Atte Haataja

Psychological Abilities of Junior Ice Hockey Players

KAJAANIN AMMATTIKORKEAKOULU

UNIVERSITY OF APPLIED SCIENCES

THESIS
ABSTRACT

School	Degree Programme
Health and Sports	Sports and Leisure Management

Author(s)
Haataja Atte

Title
Psychological Abilities of Junior Ice Hockey Players

Optional Professional Studies	Instructor(s)
Coaching	Pajala Olavi
	Commissioned by
	Kajaanin Hokki

Date	Total Number of Pages and Appendices
29.10.2012	58+4

The goal of this thesis is to identify the psychological abilities of junior hockey players. Psychological abilities are important when an athlete wants to improve him/herself and be competitive in his/ her own sport. Psychological abilities are combination of the athlete's psychological features and skills. One of the research problems in this thesis was to identify those psychological abilities which needed to be improved in order to provide coaches who work with junior ice hockey players tools to develop these abilities in their players.

To identify psychological abilities, a questionnaire based a psychological test called Athletic Coping Skills Test, introduced by Smith, Schultz, Smoll & Ptacek in 1995, was used. The test includes 28 questions which test subjects' psychological abilities in seven different dimensions: concentration, managing pressure, self-confidence, managing stress, goal setting, positive thinking, and tolerance for criticism. The test subjects for this thesis were local, 16-18-year-old ice hockey team players (N=20).

The test subjects scored good overall points in the test, but the results showed that there were abilities such as goal setting skills which needed to be improved. Goal setting is an important psychological skill for any competitive athlete, because it gives purpose for training.

Based on the psychological test, discussions were held with junior coaches, and most of them agreed that the test result was accurate. Psychological coaching and identifying psychological abilities will be more important in the future, and coaches and staff who work with junior athletes should have more knowledge and skills to work with psychological training.

Language of Thesis	English

Keywords	Psychological abilities, psychological training
Deposited at	☐ Electronic library Theseus
	☐ Library of Kajaani University of Applied Sciences

Tämän työn tarkoitus oli tunnistaa juniori jääkiekkoilijoiden psykologiset valmiudet. Psykologiset valmiudet ovat tärkeässä osassa kun urheilija haluaa kehittää itseään urheilijana. Psykologiset valmiudet ovat kokonaisuus johon vaikuttaa urheilijan psyykkiset ominaispiirteet ja –taidot. Yksi tämän työn tutkimus ongelmista oli myös tunnistaa mahdolliset puutteet testattavien henkilöiden psykologisissa valmiuksissa, ja antaa valmentajille, jotka työskentelevät nuorten jääkiekkoilijoiden parissa valmiuksia puuttua näihin puutteisiin.

Psykologisten valmiuksien mittaamiseen käytettiin Athletic Coping Skills Testiä (Smith, Schultz, Smoll & Ptacek, 1995). Testin tarkoitus on 28 kysymyksen avulla määrittää vastaajan psykologiset valmiudet seitsemässä (7) eri dimensiossa; Keskittymiskyky, stressin sieto, itseluottamus, paineen sieto, tavoitteenasettelu, positiivinen ajattelu ja kritiikin sieto. Testin kohteena oli paikallisen juniori joukkueen, Kajaanin Hokkin, 16-18vuotiaita pelaajia (N=20)

Testin suorittaneet pelaajat saivat keskimäärin hyviä tuloksi psykologisista valmiuksista, jotka olivat linjassa samanlaisten tutkimusten kanssa. Yksi tutkimus ongelmista oli paikantaa mahdolliset ongelma alueet urheilijoiden psyykkisissä valmiuksissa, testi osoitti tavoitteen asettelu dimensiossa olevan jonkin verran heikkoutta tällä tutkimus ryhmällä. Tavoitteen asettelu on erittäin tärkeä urheilijan kehittymisen kannalta koska se antaa harjoittelulle suunnan ja tarkoituksen.

Psyykkisen testauksen pohjalta käytiin keskustelua valmentajien kanssa, ja suurin osa totesi tutkimus tuloksen nuorten jääkiekkoilijoiden psyykkisistä valmiuksista olevan tarkka. Psykologinen valmennus ja psyykkisten valmiuksien selvittäminen tulevat olemaan tulevaisuudessa yhä tärkeämpi osa urheilua ja valmentajilla tulisikin olla nykyistä paremmat valmiudet toimia psyykkisen valmennuksen parissa.

Contents

1 INTRODUCTION

Sport world has developed to be more and more competitive during the past decades. Athletes use great amount of time and effort to getting physically better in their sport. On the high level of sports everybody will be psychically in top shape, but what gives someone the competitive edge. The purpose of this study is to identify psychological abilities of a junior ice hockey player. The aim is also give coaches and players, tools to understand and develop psychological abilities.

Every person and every athlete have little bit different approach to getting ready for performance; however humans have normal psychological models they tend to follow in situations which are stress full or difficult. Anxiety and nervousness are normal for everybody, but controlling these feelings before and during the performance can mean win or lose for an athlete. Sport psychology has been interest of scientists for decades. How will athletes mood states and personal characteristics effect or does not effect on athletes psychical performance, and how an athlete can improve psychological abilities by training. Psychological abilities are combination of variety of things, and they determine how person reacts on certain situation. Psychological abilities can be divided to two categories psychological features and psychological skills.

There are five psychological features affecting on persons behavior: personality, motivation, arousal, anxiety, and self-confidence. This thesis is going to go through all these main characteristics, and also how athlete can improve own psychological features to become a better athlete.

How athlete can affect his own psychological feature, this thesis is going to go through the main psychological skills (imagery, relaxation, suggestion, and goal setting) which by practicing them athlete can influence his own mood states before, during and after competitions, or training. Everybody can learn to effect on their own psychological skills, but mastering the skills can take years of training.

Flow state is the state every athlete wants to get in every competition, flow state happens when athlete perfectly masters his/hers own psychological abilities. Flow state is the complete opposite of nervousness or tiredness, flow state is the place where everything is possible. Flow state is a combination of a lot of things and can be achieved by anyone by

mastering psychological skills, this thesis going to go through main characteristics of flow state, and how athlete can drive his/hers mind and body towards it.

Testing psychological features and –skills, can give athletes and coaches a lot of important information about their psychological abilities. Psychological testing is usually done by questionnaire, because persons psychological features and –skills are usually his/hers own sense about him/herself.

2 ICE HOCKEY AS A GAME

2.1 History

Daniel Webster's definition of hockey reads as follows "A game which two parties of players, armed with sticks or clubs, curved or hooked at the end, attempt to drive any small object (as a ball or a bit of wood) towards opposite goals." (Farrell, 1899). The Society of International Hockey Research (SIHR) defines hockey in similar way "Hockey is a game played on an ice rink in which two opposing teams of skaters, using curved sticks, trying to drive a small disc into or through the opposing goals."   (International Ice Hockey Federation, 2012).

Ice Hockey was developed in Central Europe, where was established a game where two teams by using sticks try to score on other teams net. 1800s in Great Britain this game was transferred played on ice, by then was developed a game known today as bandy. From Europe game traveled with European immigrants to North America, where it was integrated into local ball games. Especially in Canada people tried different kind of combinations of different ball games, and around 1860s game, similar to what we know as ice hockey now days, was born. (International Ice Hockey Federation, 2012)

In Canada this game was played around the country, in different cities, by little bit different rules, but the basic idea of the game was clear. In Canada people started to amalgamate the rules of the game as one, especially college students and military, played important role in developing the game during early years. Puck was established as equipment instead of a bouncing ball. During this time period from 1860s to 1890s more united rules were established and game moved from big outdoor ice to inside smaller indoor rinks, which were easier to maintain. Different cultures started to combine and during 1890s ice hockey was played across Canada by united rules. (International Ice Hockey Federation, 2012)

On March 3, 1875 captain Greighton's McGill defeated captain Fred Torrence's Victoria team, 2-1. It was first ever pre-announced game where two named teams played inside a rink, and all names of players were recorded as well as the score. Game was played with "a flat circular piece of wood", a puck. The game was played in Victoria Skating rink in Montreal. Tw years later, on January 31, 1877 the McGill University formed the first organized hockey team, same year Montreal Gazette published first hockey rules. (International Ice Hockey Federation, 2012)

Ice hockey returned in to Europe in early 1900s, when first recorded games were played in England (1902). In 1905 France and Belgium played two international. Three years later on 1908 LIHG, which later has been known IIHF (International Ice Hockey Federation), was formed in Paris, France. (International Ice Hockey Federation, 2012)

2.2 Rules

Ice hockey is played on ice and inside the square box called rink. Rink size varies from 56-61 meters of length and 26-30 meters of width. Rink is surrounded with boards which are now days made from hard plastic but can also be made from wood. Board are 1.17- 1.22 meters high. Boards have to include kick plate, which is yellow or blue plastic plate 15-25cm high from the ice surface, running all around the whole rink. Rink includes doors, which by players can move in and out from the rink, all of these door should swing open away from the playing area. In the both ends of the rink there should be protecting see thorough glass or Plexiglas 160-200cm of length, and netting which should be placed above the boards and protective glass. (IIHF Rule Book, 2012, 9-11)

There are two goals in the playing are. Goals are placed in the each end of the rink, in middle of goal line. Goal should be122cm high and 183cm wide. Goal posts should be colored red, with white nylon netting. (IIHF Rule Book, 2012, 17)

Players and goalkeeper equipment shall consist sticks, skates, protective equipment and uniform. Sticks can be made from wood or "other material" approved by International Ice Hockey Federation. (IIHF Rule Book, 2012, 21)

Puck shall be made from vulcanized rubber or from "other material" approved by International Ice hockey Federation. Puck shall be 7.62cm of diameter and 2.54cm thick and shall weigh in 156-170 grams. (IIHF Rule Book, 2012, 28-29)

Depending on the level and division, there can be one referee and two linesman or two referees ad two linesman in the game. Referees and linesman shall wear black trousers and official jersey and usually black helmet. The referee shall wear red or orange stripers in his both arms above elbow level. (IIHF Rule Book, 2012, 31-33)

3 ICE HOCKEY AS A TEAM SPORT

For the result of any particular hockey game team work and group cohesion is a major component, because even the team which is lacking in skill, when compared to the opponent, can win if they are playing better as a unit.

3.1 Team Work

In the group there are always as many groups as there are individuals. The group can seem to very different on depending which team member is questioned. Every player in the team has different role and different authority. Coaches task is to get team play as a unit and work towards the goal, set as a unit. It is important as a coach to see that there are no separated groups formed inside the team and no one is left outside of the team. (Kaski, 2006) Especially working with children coaches example is crucial, coach need always take everyone count and be a role model and example for players (Tamminen, 2000, 145).

3.2 Group Cohesion

When group is formed it will go through four typical psychological stages, before it will function on its full potential. These stages are: Forming, Storming, Norming and Performing. Forming, is the stage when group is formed and different people in the group introduced to each other. Storming is stage when personalities in the group will collide and there might be fights or arguments between members of the group. Norming is stage when group will lay out its ground rules and code of conduct, which all the member of the group should follow. Performing, happens after group is formed and it has already settled down and its ready to function and work towards united goal as a unit. (Kaski, 2006, 153)

Every group will always grow to feel some level of cohesion, cohesion includes that members of the team will feel affiliation with the team. (Kaski, 2006, 169-172) Regarding the multidimensional aspect of cohesion, the definition alludes to cohesion as a combination of social and task cohesion. Task cohesion means that members of a group work together to achieve common goals and social cohesion means that members of a team like each other and enjoy one another's company. It is very good if team has high social and high task cohesion, but it is not necessary always. Team can be very successful if it has a high degree of task cohesion even though the team would be low in social cohesion.

3.2.1 Relationship Between Cohesion and Performance

There is an indisputably significant correlation between level of cohesion and level of performance, which is stronger in team sports; this fact was proved in many studies. On the other hand effects of task cohesion in comparison with social cohesion on performance are not so definite. Earlier reviews described the task cohesion is more important, but later researchers have found similar effects of both task and social cohesion. Other subject of discussion is cohesion-performance relationship in interactive sports compared to coactive sports. Although earlier it seems that there is probably a bigger effect in interactive sports, the findings of many researchers have confirmed that; cohesion increases performance for interactive sports (e.g., ice hockey) as well as coactive sports (e.g., golf). (Weinberg & Gould, 2011)

3.2.2. Guidelines for building team cohesion

Cohesion doesn't always enhance group performance, but it can certainly create a positive environment that elicits positive interaction among group members. Great cohesion inside any team does not necessarily mean automatic successes in sports, but it helps team to grow together and play as one unit. "Harmony grows when you really listen to others and they listen to you" for an athlete it's easier to go in the environment where he/she feel welcome and part of the team. (Weinberg & Gould, 2011) Group cohesion does not improve anyone's skill level as such, but it help athletes to reach their full potential and perform at their best possible level.

4 PSYCHOLOGICAL FEATURES

Psychological features mean all those primitive traits every human being got. Personality, motivation, sensitivity for arousal or anxiety and self-confidence, effect on how different athletes react on different situations. However even when all these features are inner born for everybody it does not mean they cannot be affected by right kind of exercise. For example by mastering imagery, relaxation, suggestion, and goal setting skills athlete can channel his or hers psychological features working for him- or herself.

4.1 Personality

Personality is the most powerful psychological feature which effect on how person reacts on certain situations (Kirsta, 1986, 24) Personality is the blend of characteristics: thoughts, feelings and behaviors. Which make individuals unique. There are three levels including psychological core, typical responses, and role behavior. During the day people use all these levels of personality, for example, typical responses for meeting a friend in western country is to shake hands. Role behavior changes for every time the role changes one can act differently during the school class than he is acting in sport practices. The psychological core is our deepest internal control unit including beliefs, attitudes, motivations, needs and values. (Tod, 2010, 14-15) Temperament can be defined as biological behavioral model which everyone has and which separates individuals from each other. Most of temperament researchers believe that core of individuals temperament stays the same throughout whole life. Actual personality is combination of individuals temperament and experiences, and includes individuals: beliefs, attitudes, motivations, needs and values. (Möttönen & Hintsanen, 2011)

Personality can affect athletic performance in many ways, because there are many different kind of sports, it is obvious that some personalities will suit better in some sports than others. Three personality aspects are very interesting when studying sport psychology: personality traits, mood states and cognitive strategies. Personality traits has been claimed to influencing on, is person choosing individual sport or team sport. Researchers have also tried to find evidence, if personality traits predict successful performance, or is the personality traits changing during athletic training, however inconclusive evidence has not been found. Mood states are really interesting and widely researched topic especially when studying sport psychology, because mood states have been shown to have an effect on athletic performance. It has been shown that elite athletes have, lower level of tension,

depression, anger, fatigue and confusion, and, higher level of vigor, than, general population. Cognitive strategies refer to the skills and behaviors that athletes use when competing, and can be linked to role-related behavior, most widely used cognitive strategies among elite athletes are goal setting, imagery, competition plans, refocusing plans, completion simulation during training, self-talk or thought control, arousal regulation, attention control, refocusing skills. (Tod, 2010, 25-29)

4.2 Motivation

Motivation is the combination of internal and external forces which produces the initiation, direction, intensity, and persistence of behavior (Hagger & al., 2005, 99). Motivation is the forces that inspire athletes to compete and practice, in any kind of wheatear or conditions. For those persons who participate in sports, the unbelievable feeling they feel when their team wins or when they have just beaten their personal best is incredible. However, there has to be a lot of practice, behind the success, and practicing is not necessarily as fun as the game itself, so for the sport psychology point of view it is interesting to know what motivates athletes to keep on practicing. (Tod, 2010, 30) In sports motivation has been recognized as an important ingredient for success, and has been interest of sport psychologists and sociologists in sport (Hagger & al., 2005, 99). Enjoying of sports in general, and feeling acceptance and success are very important factor in developing of motivation (Liukkonen & al., 2003, 56)

4.2.1 Motivation Theories

Need for achievement theory is one of the earliest theories of motivation. The basic concept of this theory is that every human being has inner need to achieve success and avoid failure (Tod, 2010, 31). This suits perfectly on so called "old school" coaches who like to rule by fear and many times try to scare their players by talking about what happens if and when they fail.

Different people can have very different motivation traits, these trait are combination of persons own characteristics and expectations of surrounding environment (Soresen, 1974, 16; Moskowitz & Grant, 2009, 27).The Achievement Goal Theory of Nicholls from 1984 has been accepted widely in sports now days. The Achievement Goal Theory is more commonly acknowledged than Need for Achievement Theory. The theory is based on the

premise of two stable personality orientations: task orientation and ego orientation. (Tod 2010, 34)

4.2.2 Task-oriented Motivation

Task-oriented people believe that the effort they put into, task is likely to be rewarded by success. Task-oriented people are more likely to be motivated to participate in sports for enjoyment and favor tasks which provide opportunity for self-improvement. During the game, task oriented players are motivated by the fact that they have been practicing a particular drill in practice, which should help them in the game. (Tod 2010, 34-35)

4.2.3 Ego-oriented Motivation

Ego-oriented people are more likely to believe that success is, result of natural abilities rather than effort. Ego-oriented people are motivated to participate in sport as an opportunity to compare themselves with others and demonstrate their superior ability. They prefer tasks which allow them to look good in comparison to others. In the game, ego-oriented players are of course motivated by wanting to beat the other team, but they are more likely to want to also, out shine the team-mates of their own team. (Tod 2010, 34-35)

4.2.4 Intrinsic Motivation

Intrinsic motivation is the motivation to do something for its own sake in the absence of external rewards (Tod, 2010, 37; Vasalampi & al. 2010). Researches have shown that the more self-determine an individual's motivation, the better the result in the sports. Self-determine athlete is also more likely to enjoy sports, and have better attitude about training. Studies have shown that persons with high self-determination are more likely to achieve success in sports and are less likely to give up on training. (Tod, 2010, 37-40) Some people call this elite sporting personality trait, which means the ability to be motivated and maximize every training session and endure low success for long periods of time (Lewis, 2009, 4)

4.2.5 Developing Motivation

Motivational training climate should focus more on mastery of a skill, and should be task focused environment. Coaches should avoid comparing their own athletes against each other's, and should instead focus on individual improvements as measures of success. Feedback should be individualized rather than group based and should provide constructive criticism, emphasizing areas of improvement and acknowledging people's efforts. According to Self-determination theory, good learning environment is autonomy supportive climate rather than controlling climate. Autonomy supportive environment focuses individuals having choice and opportunities for independent thought and valuing why they are performing certain drills. In autonomy supportive climate coaches offer positive feedback and provide relative information for practice when needed, while listening the athletes feelings also. In contrast controlling coaches tend to use commands and instructions and try to motivate athletes with threats and criticism. (Tod, 2010, 41-42)

4.3 Arousal

Arousal mechanism has been linked in stress full situations (McMorris & al. 2009, 13). Arousal ranges in continuum from deep coma to extreme excitation and is our body's way of preparing us for an upcoming event (Kirsta, 1986, 20). Competing in sports can be very exciting and arousing, however researchers have shown that arousal can affect athlete's performance in positive or in negative manner. High levels of arousal affect person in three different ways. Mentally, person might be worry about his performance. Physically, arousal can affect increased heart rate or increase in muscle tension. Behaviorally, high levels of arousal can effect on how athlete is going to behave and change athlete's performance. (Tod 2010, 58-59) Arousal can be measured also by changes in physiological measures e.g. increase in blood pressure (Moskowitz & Grant, 2009, 160)

4.3.1 Drive Theory

One of the earliest theories of arousal levels is Drive Theory (Hull, 1943). Its key concept is that arousal-performance connection is linear, when arousal goes up athlete is performing better also (picture1).Drive theory is not considering that task complexity or individual differences play any role in arousal-performance equation. Although the sport psychologists did apply Drive Theory for better understand a relationship with performance and arousal the empirical tests were inconclusive. (Tod 2010, 60)

Picture 1: Arousal – performance ratio (Drive Theory)
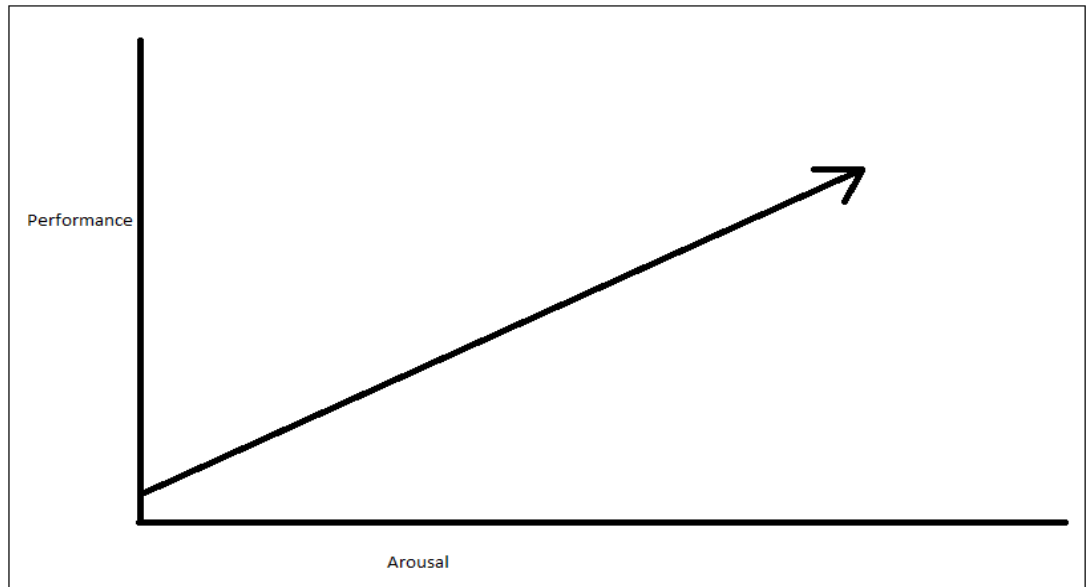
4.3.2 Inverted-U Hypothesis

Inverted-U Hypothesis was developed by Yerkes and Dodson in 1908, they suggested that optimal performance occurs when person experiences a moderate level of arousal, and when arousal is too high or too low, it has negative effect on performance, as shown in picture 2. (Tod 2010, 61)

Table 2: Arousal – performance curve (Inverted U-Hypotesis)
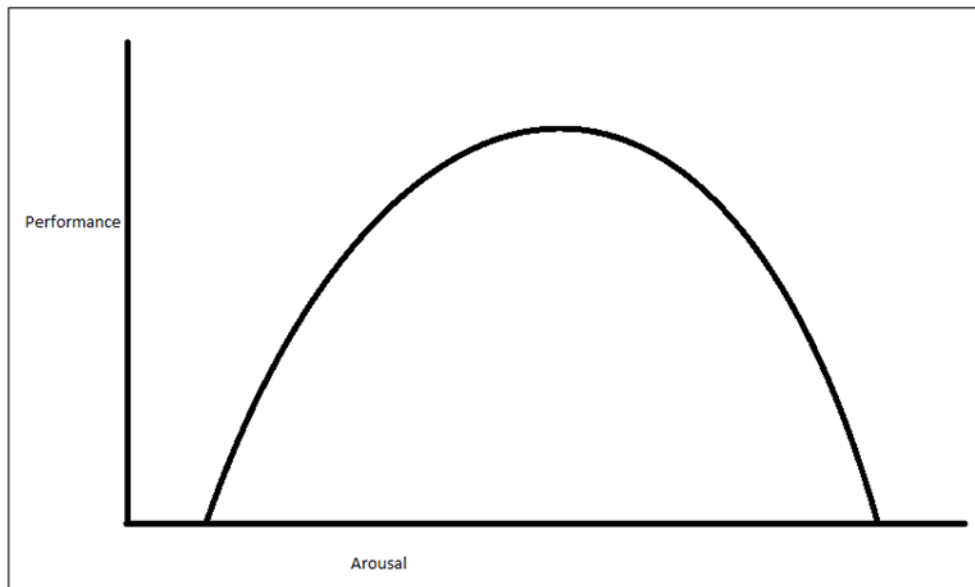
However researchers have discovered two factors which influence to arousal-performance relationship: task complexity and individual differences (Tod 2010, 62). Persons with high skill level and low predisposition for nervousness are performing better in higher levels of arousal, especially if they are performing simple tasks. On the other hand Person who have low skill level and high predisposition for nervousness during performance are more likely to be in the optimal stage with lower levels of arousal, especially if task is really complex. As shown in picture 3.

Picture 3: Complex arousal – performance curve
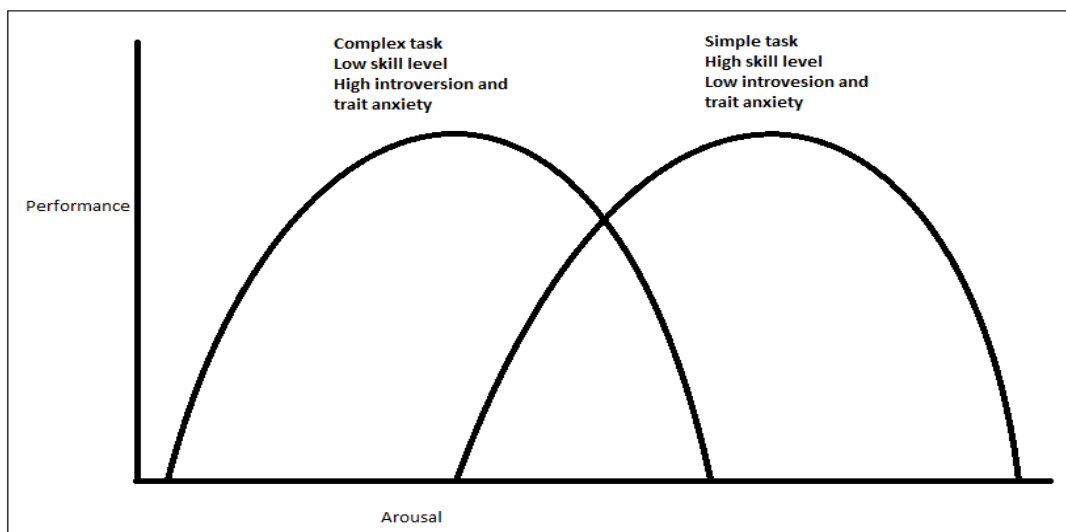
As said already Drive Theory and Inverted-U Hypothesis are not taking account individual differences very well. Researchers support the idea that different athletes will perform optimally in different levels of arousal, so called individual zones of optimal functioning. It has also been said that individual zones of optimal functioning hypothesis can be seen as development from previous models (Drive theory and Inverted-U Hypothesis) and it also has its critics, in its original form this hypothesis does not take account the multidimensional nature of arousal. (tod 2010, 66-67)

4.3.3 Reversal Theory

Reversal theory is a broad theory of motivation, emotion and personality, and it is really good way to try to understand the arousal-performance relationship. Drive theory and the inverted-U hypothesis proposed only one way in which arousal affects, Reversal Theory suggest that the effect of arousal on performance depends how athletes interpret their current level of arousal. On the other hand, their interpretation depends on their current mental state. According to Reversal Theory there are two psychological states affecting on person, called metamotivational states, these states are; telicstate when person is serious and paratelicstate when person is playful. When athlete is in telic state, he is motivated to achieve something meaningful, and is looking ahead to the future, and thinks his current behavior is helping him to achieve longer term goals. When in telic state athlete often prefer lower levels of arousal. When athlete is in paratelic state, he is motivated by enjoyment of the activity he is doing and tend to act spontaneous. In paratelic state athlete is not thinking long term goals or future consequences of the behavior, and usually prefers high levels of arousal.(Tod, 2010,68-70)

Picture 4: Telic and paratelic states of arousal (Reversal Theory)
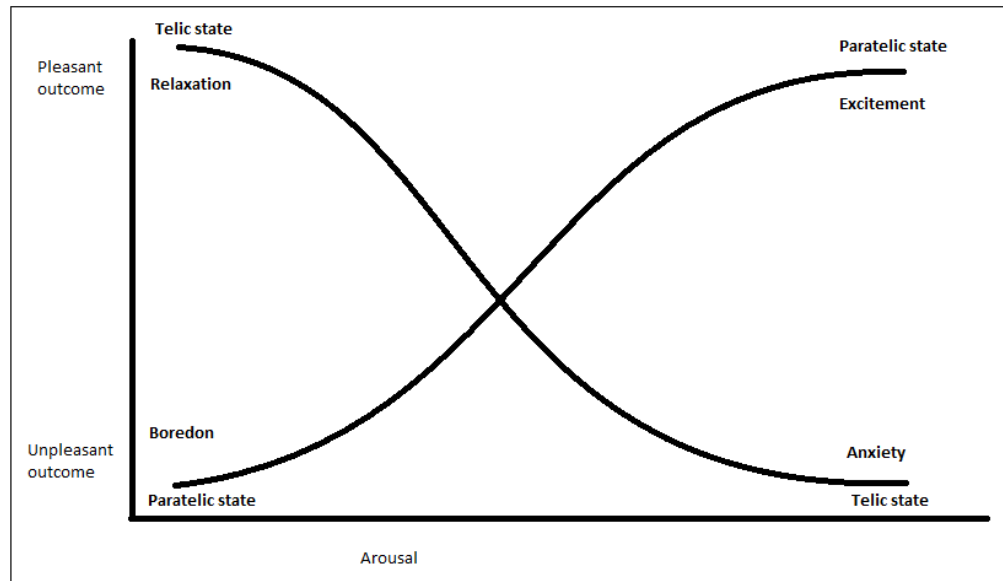
4.3.4 Managing Arousal

If athlete's pre-competition arousal levels are not optimal, whether high, low, or moderate in absolute terms, athlete's performance is not the best possible (Tod, 2010, 71). Managing arousal plays a huge role to athletic performance, that's why managing arousal and achieving the optimal level before every event is one of the key concerns of athletes.

Some strategies for managing arousal are relaxation, imagery and self-talk. Sometimes physical relaxations are needed to calm down the heart rate, respiration rate, or muscle tension. Athlete can also use imagery to either increase or decrease arousal. Athletes usually use imagery to imaging their selves performing well, doing right things, and winning; this can help getting ready for performance. Athletes can use self-talk to manage arousal level, for example athlete can use words like: COME ON!, calm down , relax, focus. Or whatever needed on current situation. (Tod, 2010, 71; Robinson 2010, 141-142)

4.4 Anxiety

High level of stress can lead to anxiety, and high levels of anxiety can cause numerous unpleasant physical symptoms or feelings (Sutton, 1998, 22) All people also athletes find

stress full situation anxiety provoking, for example giving speech in front of people or competing in important sports event, can cause anxiety on certain type of people. This tendency reflects our trait anxiety. If person's trait anxiety is to see sport competitions as anxiety provoking, it is likely to affect athlete state anxiety during sport performance. State anxiety reflects our current anxiety level in any situation and varies from one situation to another. State anxiety is influenced by trait anxiety: higher trait anxiety probably result in higher state anxiety. Both trait and state anxiety come in two different forms: cognitive anxiety and somatic anxiety. (Tod, 2010, 75-76; Acres, 1995, 115) Negative experiences in certain situations can also increase anxiety provoking of the situation (Moskowitz & Grant, 2009, 167).

4.4.1 Cognitive anxiety

Cognitive anxiety reflects athlete's mental side of anxiety: the worries, doubts and concerns we have about our performance (Tod, 2010, 76-77). Cognitive anxiety is affecting athlete performance in negative way (Picture 5), when an athlete starts to think about possible failure, instead of concerning all energy in to performance at hand. The importance of the competition can affect athletes cognitive anxiety (Robinson, 2010, 141).

Picture 5: Cognitive anxiety – performance ratio
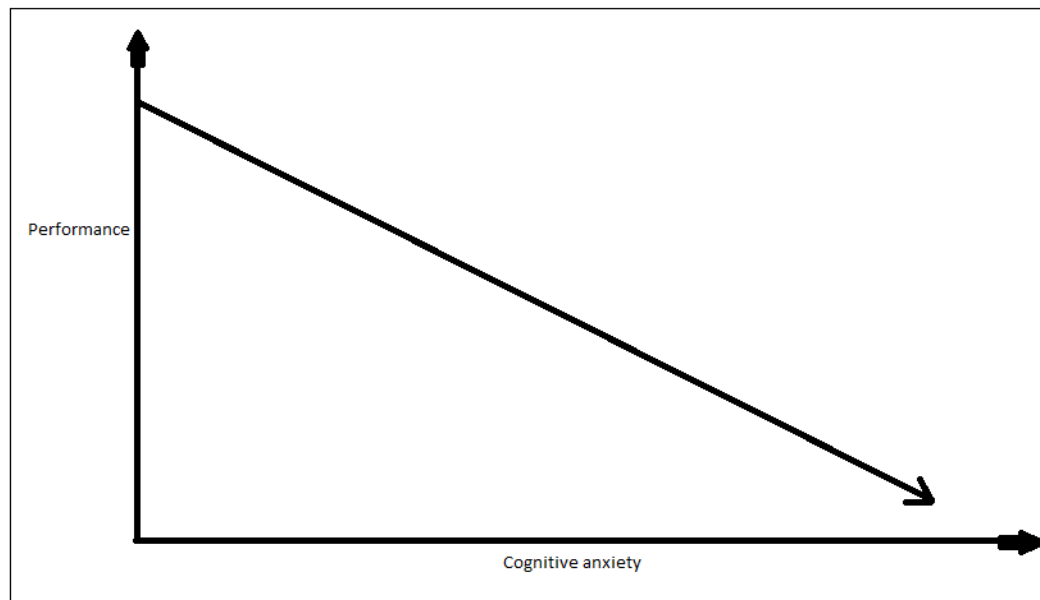
4.4.2 Somatic anxiety

Somatic anxiety reflects athlete's perceptions of the physiological symptoms of anxiety, such as respiratory rate and sweaty palms (Tod, 2010, 76-77). Somatic anxiety can affect to an athlete bit more complex manner than cognitive anxiety. Not enough somatic anxiety is not preparing athletes body to competition too much anxiety is making the feeling unpleasant. Optimal level of somatic anxiety is giving the best result. Right amount of anxiety can get an athlete aroused before competition (McMorris & al. 2009, 21). As shown in picture 6.

Picture 6: Somatic anxiety – performance curve
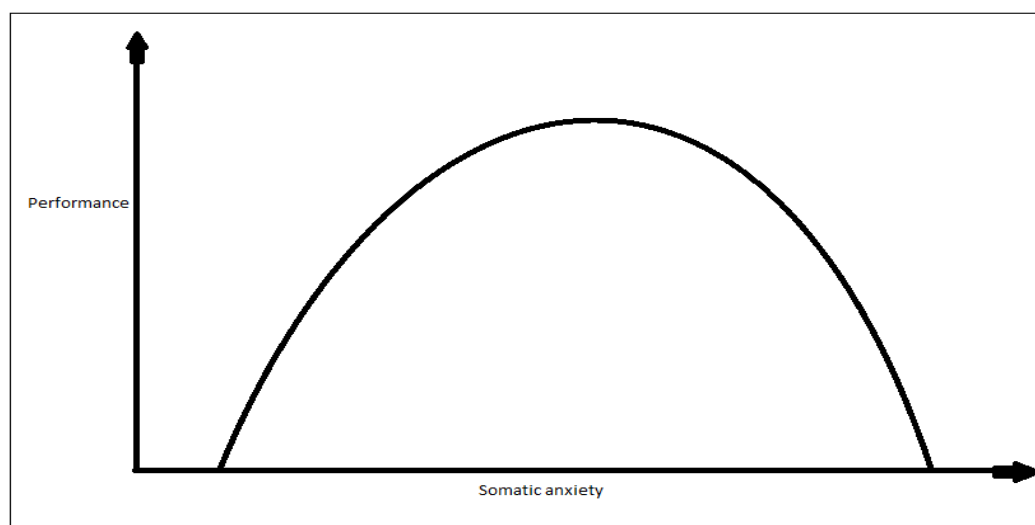
4.4.3 Why Athletes Get Anxious

Anxiety is normal human reaction towards stressful situations (Acres, 1995, 115; Sutton, 1998, 15-16). One main reason to athletes to experience competitive anxiety is their self-presentation concerns. People often re-enforce their self-image by other people's opinions. When competing in big sport event athlete expose himself to the audience, which in some cases can be millions of people. People often intend to present positive images from themselves, nobody wants to get humiliated in front of big audience. Athletes motivation to impression manage is increased when others impression of us influence the achievement of goals which are not attainable by all and when we feel that discrepancy exists between the image we want to convey and the image others have of us. (Tod 2010, 85-87)

4.4.4 Managing anxiety

Mental toughness refers to ability to manage stress and anxiety, and maintain emotional balance thorough out the performance in every competition (Lewis, 2009, 4). There are many ways athletes try to manage anxiety, such as imagery, cognitive restructuring, relaxation, goal setting, and self-talk. Different kind of anxieties can be affected in different methods, for example cognitive anxiety is best managed using mental, or cognitively based strategies such as imagery. Somatic anxiety is best managed using physical based strategies such as relaxation. (Tod 2010, 87-90; Acres, 1995, 117)

4.5 Self-confidence

"Self- confidence can be a major issue in sports performance, and the smallest things can have an impact on performer's self-confidence" (Robinson 2010, 136). Self-confidence has been interested sport psychologists and coaches for long time, and majority of people affecting in sports are listing self-confidence the most important aspect of sport psychology. Self-confidence in sports can be defined by ones belief to achieve success in the performance of choice. Researchers support the idea that high self-confidence can lead to better performance (see picture 7), by influencing athletes thoughts, behaviors, and emotions. Sport psychologists predict that one reason of self-confidence is affecting performance, is the fact that confident people are trying harder and stick with the task and try more complex tasks, than person with low confidence level. (Tod 2010, 92-101) Self-confidnece is compination of persons believing on his own skills, talent, succes, and how high one sets his own goals (Keltikangas-Järvinen, 1994, 26; Liukkonen & al., 2003, 79).

Picture 7: Self-confidence – performance ratio
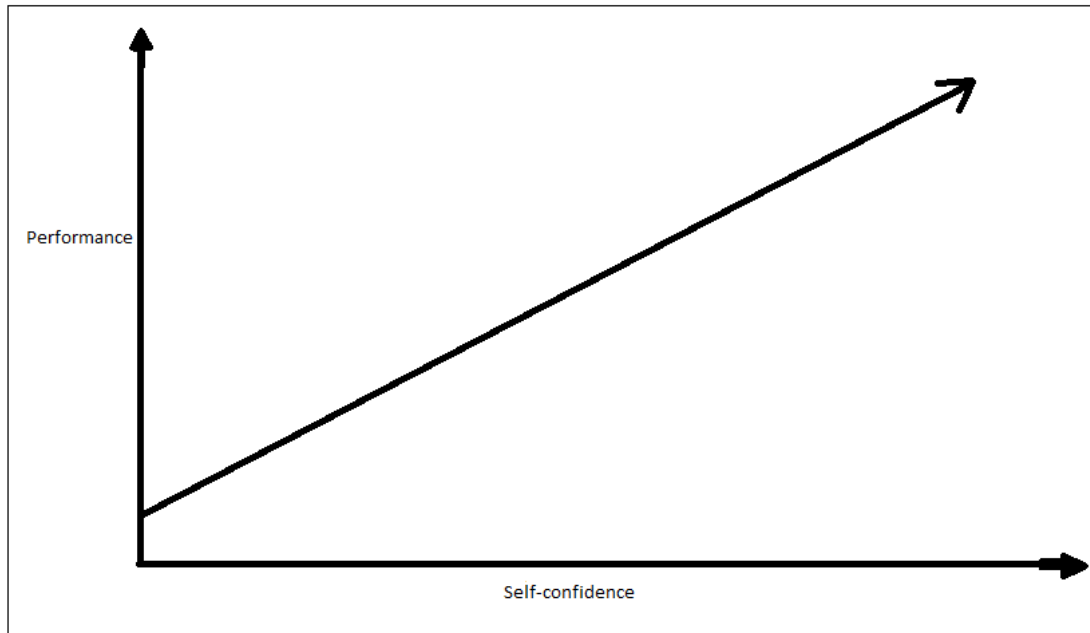
However self-confidence is not this straight line, a lot of different things are affecting athlete's self-confidence-performance relationship, such as persons own characteristic, environment, conditions, feelings, and emotions. One good way to try to understand self-confidence-performance relationship is Vealey's Sport Confidence Model (picture 8).

Picture 8: Multidimensional self-confidence

Source: Adapted from Tod 2010

Demographic and personality

Organizational culture

Sources of sport confidence
Ability demonstration, mastery, environmental comfort, social support, coache's leadership, preparation, physical self-presentation, situational favourableness, vicarious experiences.

Types of sport confidence
Resilience, physical skills and training, cognitive efficiency

Emotion Gognition

Uncontrollable factors

Performace

Physical skills and charasteristics

Sporting organizational culture can influence on how athletes self-confidence is developed and manifested. For example, Olympic athletes have suggested that their self-confidence can be fragile and unstable as a result of the pressure and distractions of international competitions. (Tod, 2010, 97) In Finland athletes many times tend to go behind weak self-confidence in the case of bad results. Emeritus Professor of Psychology Markku Ojanen states in his column; bad self-esteem offers a great explanation for any kind of a problem.

Ojanen also suggest that pumping self-confidence without any real skill level is not beneficial and can even be harmful. (Ojanen, 2012). Even self-confidence is suggested and proven to be one of most important psychological feature for athletes, coaches and athletes should not concern only in to that, but understand the multidimensional level of things affecting self-confidence.

"Self-confidence enhance winning, winning enhance self-confidence"

4.5.1 Improving self-confidence

Most people think self-confidence is just internal skill some people born with and others just don't have, this is not true, anyone can improve own self-confidence by training and realistically positive thinking (Liukkonen & al., 2003, 79-80). Athletes and coaches spend a lot of time trying to improve self-confidence. Sport psychologists suggest that best ways to improve self-confidence are, goal setting, self-talk, and imagery. To break it down to more we can say there are nine different aspects affecting athlete's self-confidence: Mastery, ability demonstration, vicarious experiences, social support, coach leadership, preparation, physical self-presentation, situational favorableness, and environmental comfort. All these aspects affect self-confidence and can be improved by different techniques (Table 1)

Table1: How to achieve self-confidence

Source: Adapted from Tod 2010

Source	Confidence improves when athletes
Ability Demonstration	Demonstrate greater ability than others
Vicarious experiences	Watch others perform well
Social support	Believe others are supportive and encouraging
Coach leadership	Have faith in their coach's leadership abilities
Preparation	Feel physically and mentally prepared
Physical self-presentation	Think they appear well to others
Situational favorableness	Believe the situation in favorable towards them
Mastery	Think their skill level have improved
Environmental comfort	Feel comfortable in the environment

5 PSYCHOLOGICAL SKILLS

By managing and training psychological skills an athlete can improve psychological features of himself, and achieve better results in athletic performances. Most important Psychological skills for athlete are imagery, relaxation, suggestion, and goal setting. Psychological skills are all trainable and anybody can learn then, in the same manner than for instance everybody can learn to read or to play baseball or any other sport. However learning and mastering psychological skills it can take years and years of training, but the results are better managing of psychological features; motivation, arousal, anxiety, and self-confidence, and in the end becoming better athlete.

5.1 Imagery

By mentally rehearsing a routine before a major competition, athletes can prepare themselves to achieve their optimal performance when it counts most. By imaging playing at their top level athletes can build their confidence. Imagery can also help athletes throughout bad injury by sifting the attention from injury to mentally practicing the sport skills, it is shown that imagery training helps maintaining and even build a skill level. (Morris 2005, 5; Liukkonen & al., 2003, 129) Imagery is valuable because it is not physically challenging, and athletes can use imagery as effective alternative to learn and maintain skills, even during injury, however imagery cannot maintain fitness. (Kidman & al. 2011, 180) Same way an athlete repeatedly practice skill to retain them, same way an athlete can reinforce already learned skills by practicing imagery. Top level athlete, learning new skill is not as often needed than in beginner athlete, but practicing skill athlete already have is very important for to keep skills well-tuned. Mental practice can never replace psychical practice, but it can be really helpful asset when combined with psychical training. Mental practicing can also be used when athlete can't practice psychically, for instance when traveling or during injury. (Morris 2005, 216)

Imagery is intriguing for its close relationship to perception and action. It is such a rich memory system, matching the complexity of information presented by the environment and contained in the execution of motor skills images bind personal thoughts and emotions to experience, and they have qualities far beyond simple stimulus/response proposition. Imagery can be creative, allowing one to experience attitudes and actions mentally in ways that have not yet been encountered in real performance. (Simons, 2000, 92)

5.1.1. Using Imagery

Athletes can improve performance, reduce anxiety, or enhance focus by right imagery training, however this is not as easy as it sounds. Sport psychologies have different ideas how imagery works at its best possible level, some say imagery should do in quiet room with no disturbance others think it is best to add visual aid such as video of right performance to reinforce the imagery or even do imagery during normal training. (Morris 2005, 6-7)

Uses of imagery in general athletic population can be divided in skill learning and practice, tactical and game skills, competition and performance, psychological skills, and recovery from or heavy training. By imagining performance athlete can work skills same way than by using psychical training. Most common use of imagery is for skill learning and practice. (Morris, 2005, 214-215) Top athletes have used imagery for decades to improve their performance. Researchers suggest that regular and long term use of imagery improve any kind of performance and is great way to improve self-confidence. (Lampikoski & al. 1999. 92-93)

You need to win hundreds of times in your mind, before you can win one time in the competition.
- Pauli Kiuru

Athletes and coaches use imagery as one tool of developing or practicing strategies, to get best out of themselves or from their team. Team can have meeting before game or practice and go through game plan or strategy everyone then follow. Coach can also use imagery, by planning the best strategy for his team or athlete, by realizing his teams or athletes strengths, before run it into practice or into game. Once strategy has been created athletes usually use imagery to learn it before competition. (Morris, 2005, 218-219)

Imagery can be also be used as a psychological tool to control arousal and anxiety. For instance so called pumping up before competition can help athlete to get aroused with upcoming event. Imagery can also be used when athlete shows signs of anxiety, by relaxing and imaging how well he is going to do in upcoming competition athlete can control anxiety and fell more relaxed when the actual competition starts. By creating those situation which are anxiety provoking for athlete, coach can help athletes to create models how they can manage his own anxiety. (Morris, 2005, 223) Certain amounts of arousal and anxiety can be beneficial for the athlete's performance. On the other hand too much of arousal or anxiety

can be harmful for athletes performance. To be able to manage these feelings, imagery is a great tool.

Imagery can also be used as a tool for concentration. Imagery can help athlete to focus attention and regain focus. Focusing attention athlete can imagine relevant aspects of the upcoming performance. This helps athlete to narrow focus on those relevant aspects and limits the impact on irrelevant aspects. To practice to keep focused in competition athletes can imagine themselves in situation in the competition they usually lose focus, and correct the situation first in their mind. By imaging beforehand what athlete wants to achieve, and what it takes to achieve it, help athlete to stay more focused when trouble occurs. Morris, 2005, 223)

By using imagery athletes become more self-aware. Usually when starting psychological training first practices contain athlete imaging himself performing well. This helps athlete to create positive picture about himself as a athlete. (Morris, 2005, 224)

Imagery can also be used to increase motivation. When practicing is not always fun, athletes can imagine themselves performing well in the big competition or upcoming came, and stay motivated and focused during the tough times in practice. (Morris, 2005, 225)

"The one who does not dream about winning, has already lost"

Närhi&Frantsi 1998, 91

5.1.2 Examples of Imagery in Use

Think about athlete who is just getting ready for his attempt, He has done the task thousands of times in practice it is in his muscle memory. Now he needs all the power from his body for the task. He goes the whole performance trough in his head before performing. Athlete who is well prepared feels relaxed and confident trough out the whole performance. (Enäkoski 1993, 52) Before and during competition, athlete can use imagery for feel more comfortable and reduce distractions. Right before the competition athlete might use imagery, by thinking the first few minutes or plays of the upcoming game, and this how will be "mentally warmed up" for the competition.

Imagery can be used of way detecting and correcting errors. Athlete who is in slump can, by imagery to enhance self-confidence. For instance athlete can think himself acting at his full potential, and compared it to himself acting in slump, and correct mistakes. (Morris 2005, 219) Good example of imagery training in use, where coach does not trash his athlete when an athlete is performing badly, instead coach helps an athlete to build self-confidence, and in the end the athlete is competing in top level, comes from Juhani Tamminen's book; "Jim Bedard was star goalie of TPS in 1980s. During the season 1993-1994, in age of 38, he became the starting goalie of TuTo which played in 1-division. His skills was not vanished, but his self-confidence was so low, it prevented him to act in his full potential. We built his confidence back by taking small steps at a time. We visualized success, by watching videos of Jim on his prime during the time in TPS. Slowly Jim's self-confidence grew back, and when it was needed most Jim was performing on his best again." (Tamminen, 2000, 127)

5.2 Relaxation

Relaxation state of mind is something everybody has or can have, but in stress full situations it can many times be lost (Rantanen, 2010, 4) When talk about relaxing as a part of a sport psychology it is usually meant intentionally achieved state, where either listening somebody else's directions or by giving orders and imagines to oneself, the whole body and mind is fully relaxed. (Närhi & Frantsi 1998, 97)

Athletes can use relaxation for getting ready for competitions or practices, because usually relaxing helps concentration. Sometimes athletes try to achieve fast and full recovery by relaxing. Relaxation exercises can also help if one is having trouble to fall in sleep. Most of the times it is good to start relaxation exercises with trainer who knows relaxation techniques. In the end athletes should be able to perform relaxation exercises by himself. Some persons it is easier to learn relaxation techniques than for others, but everybody can and will learn them in reasonable time if practicing. (Närhi & Frantsi 1998, 97) Researchers talk about total relaxing when the whole body is relaxed and local relaxation when only one muscle or muscle group is relaxed at the time (Kataja, 2003, 24). To absolute performance it is mandatory to have relaxed easy-going feeling (Enäkoski 1993, 52).

Meditation is good and well known way to relax. People who have practiced meditation for long time are convinced about positive effects of meditation. Meditation is psychological process which has a purpose; this purpose is usually relaxation and settling down or

thinking. Meditation should not be mixed with hypnosis, meditation is something anyone can do anywhere anytime. (Soresen, 1974, 189)

5.2.1 Relaxation Exercise

There are many different relaxation techniques and exercises, and an athlete should try different techniques to find suitable relaxation for himself. Relaxation exercise introduced next is just an example, about main idea of outlines of relaxation techniques.

Progressive relaxation:

1. Close your eyes and breathe deeply few times.
2. Calm your mind
3. Concentrate your feet. Tense your feet intensively and then relax your feet completely. Feel the difference between tension and relaxation
4. Continue same tense/relax technique and go through your whole body from feet to head and muscles of the face. Feet-> calves -> thighs -> stomach ->arms->etc.
5. Try to tense one part of your body at the time.
6. In the end feel the complete relaxed feeling of the body. Enjoy the feeling.
7. Wake yourself up in the end by slowly moving your toes and fingers. Feel the vitality and energy taking over your body. Stretch, like you just woke up from you own bed in the morning.

You are full of energy!
(Adapted from: Rantanen, 2010, 8)

5.3 Suggestion

Suggestion is defined as one getting subconscious abilities to work. Suggestion is also understood to be state of mind when mind is ready to work in full potential. Sometimes suggestion is used as a synonym for hypnosis, which is not the most accurate definition, but provides idea of condition needed for suggestion. (Lindh, 1983, 8) Suggestion is a message which reaches persons subconscious mind, and hypnosis on the other hand is technique to maintain state of transformed state of mind. Sometimes hypnosis is used to reinforce

suggestions. (Luukkala, 1998, 27-28) Suggestion is guiding the mind, and it is also closely linked to imagery (Santavuori, 2006, 93)

With suggestions psychologist can direct an athlete thoughts towards wanted direction. Especially effective suggestions are so called post-hypnotic suggestions, which direct an athlete thoughts and actions after hypnosis or relaxation session. (Ihamuotila, 1998, 103)

During relaxation one can also use suggestions to get himself into wanted state of mind, to completely relaxed, and back to fully waken. Suggestion can also be persons inner process, so called self-suggestion, Hypnotist or trainer can try to achieve so strong self-suggestions into athletes own mind that he does not need help of a hypnotist anymore. (Ihamuotila, 1998, 103-104) Self suggestion is persons inner talk between consciousness mind and subconscious mind (Luukkala, 2000, 37).

Suggestions can also be negative, for example if somebody is always thinking "I don't want, I can't, I'm tired, I have always failed in this situation" he is causing himself a negative suggestions, and big mental barrier for achievements. (Ihamuotila, 1998, 105; Närhi & Frantsi 1998, 91)

5.3.1 How to Use Suggestions

When using suggestions, educated trainers or psychotherapists presence is recommendable. The goals of suggestions should be still set by the athlete, not the trainer. Suggestions need to be positive, realistic, and concrete. To work suggestions should be clear and explicit. (Luukkala, 1998, 32-33)

By building a positive feeling about upcoming event athlete give himself a possibility to success. Positive feeling also enhance trying and self-confidence. If athlete believes in himself and builds image of himself performing well in competition inside his own head before competition, he is more focused and relaxed during the performance. (Närhi & Frantsi 1998, 91; Millman, 1999)

5.4 Goal Setting

Goals are like fuel, which is needed for achievement (Tracy, 1993, 156). Most of the people tend to automatically set some kind of goals during their life (Kivinen & al. 1994, 30). Goal setting is key component in learning process, and is widely known and used performance enhancement technique (Kolovelonis & al. 2012, 222). Goal setting is the way to success in any given task or performance (Wilson & al. 2008, 3).

Goals give athletes direction and sense of what he is aiming for (Sutton 1998, 169). Goal setting helps athletes to focus during long training periods, because athletes who set goals have to think what they want to reach over their athletic career, and what is necessary to do to reach these goals. "Generally, students who set goals pay greater attention to the task at hand and report higher self-satisfaction" (Kolovelonis & al. 2012, 222) Part of goal setting is planning; without plan athlete may be reacting to the demands of others rather than focusing on his/hers own goals (Wilson & al. 2008, 63). Martin Lee also states that "Identifying a goal gives purpose" (Lee, 1993, 145).

5.4.1 Why to Use Goal Setting

An athlete without a goal is like person trying to get from one place to another without a plan. Setting goals is like looking at the road map, and plan the route from one place to another. An athlete can have stopovers (intermediate goals) on the road towards ultimate goal. (Sutton, 1998, 169) You need to know where you coming from to know where you are going to (Tamminen, 2000)

5.4.2 How to Use Goal Setting

Researchers have shown that athletes who set process goals (e.g. mastering dart-throwing technique) receive better results improving their performance than athletes who set performance goals (e.g. hitting the bulls eye in darts). (Kolovelonis & al. 2012, 222) On the other hand goal setting must be realistic. If athlete sets goals two high, he cannot reach the goal, this causes athlete to feel disappointments and create picture of ones inadequacy. If athlete goals are too low, he is going to be satisfied of his results even if they are not

reaching his highest potential. (Kivinen & al. 1994, 31) It is easier to realize other person's realistic potential, which is why coaches should have big role in setting goals with their athletes.

Fantasizing is part of goal setting, but turning fantasies to goals require goal commitment and goal pursuing (Moskowitz & Grant, 2009, 159). Goal setting is not just fantasizing or imaging something. To reach goal person must commit him/herself to the goal and pursue it, and be willing to pay the price to achieve the goal. (Tracy, 1993, 158)

Dedication is most important thing in goal setting. This is why athletes should use time to set specific goals, which they are willing to dedicate time and effort in to. If an athlete changes the goal all the time he/ she can have some amount of success, but to have greater achievements an athlete should have one ultimate goal in mind. (Laakso, 2009, 161-180)

The secret of success is constancy to purpose.
(Benjamin Disraeli)

6 FLOW

Flow state happens when athlete masters psychological abilities perfectly. Flow state is what every athlete tries to achieve by psychological training.

6.1. What is Flow

A subjective human experience that has been closely examined over the past several decades is a positive psychological state known as flow (Hagger & al. 2007, 114). This highly enjoyable state is the all-inclusive sensation that people feel when they act with total involvement (Hagger & al. 2007, 114; Andersson, 2008, 59) Flow has been associated with peak performance in many cases. Researchers has identified many characteristics of flow, such as concentration on the task in hand, a merging of action and awareness, a sense of control, a transformation of time, and balance between perceived skills and challenges.

Going in to flow state happens when athlete throws himself in to task and forgets everything else. During flow brain capacity is focused to the task in hand so intensively that body does not necessarily feel pain. Everything else than performance disappears. After the flow athlete can remember parts of performance but during performance cognitive thinking is not happening. During flow energy is flowing freely and all power of a athletes body is in his use. (Andersson, 2008, 60-61)

> **"I forget everything else, and concern to the game**
> **with my whole presence. It is like I have a lot of time**
> **for everything. Sometimes it feels like I could predict**
> **opponent's moves before they make any. Nothing can**
> **hurt me. Getting hit by other players, sticks or pucks**
> **can't hurt me. Pain comes after the game."**

Good example of athlete being in the flow state is Usain Bolt when he is getting ready for 100 meter race, there is absolutely nothing that can stop him, he knows it and everyone else believes it too. Every athlete tries to achieve flow state in every time they compete, and to achieve the flow state it is good to know your own psychological abilities, and how to improve them.

6.2 How to Achieve Flow State

There is a lot of things and techniques which help athlete to achieve flow state, Concentration, Relaxation, Physical training, Self-confidence, Imagery, Positive thinking (self-talk), Living in the moment (Table 2). (Andersson 2008, 62-64)

Table 2: How to achieve flow

Technique	How it help athlete to achieve flow state
Concentration	Concentration for most important skill for the task can help athletes performance and improving other skills.
Relaxation	Relaxation helps athlete to free his mind from other concerns during the performance, and also relieves physical tension.
Physical training	Athlete needs to know he is physically at least as good condition as the opposition athletes.
Self-confidence	Athlete need to believe he is good enough to perform in this competition and he can achieve success.
Imagery	By imaging himself performing well athlete gives himself a change to perform well and achieve a flow state.
Positive thinking (self-talk)	Positive thinking and positive self-talk help athlete to believe he is better and more prepared than opposing athletes.
Living in the moment	If athlete wants to achieve flow state he needs to concentrate only to the performance and forget everything else.

Flow state is the optimal state of experience, where every piece of the puzzle a locked in the place and without thinking person completes task on his best level possible. Flow state can also be presented as diagram (picture 10) (Csikszentmihalyi, 1988)

Picture 10: Optimal flow state range

(Adapted from: Csikszentmihalyi, 1988)

Flow Theory (Csikszenpmihalyi)

High

Anxiety Area
(shut down)

Flow Zone

Challenge
Level
axis

Boredom Area
(not engaged)

Low

Skills / Ability
Level axis

High
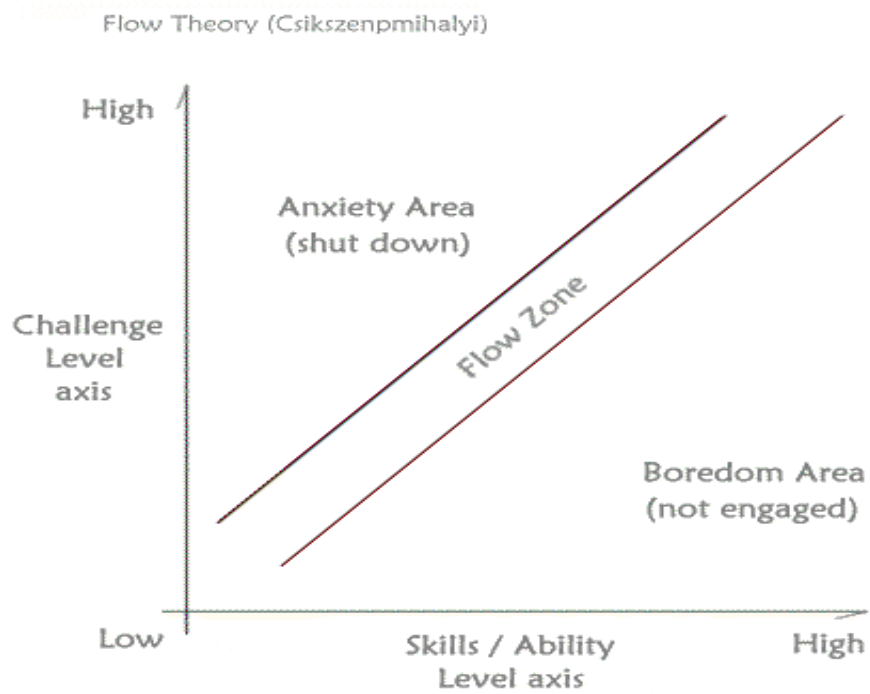
7 RESEARCH PROBLEMS

The purpose of this study is to identify psychological abilities among youth ice hockey players. The aim is to give coaches who work with the youth ice hockey players information what are psychological abilities and how to develop them.

How good are youth ice hockey players psychological abilities?

What are problem areas and on the other hand strengths of youth ice hockey players, when we think psychological abilities?

8 IMPLEMENTATION OF RESEARCH

Test is a measurement device or technique used to quantify behavior or aid in the understanding and prediction of behavior. A psychological test is designed to measure characteristics of human being. Main use of psychological testing is to evaluate individual differences or variations among individuals. (Kaplan & Saccuzzo, 2009, 6-9) Psychological testing generally uses questionnaires to identify person's psychological features (Edenborough, 1994, 38). Psychological tests which are designed to measure subject's personal characteristics are called psychometric tests (Soresen, 1974, 137).

8.1 Introducing Test

Athletes psychological abilities were tested by using Athletic Coping Skills Test, introduced by: Smith, Schultz, Smoll & Ptacek (1995) (Attachment 1). Athletic Coping Skills Tests measures athlete's psychological capacity in seven (7) dimensions: Concentration, managing pressure, self-confidence, managing stress, goal setting, positive thinking, tolerance for criticism. These dimensions have been considered to be accurate measurements for athlete's psychological abilities. Most of the dimensions test a combination of psychological skills and –features, introduced in this thesis. Test includes 28 questions, and every dimension includes 4 questions. Questions are placed in mixed order. Questions are multiple-choice, answerer have chance to choose from four (4) choices: almost never, sometimes, regularly, almost every time, answers were graded from 1 to 4.

Managing Stress
5. I remain positive and enthusiastic during competition, no matter how badly things are going.
17. When things are going badly, I tell myself to keep calm, and this works for me.
21. When I feel myself getting too tense, I can quickly relax my body and calm myself.
24. I maintain emotional control regardless of how things are going for me.

Managing pressure
6. I tend to play better under pressure because I think more clearly.
18. The more pressure there is during a game, the more I enjoy it.
22. To me, pressure situations are challenges that I welcome.
28. I make fewer mistakes when the pressure is on because I concentrate better.

Goal Setting
1. On a daily or weekly basis, I set very specific goals for myself that guide what I do.
8. I tend to do lots of planning about how to reach my goals.
13. I set my own performance goals for each practice.
20. I have my own game plan worked out in my head long before the game begins.

Concentration
4. When I'm playing sports, I can focus my attention and block out distractions.
11. It is easy for me to keep distracting thoughts from interfering with something I am watching or listening to.
16. I handle unexpected situations in my sport very well.
25. It is easy for me to direct my attention and focus on a single object or person.

Positive thinking
7. I worry quite a bit about what others think of my performance.
12. I put a lot of pressure on myself by worrying about how I will perform.
19. While competing, I worry about making mistakes or failing to come through.
23. I think about and imagine what will happen if I fail or screw up.

Self-confidence
2. I get the most out of my talent and skills.
9. I feel confident that I will play well.
14. I don't have to be pushed to practice or play hard; I give 100%.
26. When I fail to reach my goals, it makes me try even harder.

Tolerance of Criticism
3. When a coach or manager tells me how to correct a mistake I've made, I tend to take it personally and feel upset.
10. When a coach or manager criticizes me, I become upset rather than helped. Almost Never Sometimes Often Almost Always
15. If a coach criticizes or yells at me, I correct the mistake without getting upset about it.
27. I improve my skills by listening carefully to advice and instruction from coaches and managers.

8.2 Dimensions

Dimensions introduced in this thesis measure different psychological abilities. These abilities can be psychological features, psychological skills, or combination of psychological features and –skills.

8.2.1 Managing Stress

Stressful situations are arousal and anxiety provoking. Also personality affects how easily person is stressed. Stress can be managed by knowing relaxation techniques, also person can use imagery and suggestions to set up strategies for stress full situations.

8.2.2 Managing pressure

Suitable amounts of pressure can be good for athletic performance, because it helps athlete to get aroused and prepared for the upcoming event. Too much pressure can cause anxiety and inhibit athletic performance. Good self-confidence helps managing pressure. Athlete can use imagery, relaxation and suggestions to set up strategies to manage pressure.

8.2.3 Goal Setting

Goal setting is one of most important psychological skills for athlete. Goal setting helps athlete to focus his/her strengths for something he/she really wants to achieve. Setting realistic and accurate goals help athlete to improve his/her skills.

8.2.4 Concentration

Athletes motivation effect on how concentrated he/she is during training or competition. Concentration can be understood on long term (e.g. whole athletic career), when goal setting is big part of concentration. Concentration can mean concentration during specific task (training or competition), when knowledge of relaxation techniques, and managing unexpected situations are big part of concentration.

8.2.5 Positive Thinking

Positive thinking can be understood as right use of imagery and suggestions. By using imagery and suggestions in positive manner, athlete can manage anxiety, stress, and pressure. Positive thinking also means athletes ability to cope with setback. Athletes personality, motivation, and self-confidence effect on positive thinking.

8.2.6 Self-confidence

Self-confidence is psychological feature, which can be effected by right kind of psychological training. Some people have naturally better self-confidence, but everyone can learn and train self-confidence.

8.2.7 Managing Criticism

Athlete's personality, motivation, and self-confidence effect on how he/she manages with criticism. Also relaxation techniques and clear goal setting can help person to manage with criticism.

8.3 Subject of Study

Test subjects were 20 Finnish hockey players, from Kajaanin Hokki Under18 club team. Subjects were aged 16-18years old. Kajaanin Hokki played Under18 1-Division league. Subjects had no previous experience about psychological testing. Couple of the players had had experiences about psychological training, mostly imagery training, from junior national team camp.

8.5 Test Method

Test subjects filled in Athletic Coping Skills Test (Smith, Schultz, Smoll & Ptacek, 1995) same time in controlled environment. Data collected from these tests, were calculated by SPSS, to identify psychological abilities and patterns of the subject of study. Three different things were calculated from data: Mean of variables in dimensions, standard deviation inside dimensions, and coefficient of variation in dimensions.

Sometimes it is necessary to sum up variables, to create larger ensemble of variables which measure same quality (Nummenmaa, 2004, 151-152) Mean is equal to the sum of the values divided by the number of values. (Tilastokeskus, 2012)

Standard deviation is statistics and probability theory, which shows how much variation differences from the average (mean), a low standard deviation indicates that the data points tend to be very close to the mean. (Nummenmaa, 2004, 61)

Coefficient of variation defines the relative standard deviation of observation value. The coefficient of variation is usually registered as percents. The coefficient of variation (%) indicates how much standard deviation of observation value is from mean of the observation values. (Tilastokeskus, 2012; Nummenmaa, 2004, 64)

9 RESULTS

The goal of this study is to identify psychological abilities of youth ice hockey player. Test subject were tested by using a questionnaire. Mean in table 3 reflects the average score of the test group in the particular dimension (scale 1-4), and should give a picture of psychological abilities inside test group. Test subjects scored overall good points, and best dimensions were managing criticism and concentration, on the other hand managing stress and goal setting abilities were little bit weaker.

Table 3: Results

Dimension	N	Mean	Std.Deviation	The coefficient of variation
Managing Stress	20	2,7722	,73291	26%
Managing pressure	20	3,0125	,86410	29%
goal setting	20	2,1500	,78111	36%
concentration	20	3,2375	,66072	20%
positive thinking	20	3,0000	,82677	28%
self-confidence	20	3,1875	,79705	25%
managing critisism	20	3,5250	,79516	23%

Most of the categories in this thesis identify something which is combination of psychological features and psychological skills, but two categories which are clearly either one are self-confidence (Psychological feature) and goal setting (Psychological skill).

9.1 Results Self Confidence

As Robinson states "Self- confidence can be a major issue in sports performance, and the smallest things can have an impact on performer's self-confidence" (Robinson 2010, 136). Self-confidence plays important factor in wheatear athlete is going to succeed in competition or not. Self-confidence means, that athlete believes in himself, and believe in his skills and abilities.

When asked how well test subjects believe they can utilize their abilities only 10% believe they can use all their abilities and skills almost every time. On the other hand 25% believe they can only utilize their abilities and skill only sometimes or hardly ever. (Table 4)

On the other hand when asked how confident athletes feel, that they are going to do good in competition 45% believes they are going to do good almost every time. And even 75% thinks they are playing well at least regularity. (Table 5)

 60% of test subjects also thought they are giving everything they got in every practice and game. And 95% of athletes think they are giving everything they got at least regularily. (Table6)

When asked what happens is these athletes do not reach the goals they have set for themselves, 90% of them thinks not reaching goals will get them to work at least regular basis or almost every time. (Table7)

Table 4: I get most out of my talent and skills.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	1	5,0	5,0	5,0
	sometimes	4	20,0	20,0	25,0
	regularly	13	65,0	65,0	90,0
	almost every time	2	10,0	10,0	100,0
	Total	20	100,0	100,0	

Table 5: I feel confident that I will play well

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	1	5,0	5,0	5,0
	sometimes	4	20,0	20,0	25,0
	regularly	6	30,0	30,0	55,0
	almost every time	9	45,0	45,0	100,0
	Total	20	100,0	100,0	

Table 6: I don't have to be pushed to practice or play hard; I give 100%

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	0	0	0	0,0
	sometimes	1	5,0	5,0	5,0
	regularly	7	35,0	35,0	40,0
	almost every time	12	60,0	60,0	100,0
	Total	20	100,0	100,0	

Table 7: When I fail to reach my goals, it makes me try even harder.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	1	5,0	5,0	5,0
	sometimes	1	5,0	5,0	10,0
	regularly	10	50,0	50,0	60,0
	almost every time	8	40,0	40,0	100,0
	Total	20	100,0	100,0	

9.2 Results Goal Setting

Goal settin is very important psychological skill for an athlete, or as Kolovelonis and others state: goal setting is key component in learning process, and is widely known and used performance enhancement technique (Kolovelonis & al. 2012, 222). Goal setting helps athlete visualize why they are training and what they are aiming for

85% of athletes participating in this test are setting goals for themselves only sometimes or hardly ever. And none of them are setting goals in daily or weekly basis. (Table 8)

When asked if athletes in this study tend to do a lot of planning in prior to reach their goals 75% of them is doing so sometimes or almost never. (Table9)

However 55% of athletes in this study are setting themselves goals for every practice frequently or every time. Goal setting in practice is very good because setting goals help athletes to concentrate and knowing why they are practicing. Setting goals for practice helps to give meaning for practices, good coach can also help by setting goals for every practice. (Table 10)

Only 20% of athletes in this study plan their competitions beforehand frequently or almost every time. Having a good strategy or plan for competition can help athlete to concentrate before and during competition. Also when things are not going in as hoped athlete can easily calm himself by sticking with the game plan, planned beforehand. (Table 11)

Table 8: On daily and weekly basis, I set very specific goals for myself that guide what I do.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	1	5,0	5,0	5,0
	sometimes	16	80,0	80,0	85,0
	regularly	3	15,0	15,0	100,0
	almost every time	0	0	0	100,0
	Total	20	100,0	100,0	

Table 9: I tend to do lots of planning about how I reach my goals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	5	25,0	25,0	25,0
	sometimes	10	50,0	50,0	75,0
	regularly	4	20,0	20,0	95,0
	almost every time	1	5,0	5,0	100,0
	Total	20	100,0	100,0	

Table 10: I set my own performance goals for each practice.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	4	20,0	20,0	20,0
	sometimes	5	25,0	25,0	45,0
	regularly	10	50,0	50,0	95,0
	almost every time	1	5,0	5,0	100,0
	Total	20	100,0	100,0	

Table 11: I have my own game plan worked out in my head long before the game begins.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	almost never	5	25,0	25,0	25,0
	sometimes	11	55,0	55,0	80,0
	regularly	2	10,0	10,0	90,0
	almost every time	2	10,0	10,0	100,0
	Total	20	100,0	100,0	

10 VALIDITY AND REABILITY

"Validity refers to whether a test measures what it supposed to measure." (Edenborough, 1994, 27) Athletic Coping Skills test has been developed to measure athletes psychological features in year 1995, and is well established and used in psychological testing in around the world. Edenborugh states in his book Using Psychometrics, that Questionnaires are widely used in psychological testing and is most reliable way to test ones psychological features (Edenborigh, 1994, 38). Athletic Coping Skills test (1995) has been well established among psychological testing, and has been used in similar kind of researches (e.g. Jylhäkangas, Suomalaisten Yhdistetyn Urheilijoiden Psyykkiset Taidot, 2005).

"Reability refers to whether the measurement provided is consistent." (Edenborough, 1994, 29) Test result in this thesis were consistent. Cronbach's Alpha factor is used to calculate consistent from the sum of variables, common limit value for reability is 0,6 (Metsämuuronen, 2000, 52-56; Kekki & Palmi 2008, 86-87). All the categories in this thesis meet this limit except one (managing stress 0,581) N=20.

Dimension	Cronbach's Alpha
Managing Stress	0,581
Managing pressure	0,846
goal setting	0,602
concentration	0,693
positive thinking	0,736
self-confidence	0,793
managing critisism	0,617

Table 12

Test sample was rather small (N=20) in this thesis, so it is hard to draw general conclusions, about young athletes psychological skills in general. But when the goal was to identify psychological features and skills among hockey players, one team is justified size of sample group.

11 DISCUSSION

11.1 The Results

Test subjects (Youth ice hockey players) scored overall good points in most of the dimensions (managing stress, managing pressure, concentration, positive thinking, self-confidence, and managing criticism) tested in this thesis.

One problem area according to result were goal setting of test subjects, after my discussions with coaches of Kajaanin Hokki, this result seemed to be accurate. Also when I discussed with the test subjects, they have never had any kind of instructions for psychological training. I think psychological training is rather new area in coaching and all the coaches does not have the knowledge needed to teach psychological skill to their athletes, this is clearly area where coaches and organizations need to focus more in the future.

Goal setting is one of the most important psychological skills for athlete, and it is easily learned and put to use. Goal setting gives a purpose for everything athlete does during the training. I think coaches who work with youth hockey players should concentrate on goal setting with every player of team individually. Of course it is possible that even coaches do not have enough knowledge about goal setting.

There was some inconsistency in the results of this study, especially in self-confidence dimension. Only 2 players answered they can use 100% of their skills almost every time they play, but still 9 players were confident that they are going to do good in the competitions all the time. Also 12 players think they are giving 100% almost every time. How does these 10 of player who think they give everything they got, does not think they get all their abilities for use.

I have to ask, did the test subjects understood all the questions right? Was the setting of the questions correct?

It is also possible to draw a conclusion, if we believe that results were accurate, that some of these test subjects are so called underachievers. Underachievers are satisfied for results which are not equal with their full potential. Or as Kiianmaa and Trygg-Juottijärvi state underachievement means that people is not getting all his capabilities to use (Kiianmaa & Trygg-Juottijärvi, 2001, 9). Underachieving is closely linked on persons self-confidence, in the same way than test subjects in this study think they cannot use all their abilities during competition but still are most of the time satisfied in results. Underachieving can also result

from poor goal setting, underachieving is easy way to protect own ego, because if an athlete sets goals he/she can reach almost without any work or does not set goals at all, athlete is saving him/herself from failure.

Kiianmaa and Trygg-Juottijärvi also suggest that nobody can use all of their potential every time, and even half of Finnish people can be defined as underachievers (Kiianmaa & Trygg-Juottijärvi, 2001, 9, 14)

Athletes in this study showed overall good self-confidence, which shows the potential in these athletes. In Table 7 showed that these athletes think not reaching their goals make them work harder for them, this shows good self-confidence. If athletes of this kind of a mentality would be directed to work on their own goals in right way, and motivated correctly, I think results could be very satisfying.

11.2 Reliability and Ethics

Test used in this study; Athletic Coping Skills Test is used several similar kind of researches and I think it is relevant measurement of psychological abilities. Also test results seemed to be relatively consistent according Cronbach's Alpha test.

The sample group (N=20) is rather small for drawing conclusion, and can leave it open for discussion how accurate are the results. But the goal of this thesis was to identify psychological abilities of a youth ice hockey player, and test group was selected to be one team of ice hockey player, the usual size of a team is about twenty players. So in this case I think sample group size is relevant for this particular study.

Good research protocol and ethics was followed throughout the whole research process. Some of the test subjects were under age during the test, and permits from parents before the test was needed, for these athletes. No one was forced to take the test, and all the test subjects were volunteers and willing to participate. All the test forms were properly stored during and destroyed after the research, for protecting the intimacy of test subjects.

11.3 Professional Growth

Making a research is always a process, including writing a thesis. In the beginning of this process I got a problem selecting a subject for thesis, but after I talked with working life contacts what would be interesting subject for research, I decided psychological abilities to

be main focus in my thesis. After I decided a subject I needed to narrow it down a lot. It took us long time to decide what kind of abilities is going to be tested and which will be the sample group. Testing psychological abilities was rather simple, the most common way to test psychological abilities is through questionnaire, and this method was used in this particular thesis also. I decided to use Athletic Coping Skills test, because it is well established and known for testing persons psychological abilities.

I gained a great amount of information about psychological abilities and psychological training during this thesis process. To be honest I did not have a lot of knowledge about how psychological features or – skills are affecting on athletes before this thesis. I found psychological aspect of sports really interesting, and I think I could be interested to learn more about it.

I learned also a lot of how to do academic research, from searching information, to researching and analyzing a test results. Also I learned critical usage of sources and information. All the information is not relevant, reader need to be able to identify which information is accurate (Metsämuuronen, 2000, 18-20).

During my thesis process I realized how much information there is about psychological abilities of human being, I think this subject is widely researched subject, and that's why picking relevant information for this thesis was a challenge. Psychology can be a challenging subject to understand in short time, and that's why I tried to select easily readable information for this thesis, that as many people as possible could benefit from this work.

11.1 Comparing test result to previous study

Ilkka jylhänkangas used same measurement (Athletic Coping Skills Test) to analyze 42 Nordic combine skiers psychological skills in his study 2005. Nordic combine athletes in Jylhänkangas study were aged 11-25, and their skill level varied from beginner to national team athlete.

When compared this to results of this thesis we can see similarities in results in managing stress (Nordic Combine athletes mean 2,80) (test subjects in this thesis mean 2,77). What is interesting in results Nordic combine athletes had better skills, according to these studies, in goal setting dimension

Nordic combine athletes mean 2.45 (out of 4) Jylhänkangas also had divided his subjects in three (3) categories depending how well they have succeed in their sport: 1Juniors, 2 National level, 3 International level. Interesting fact in goal setting Nordic combine athletes scored 2.16 in Junior level (age 11-14), however international level athletes (age 14-26) in Jylhänkangas study scored 2.73 in goal setting category. (Jylhänkangas, 2005, 54)

When compared goal setting skill shown in this thesis (Mean 2,15) towards goal setting skills of nordic combine athletes in Jylhänkangas study (Mean 2,45) or in closer comparison junior nordic combine athlete (age 11-14) 2,16 against hockey players in this thesis 2,15; and international level Nordic combine athletes 2,73 against hockey players in this thesis 2,15. Maybe comparing with the international level athletes is not accurate and fair for test subjects of this thesis, because age difference between these groups is too great.

Nordic combine athletes seem to do better in positive thinking dimension also (Nordic Combine athletes 3,37) (test subjects in this thesis 3,00). However hockey players in this thesis seem to be managing pressure (Nordic Combine athletes mean 2,45) (test subject in this thesis mean 3,01) a lot better than tested Nordic combine athletes in Jylhänkangas study. I think differences in managing pressure can be explained by differences in requirements of different sports, ice hockey players need to learn cope with many people from early age different coaches and team mates, which all can add pressure for athletes.

Also it is possible that differences between Nordic combine athletes and ice hockey players come from different qualities needed in specific sport. At least part of Nordic combine (ski jumping) is closed task, where ice hockey is open task where opponent effects on the incidents during the game. Also ice hockey is team sport and many times coaches direct players to think team first, which is necessary in competitions, but when we think goal setting skills ice hockey athletes should learn to identify their personal abilities and set personal goals to be able to develop them.

11.4 Conclusion

The purpose of this study was to identify psychological abilities of youth ice hockey player. Aim was to give coaches who work with youth ice hockey players some information and tools how to help athletes to develop their own psychological abilities. I think the test result

in this thesis were accurate and gave a clear picture what are the points to concentrate in this particular group of athletes.

Psychological features effect to all human actions. The base of psychological features is personality, according researchers; Actual personality is combination of individuals temperament and experiences, and includes individuals: beliefs, attitudes, motivations, needs and values (Möttönen & Hintsanen, 2011). Other important psychological features are motivation, arousal, anxiety, and self-confidence.

Athletes can effect on their psychological features by training, athletes can learn to manage arousal and anxiety, gain self-confidence, and improve their motivation; by learning psychological skills: imagery, relaxation, suggestion, and goal setting.

Psychological abilities are combination of many things, and usually are affect by psychological skills – and features. In this thesis I used seven (7) different dimensions to identify psychological abilities of test subjects: managing Stress, managing pressure, goal setting, concentration, positive thinking, self-confidence, managing criticism. Most of these dimension measure many psychological features and –skills, and how they are affecting together, which gives great overall idea of test subject's psychological abilities.

Test subjects in this thesis scored overall good points in almost every dimension in this thesis. How ever there was some amount of inconsistency in the results, which can be explained by the fact that test was made by questionnaire and different people understand different questions in different manner.

Key concern area according test result was goal setting skills of test subjects, and discussion with coaches confirmed test result to be accurate.

 Also discussions with the players and coaches resulted to conclusion, that not many of the players have never done any psychological training. During the discussions all the coaches and players after all were clearly eager to learn more about, developing psychological abilities. A lot of the times athletes concentrate their psychical abilities rather than train their psychological skill, but what is the result if athlete gets better psychically but cannot get all his potential in use during the competition. In the end athletic performance is multidimensional task, which requires athlete to be in top shape mentally as well as psychically.

Psychological abilities have been shown to be affecting on athletic performance, and it is important to recognize that identifying and training of these abilities is going to improve any athletic performance. During this thesis in this test group a clear result was that some of the psychological abilities of these youth ice hockey players need improvement, and I hope coaches recognize this information and can help these athletes to improve their psychological abilities as well psychical abilities. In the end I think more psychological testing and psychological training would be needed in the youth sports.

12 FURTHER RESEARCH SUGGESTIONS

Test result gave clear picture of a youth hockey player psychological skills, but only inside of one team. By using similar kind of testing it would be possible to compare possible results inside this particular age group.

To be stated that goal setting in this test group was rather low, compared to similar age group within Nordic Combine athletes. It would be interesting to test how continuous psychological training, in this test group or test group with similar result, would effect on goal setting and more importantly in overall performance. Also testing is youth ice hockey player's goal setting skills generally limited when compared to other athletes in same age group. Or the differences between differences in goal setting when compared individual sport athletes to team sport athletes.

REFERENCES:

Acres, D. 1995. How to pass exams without anxiety. Great Britain: 1995 fourth edition.

Andersson, C. 2008 Voittava kierre. Porvoo: WSOY

Csikszentmihalyi, M. 1988. Optimal Experience, Psychological Studies of Flow in Consciouness. Edinburgh: Campridge University Press. Retrieved from: http://books.google.fi/books?id=lNt6bdfoyxQC&printsec=frontcover&dq=flow&source=bl&ots=k8LBiviZAf&sig=p3zpeaCguzfoGeAFUZXZBPG_wx8&hl=fi&sa=X&ei=wj9gUOjSDKfe4QSxuYDoBg&ved=0CEAQ6AEwAg#v=onepage&q=flow&f=false

Edenborugh, R. 1994. USING PSYCHOMETRICS, A Practical Guide to Testing and Assessment. London: Kogan Page Limited.

Enäkoski, R. 1993 Halu, Hinku ja Haba. Helsinki.

Farrell, A. 1899. Hockey: Canada's Royal Winter Game. Montreal

Hagger, M, Chatzisarantis, N. 2005. Social Psychology of Exercise and Sport. Great Britain: Maidenhead. E-book retrieved from: http://site.ebrary.com/lib/kajaani/docDetail.action?docID=10409195&p00in

Hagger, M. & Chatzisarantis, N. 2007 Intrinsic Motivation and Self-Determination in Exercise and Sport. USA

Ihamuotila, M. 1998. Ihminen Muutosten Keskellä. Hämeenlinna.

IIHF Rule Book. 2012. Retrieved 4.9.2012 from: http://www.iihf.com/fileadmin/user_upload/PDF/Sport/rulebook2010/Rulebook_10_51_-_29_September.pdf

International Ice Hockey Federation. web page 2012. Retrieved 4.9.2012 from: http://www.iihf.com/iihf-home/history.html

Kaplan, M. R. & Saccuzzo, P. D. 2009. Psychological Testing. USA: Wadsworth.

Kaski, S. 2006. Valmentautumisen psykologia kilpa- ja huippu- urheilussa. Helsinki: Edita

Kataja, J. 2003. Rentoutuminen ja Voimavarat. Helsinki: Edita Prima Oy

Kekki, H-L. Palmi, s. 2008. Nuorten Kokemuksia Terveyttä Edistävästä Valmennuksesta Urheiluseuroissa. Jyväskylä University:

Keltikangas-Järvinen, L. Hyvä itsetunto. Helsinki: WSOY.

Kidman, L & Hanrahan, s.J. 2011. The Coaching Process, a Practical Guide to Becoming an Effective Sports Coach. New York: Routledge.

Kiianmaa, K. Trygg-Juottijärvi, A-M. 2001. Alis: Kyvyt Käyttöön. Hämeenlinna: Karisto Oy:n Kirjapaino

Kirsta, A. 1986. The Book of Stress Survival. London: Gaia Books Ltd.

Kivinen, R. Latikka, A-M. Oja-Koski, R. 1994. Ihminen tavoitteet ja toiminta. Turun yliopiston täydennyskoulutuskeskuksen julkaisuja A:26. Turku: Painosalama

Kolovelonisa, A. Goudasa, G. Dermitzakib, I. 2012. International Journal of Sport and Exercise Psychology: The effects of self-talk and goal setting on self-regulation of learning a new motor skill in physical education. (Pgs. 221-235) Routledge: Taylor & Francis Group. Retrieved 12.10.2012 from: http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=72289594-563b-46c4-ac8b-292ee3deb677%40sessionmgr115&vid=5&hid=122

Laakso, J. 2009. Mielen taito, Vapauta ajatuksia – kehitä tunteita. Hämeenlinna: Kariston Kirjapaino Oy.

Lampikoski, T. Miettinen, P. 1999. VOITTO Taito ja Tahto. Keuruu: Otavan Kirjapaino Oy

Lee, M. 1993. Coaching Children in Sport : Principles and Practice. London: Spon Press. Retrieved 12.10.2012 from: http://site.ebrary.com/lib/kajaani/docDetail.action?docID=10060750&p00=goal%20setting

Lewis, G. 2009. The Making of Champions, Roots of the Sporting Mind. New York: MacMillan.

Lindh, R. 1983. Mielikuvaoppiminen, suggestiopohjaisen oppimisen opas. Juva: WSOY

Liukkonen, J & Jaakkola, T. 2003. Psyykkinen Valmennus Hiihtourheilussa. Suomi: Kainuun Sanomat OY

Luukkala, J. 2000. Suorituskyvyn vahvistaminen, menetelmänä itsesuggestio. Vammala: Vammalan Kirjapaino Oy

Luukkala, J. 1998. Hypnoosi, Itsesuggestion ja hypnoterapian käytännön opas. Jyväskylä: Gummerus Kirjapaino Oy

McMorris, T. Audiffren, M. Tomporowski, P. D. 2009. Exercise and Cognitive Function. Hoboken: Wiley. Retrieved 15.10.2012 from: http://site.ebrary.com/lib/kajaani/docDetail.action?docID=10303928&p00=arousal%20sport

Metsämuuronen, J. 2000. Metodologian perusteet ihmistieteissä. Võru: Jaabes OÜ

Millman, D. 1999. Body Mind Mastery. California: Novato.

Morris, T. & Spittle, M. & Watt, A. 2005. Imagery in Sport. USA

Moskowitz, G. Grant, H. 2009. Psychology of Goals. New York: Guilford Press. Retrieved 16.10.2012 from: http://site.ebrary.com/lib/kajaani/docDetail.action?docID=10351562&p00=goal%20setting%20task%20performance

Möttönen, L. Hintsanen, M. 2011. Suomen Psykologinen Seura, Psykologia Magazine 04/2011 (p.232-247), Liittyykö Työstressin Kokeminen yksilön Temperamenttipiirteisiin? Vammala: Vammalan Kirjapaino Oy

Nummenmaa, L. 2004. Käyttäytymistieteiden tilastolliset menetelmät. Vammala: Vammalan Kirjapaino Oy

Närhi, A. & Frantsi, P. 1998 Psyykkinen Valmennus. Helsinki: Otava.

Rantanen, P. 2010. RENTOUTUMINEN Työkaluja ryhmänohjaajalle. Jyväskylän Ammattikorkea koulu: Versova Hanke. Retrieved 29.10.2012 from: http://www.kssotu.fi/versova/media/docs/rentoutus-opas.pdf

Robinson, P.E. 2010. Foundation of Sports Coaching. New York: Routledge.

Santavuori, R. 2006. Tajunnan taito, Hypnoosiohjauksen kirja. Jyväskylä: Gummerus Kirjapaino Oy

Simons, J. Doing Imagery in the Field. 2000 In Doing Sport Psychology, ed. M.B.Andersen, 77-92. Champaing, IL: Human Kinetics.

Soresen, P. 1974. Tunne Itsesi Tunne Muut, Psykologian Perustietoa. Tapiola: Oy Weilin + Göös Ab:n Kirjapaino

Sutton, J. 1998. Thriving on Stress, How to manage pressures and transform your life. Oxford: How To Books Ltd.

Tamminen, J. 2000. Aurinkokuningas. Hämeenlinna: Kariston kirjapaino oy

Tilastokeskus.   2012.   retrieved   12.10.2012   from:

    http://www.stat.fi/tup/verkkokoulu/data/tt/02/11/index.html

Tod, D. & Thatcher, J & Rachel R. 2010. Sport Psychology. London: Palgrave Macmillan.

Vasalampi, K. Nurmi, J-E. Salmela-Aro K. 2010. Suomen Psykologinen Seura, Psykologia

    Magazine 05-06/2010 (p. 402- 411) Sisäinen Motivaatio ja Hyvinvoinnin Rooli

    Onnistuneessa Koulutussiirtymässä. Vammala: Vammalan Kirjapaino Oy

Tracy, B. 1993. Menestys & Onnellinen Elämä. Suom. Maarit Tillman. Juva: WSOY -

    Kirjapainoyksikkö

Weinberg, R. S & Gould, D. 2011. Foundations of Sport and Exercise Psychology. USA:

    Human   Kinetics   5th   Edition.   Retrieved   from:

    http://www.google.fi/books?hl=fi&lr=&id=EQFYHAJjJawC&oi=fnd&pg=PR1&dq=f

    oundations+of+sport+and+exercise+psychology&ots=sIEVYSmNvM&sig=L6ZEOC-

    0cdi9aenXecFYrve4gHs&redir_esc=y#v=onepage&q=foundations%20of%20sport%20

    and%20exercise%20psychology&f=false

Wilson, s. Dobson, M. 2008. Goal Setting : How to Create an Action Plan and Achieve

    Your   Goals.   USA: Saranac   Lake.   Retrieved   12.10.2012   from:

    http://site.ebrary.com/lib/kajaani/docDetail.action?docID=10271778&p00=goal%20se

    tting

ATTACHMENT 1

The Athletic Coping Skills Test

Directions: A number of statements that athletes have used to describe their experiences are given below. Recall as accurately as possible how often you experienced the same thing. There is no right or wrong answers. Do not spend too much time on any one statement.

Please circle how often you have these experiences when playing sports.

1. On a daily or weekly basis, I set very specific goals for myself that guide what I do.

Almost Never   Sometimes   Often   Almost Always

2. I get the most out of my talent and skills.

Almost Never   Sometimes   Often   Almost Always

3. When a coach or manager tells me how to correct a mistake I've made, I tend to take it personally and feel upset.

Almost Never   Sometimes   Often   Almost Always

4. When I'm playing sports, I can focus my attention and block out distractions.

Almost Never   Sometimes   Often   Almost Always

5. I remain positive and enthusiastic during competition, no matter how badly things are going.

Almost Never   Sometimes   Often   Almost Always

6. I tend to play better under pressure because I think more clearly.

Almost Never   Sometimes   Often   Almost Always

7. I worry quite a bit about what others think of my performance.

Almost Never   Sometimes   Often   Almost Always

8. I tend to do lots of planning about how to reach my goals.

Almost Never   Sometimes   Often   Almost Always

9. I feel confident that I will play well.

Almost Never   Sometimes   Often   Almost Always

10. When a coach or manager criticizes me, I become upset rather than helped.

Almost Never   Sometimes   Often   Almost Always

11. It is easy for me to keep distracting thoughts from interfering with something I

am watching or listening to.

Almost Never   Sometimes   Often   Almost Always

12. I put a lot of pressure on myself by worrying about how I will perform.

Almost Never   Sometimes   Often   Almost Always

13. I set my own performance goals for each practice.

Almost Never   Sometimes   Often   Almost Always

14. I don't have to be pushed to practice or play hard; I give 100%.

Almost Never   Sometimes   Often   Almost Always

15. If a coach criticizes or yells at me, I correct the mistake without getting upset about it.

Almost Never   Sometimes   Often   Almost Always

16. I handle unexpected situations in my sport very well.

Almost Never   Sometimes   Often   Almost Always

17. When things are going badly, I tell myself to keep calm, and this works for me.

Almost Never   Sometimes   Often   Almost Always

18. The more pressure there is during a game, the more I enjoy it.

Almost Never   Sometimes   Often   Almost Always

19. While competing, I worry about making mistakes or failing to come through.

Almost Never   Sometimes   Often   Almost Always

20. I have my own game plan worked out in my head long before the game begins.

Almost Never   Sometimes   Often   Almost Always

21. When I feel myself getting too tense, I can quickly relax my body and calm myself.

Almost Never   Sometimes   Often   Almost Always

22. To me, pressure situations are challenges that I welcome.

Almost Never   Sometimes   Often   Almost Always

23. I think about and imagine what will happen if I fail or screw up.

Almost Never   Sometimes   Often   Almost Always

24. I maintain emotional control regardless of how things are going for me.

Almost Never   Sometimes   Often   Almost Always

25. It is easy for me to direct my attention and focus on a single object or person.

Almost Never   Sometimes   Often   Almost Always

26. When I fail to reach my goals, it makes me try even harder.

Almost Never   Sometimes   Often   Almost Always

27. I improve my skills by listening carefully to advice and instruction from coaches and managers.

Almost Never   Sometimes   Often   Almost Always

28. I make fewer mistakes when the pressure is on because I concentrate better.

Almost Never   Sometimes   Often   Almost Always