affect.

The next disappointment for the goalie was the first national U16 team draft and the goalie wasn't chosen in the team. That was a huge disappointment for him at a personal level, because he was the All-star goalie, the best goalie and first pick in National team the season before. I don't have enough data on how much that effected his season at that point. The second huge mistake for me was that I wasn't sure how much the goalie played in the C1 juniors. He was a National group goalie so he should have played more in Pelicans, at least in the C1 juniors. I think the club made a mistake at that point, and the club didn't realize what kind of prospect they had in their organization. Maybe that was the biggest reason why he dropped out of national team at the beginning of the season.

The season continued and the goalie played the first B1 SM-series games. His first game in the B1 was against Espoo Blues, which was one of the best teams in Finland. He played a really good game, but the team lost 3-1. I got a lot of confidence at that point, because the goalie played as such a good level and that was his first game in the SM-series. At the same time I had a discussion with the U16 goalie coach, the goalie and his mom. The U16 goalie coach said that the goalie was on the right way and also our normal daily work was in good level at a Lahti; it would give results for us in the future. In that point the U16 goalie coach worked in Lahti Pelicans with the A-juniors, so situation was at the same time positive and negative. The only thing that I was happy about was that I

knew that he didn't have to be a top goalie yet. I also knew that only few of those goalies who were at top level at the U16 didn't play at top level in U18 or U20.

In December the goalie got his first national team pick, he was in a tournament and played one game against The Czech republic. He made 29 saves and a shutout, which was the best way to show what he can do. That was an amazing result if we think of what had happened at the beginning of the season.

At the end of the season the goalie played a lot of games with us in the B1 juniors. Our older goalies struggled with their own performance and the team also suffered from many healthy problems at the same time. That time was a good chance to play a lot of good games with no pressure. The goalie played a few good games and also a few really bad games. Maybe one of the reasons was also that our team lost the grip of the play-off competition. The goalie didn't fail in those games, but made some small individual mistakes and the other teams skill level was too much at that point. I should have also pushed him more and made him more clear the idea of our goals more clear to him at that point. In my thesis theory part goal-setting is the answer why goals should be easy to measure and realistic to reach.

The goalie played 10 games with the B1 during the whole season. during that time the team get only one win against Tampere Ilves. That wasn't what the goalie, The National team, the club or I wanted, but that was the start. He was the only 1996 born goalie who played so much in the B1 level of the National team boys. The level he played at in those games was pretty good for a rookie goalie. Now he knows what it is to play against best teams in Finland, and what the demands are.

The statistics during the season are poor, especially in the C1 juniors division 1. There he should have played at a better level; the focus in those games wasn't good enough. I was observing a few games during the season and a few games in play-offs. I saw that the goalie had big problems with his emotional performance and focus. I should have set individual goals for him and really made him understand why it is so important to play every game without any mistakes. The B1 juniors' level was very high and the game style was totally different. I think that can be compared to the national level games against top teams. That was good practice for the future, if the goalie could take the place in the U17 national team.

During the season we did a lot of work with the goalie on the technical, tactical and mental side of the game. He is a fantastic person to work with; he is hard working, honest and

had a huge need to achieve something in his hockey career. That was fantastic to watch. I think those are really important skills in the future career. We didn't succeed in this season as well as I thought in statistically, but we learned and got lot of information for the future.

My story continued after that season in Iceland and the goalie story continued in Lahti. I really hoped that we could start a new season together, but it wasn't possible. My own goal was to get more responsibility and I didn't feel that I got in Lahti at that point. I think we got a strong band with each other during that season, I really hope all the best for that man in the future. Hopefully he's one step further next season, and I hope that he started next season B1 juniors' qualifications as a number one goalie. You never know what he can do when he is the number one goalie and everyone trusts him.

Goalies at every level have a lot of problems in keeping the emotional level in good balance during a single game, during a single period and also during a single shift. Junior goalies should practice to find that level as soon as possible, the next step is to keep this level as high as possible many times during the season.

At pro level the teams' first goalies can keep a high level game after game. They kind of offer the team a chance win every game, which is one of the most important parts of playing hockey at a high level. Take for example Martin Brodeur who was the New Jersey Devils' goalie in NHL. He played in the NHL since 1991. He started his NHL career when he was 18 years old and he is still playing as a number one goalie in his team. After 22 years he has over 1000 NHL games (more than anyone), 3 Stanley cup wins, 2 Olympic gold medals, 4 Vezina trophies (best goalie of the league) and over 650 wins.

The most important thing is that every season when Brodeur has played a healthy season, he has played over 70 games of 82 games (12 seasons), his saving percent has been over 90% and he played 8 seasons with over 40 wins per season. He has the skill to keep his emotional level in a good balance in the rink season after the season. There is lot of pressure involved in this sport in that level outside of the rink. Playing is just a small part of this game at high level; you also have to manage your life outside of the rink and handle fans, money, good or bad seasons, injuries etc.

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Attachments

Attachment 1. Performance tool

COACH FEEDBACK

Date:

Shots:

Game:

Saving percent:

RESULT:

	Positive	Negative
1		
2		
3		

Comments:

First save: 1-2-3-4-5

Co-operation with players: 1-2-3-4-5

Reacting for game/penalty: 1-2-3-4-5

GOALIE FEEDBACK

GAME PRIORITY: 1-2-3-4-5

SELF-CONFIDENCE: 1-2-3-4-5

OWN PERFORMANCE: 1-2-3-4-5

TEAM PERFORMANCE: 1-2-3-4-5

Feelings before the game, after final practice:

Warm up on-ice before the game:

Feelings after the game: