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Motivation in the Norwegian Postenliga

A quantitative study of motivational orientation of elite, male handball players in Norway

Abstract

This study examined motivational orientation related to different variables according to achievement goal theory in the Norwegian top handball league for men in 2011/2012. 177 of the 225 registered players responded to the electronic questionnaire (78,7%). Results indicated, as hypothesized, that players with most playing time scored higher on both *task orientation* and *perception of task climate*. There were also additional indications; e.g. that playing time correlated positively with age and pay, meaning the older the players are the more playing time they reported, in addition to increased pay. Findings are discussed in relation to previous research; future directions and implications for researchers, coaches and athletes are suggested. As sport psychology has grown exponentially over the past few decades, and sport journalists chase after athletes with motivational issues like cats chasing mice; I believe it is time to put the bulls' eye on motivational orientation for handball players.

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Preface

Starting up on my 5th year studying sport sciences, I was very well aware that sport and athletics was far from only about physical abilities. During my bachelor in Coaching at the Norwegian School of Sport Sciences (NIH), I found interest in also the psychological processes that are abound for athletes. Working as a handball coach myself, I know the challenge it is to motivate players not only facing adversity, but also when things go well. I have also seen many articles regarding drop out from sport, especially concerning youth athletes where the dropout rates are critical. Considering my interest for both handball as a sport and sport psychology, I decided to study the Norwegian handball environment, searching for interesting findings regarding motivational orientation.

Through this whole process many have helped making this study even possible to conduct. During start up I consulted with former women's national handball team coach Marit Breivik, were we discussed the thesis, and ways to conduct a survey of this kind. I also consulted with Yngvar Ommundsen & Glyn C. Roberts, both professors at the Norwegian School of Sport Sciences, getting advice on achievement goal theory, and how to conduct such a survey. Further in the process I received help from Marte Bentzen, Phd Student at NIH, on how to use Questback, which I at the time was completely unfamiliar with. When the responses came in, they were exported to PASW18 (former SPSS) for analysis. I had some experience using this program, but not sufficient considering the depth of this study. Several times I turned to Sissel Erland Tomten, also professor at NIH for help. Whenever my supervisors were not available, I turned to some of the before mentioned, in addition to Elsa Kristiansen, also Phd student at NIH, who always was there for me; answering questions and giving advice. Being that I chose to write in English, to make this study available for other nationalities also, I got help from Ian David Eglin to correct and rephrase language. I would like to thank all of you for contributing!

I would of course also like to thank both main supervisor of this project, Lars Tore Ronglan and co supervisor Marit Sorensen. Ronglan is one of few professors at NIH with a background in team handball, and I must say I appreciate many of the both "professional talks" we have had on the thesis, but also general handball talks from one handball enthusiast to another. Though as Ronglan does most of his work with qualitative research, I also needed help from Sorensen who has extensive experience in quantitative research. To both of you; thank you very much for helping out completing this study.

Last but not least; I must thank all the coaching staff and players in the Norwegian top handball league 2011/2012 for participating. Hopefully this study can contribute enlighten both players and coaching staff on better ways to preserve or even enhance motivation; which according to achievement goal theory might even enhance performance.

Introduction

Challenges on substitutes and substitution

"*It is always frustrating being on the bench. Ask any player - it is not just me. It is just as frustrating being injured*" (McLeman 2010).

This quote is from the English national team soccer player Theo Walcott, who has at times struggled on the bench at Arsenal FC. Exceptions will always be present, though I believe this is a conflict bound to last, at least in competitive groups, where *everyone* wants to participate in matches. In Norway we can often read about our soccer professionals abroad. Many of the articles concern Norwegian players struggling with limited playing time, and being left out. The Norwegian people are given this impression through the media, who give soccer a lot of attention. In team handball, which is one of the most popular team sports in Norway, but with significantly less media coverage, I suspect the issue of playing time, or lack of, is similar.

As Woods & Thatcher (2009) pointed out, there has been limited research on non selection in team sport (e.g Wang, Callahan & Goldfine 2001, Rotella & Newburg 1989, Cresswell & Eklund 2007, Coelho e Silva, Figueriredo, Relvas & Malina 2004, Ryall 2008, Böckling 1980, Kleiter 1989). In all sports several studies have been conducted, though in most specific sports very little has been done. Even in team handball, which on the continent of Europe is considered one of the bigger team sports, not many studies have been conducted. Despite a small body of literature to support this, most findings suggest that becoming a substitute player is a source of stress for athletes (Woods & Thatcher 2009).

Two examples from other team sports indicate a perception that seems to be common among professional players. The Danish soccer striker Nicklas Bendtner said about his time in Arsenal footballclub;

> *Unfortunately I have not had much time as a central striker in Arsenal. That is where I should play, and I consider myself good enough for the spot. I am good enough for the starting squad in Arsenal, but it is up to the manager to decide* (Kjollesdal 2011).

This was prior to him leaving for Sunderland football club. The other example is from the Norwegian ice hockey player, Mats Zuccarello Aasen, who went to USA in 2010 to play for the New York Rangers in the National Hockey League (NHL). After being degraded to the

American Hockey League (AHL) for the second time, "*Zucca*" said "*Everybody dreams of playing in the NHL, I have been there, and I know I can play there*" (Hansen 2011).

As mentioned, we often see soccer players getting a lot of attention in the media regarding this subject. Handball players also get similar attention, though not to the same extent. The Drammen HK player, Henrik Westgaard, said after his time in Haslum HK that he was frustrated during the 2010-2011 season, where he did not get the playing time he deserved, and that "*sitting on the bench was not an option*" (Bugge 2011). In womens` handball Amanda Kurtovic won the Champions League with Larvik HK 2011. However, after lack of playing time 2011-2012, she signed for Danish Viborg HK, arguing that the decision to leave Larvik HK was not due to financial reasons, but more her ambition to play both ways, both offensive and defensive (Christiansen 2012).

In team sports there are athletes competing for the same positions on court and they all want to participate in matches. Thus, there is an inevitable struggle for playing time embedded in the context (Ronglan 2009). Usually there are one or several coaches who determine who gets to play. There might be many reasons to exclude athletes, but in most cases it comes down to whether the coach considers each player and his/her abilities good enough to play or not, no matter how skillful the athletes consider themselves to be. Many players (e.g. Walcott, Bendtner, "Zucca") might perceive themselves and their abilities very differently from what their respective coach does. *"With such a difference in perception toward substitute players` ability, determining athletes` playing-time becomes a difficult issue because every player would like to have more playing-time"* (Wang et. al. 2001: 3). In some cases the frustration can be more recognizable than others. Carlos Tevez `caused a media frenzy when he allegedly refused to enter the pitch from a substitute position during Manchester City's Champions League match against Bayern Munich in 2011 (Holt 2011).

The role of the substitutes is in many situations hard to define, and varies within and between different sports and different teams. In soccer a limited number of substitutions are allowed during a match, unlike sports like e.g. ice hockey or team handball. The role of the substitutes varies a lot, as some might know they get to play, some don`t, some are "reserves", knowing they only get to play if someone gets injured and so on. In general, however, one might argue that substitutes who get to play are subject to more performance pressure than starting players, given that they have to outperform them to avoid remaining deadlocked in a position outside

the starting lineup. Furthermore, Wang et.al. (2001) noted that substitute players in team sports may become scapegoats, allowing team members to place blame on them if they lose. Not only would a scenario of a match about to go wrong probably decrease perceived pressure for players being substituted off, but also increase the pressure for the players coming on; knowing they are possible targets if defeated.

Today, with the media present at all major sporting events, it is quite obvious that not all players are satisfied. Lars Tore Ronglan, former national team handball player and later assistant coach for the womens´ national team got a quote from a national team handball player when doing his Phd; "*In no team all the players like the coach. The ones that aren`t picked don`t like the coach*" (Ronglan 2000: 124). Even though many athletes are frustrated in similar situations; hopefully not all substitutes feel this way. Presumably there are ways to coach all players, starting or substitutes, to preserve/ enhance their motivation, and avoid/reduce anxiety, burnout, etc.

Woods & Thatcher (2009) argued that there is an extreme potential for dissatisfaction associated with the substitute role. Given the limited amount of research on substitutes` challenges, there is no doubt that it needs to be investigated further. As this subject is highly relevant in all team sports, especially in team handball where very little research has been done in the past, I decided to study this myself. I chose to investigate male handball players in the Norwegian top league (Postenliga), to look into the relationship between playing time and the players` type of motivation. In doing this, I drew upon a psychological motivation theory, goal achievement theory, which will soon be explained. Preparing for this study considering players` motivational orientation I had several thoughts regarding player-coach relationships, money involved, perception of ability, playing time and more, which lead me to my main speculation;

> **Hypothesis***: players with a lot of playing time are more task oriented, due to the assumption that they can focus on performing tasks rather than focusing on outperforming teammates.*

This is the main hypothesis for this project. The players` goal orientation was the main subject for this thesis, first of all related to playing time. Could it be that difference in playing time is a contributing factor determining players` ego/task orientation and their perception of climate? And/-or could it be that e.g. money involved, amount of practice, hours working

(beside handball) and more could affect players` motivational orientation or their perception of the motivational climate in the club? During my research I have chosen to use both relatively old references, to show that achievement theories have history, and new ones to prove that they are still present and developing.

Team Handball
Team handball is, without doubt, a very complex sport. Compared to e.g. soccer there are more yellow/red cards, 2minute suspensions and a lot more goals scored during a match. The pace is higher, due to smaller courts, shorter periods and the fact that in handball there are unlimited substitutions (of the 14 players registered for that game). In team sports such as handball, a continuous tension is created by the need for collaboration within a team context marked by an inevitable competition between team mates. Internal competition stems from the selections that are done prior to and during each match; out of a squad of 16-27 male players (registered in the Postenliga, 2011/2012) 14 are picked for each match, and only seven of them constitute the playing unit on court at any time during the game ("running substitution" like ice hockey). Increased performance level within the team increases internal competition both in terms of being picked for matches and gaining playing time on court.

Team handball has changed continuously since it originated. Von der Lippe (2001) considers the Czechoslovakian game *hazena* to be one of the precursors of team handball, and Myklebust (2010) argues that what we call *modern handball* was first played toward the end of the 19th century in Denmark and Germany, but also in Sweden. Since then the number of players, court sizes, rules and much more have continuously been altered as team handball has spread around the world. Today handball is a very high-pace sport, where of course some teams/coaches are more cynical about their players than others. As roll-on-roll-off substitution is permitted all teams can make as many changes as they want/need during matches. However, if the final whistle blows as a free-throw is given, you are no longer allowed to put all the biggest/tallest players from the bench in the defensive block, as was allowed in the past. For the season of 2011/2012 the defensive team now finishes the game with the players on the court when the final whistle blows. During a match teams are also allowed to make offensive/defensive changes/substitutions, meaning that some players might play defense, then when winning the ball, they substitute, and again when scoring or losing possession of the ball. This might limit the pace of the game for some teams, though it is at the same time beneficial for other teams, where they might counterattack while their opponents are substituting. It is now all part of the game strategy for the respective teams.

As in any other organized team sport, as long as humans are mortal and skill levels vary between every individual the game of handball will have substitutes. In a sport like handball, where some players are chosen to be starters whilst others are benched, there will always be external competition from the opposite squad, but also internal competition for playing time. In such circumstances not only do the physical abilities determine your skill level, but also mental abilities to deal with the situation at hand. In sport psychology there are many different theories and approaches to athletic mental health, well being, how to improve motivation, etc. I will introduce one of them.

Theoretical framework: Achievement Goal Theory (AGT)

Without goals you are like a ship without a rudder-heading in no particular direction.
    -Roy Williams, head basketball coach at the University of North Carolina (Gould 2006: 240)

AGT is today a well-known motivational theory within sport psychology, going back many decades. The history of AGT (in general and in sport) has been reviewed in several publications (e.g. Roberts 2001, Roberts, Treasure & Conroy 2007, Gould 2006, Locke & Latham 1990, 2002). The AGT we know of today stems from the work and theories of several scientists considering achievement motivation both in and out of the sport context. Already in the 1960`s Atkinson said;

> *The theory of achievement motivation attempts to account for the determinants of the direction, magnitude, and persistence of behavior in a limited, but very important domain of human activities. It applies only when an individual knows that his performance will be evaluated (by himself or by others) in terms of some standard of excellence and that the consequences of his actions will be either a favorable evaluation (success) or an unfavorable evaluation (failure). It is in other words, a theory of achievement-oriented performance* (1964: 240).

Originally AGT was all about two different motivational orientations, namely task and ego. To distinguish between task and ego, Roberts & Kristiansen (2012) describe a person who is task-involved to have a goal of action to develop mastery, improvement, or learning and the demonstration of ability is self-referenced. People will then feel successful when attaining mastery or improvement. The people who are ego-involved, on the other hand, have a goal of action to outperform others or demonstrate ability relative to others, making ability other-referenced. The ego-involved feel successful when their performance exceeds the

performance of others, especially when expending less effort than others (Nicholls, 1984, 1989).

It is important to clarify that achievement goal orientations are orthogonal, meaning that task and ego goal orientations are independent. Within the sport and exercise literature, this orthogonality has been supported (e.g., Duda, 1988; Lemyre, Pensgaard & Roberts, 2000; Roberts, Treasure & Kavussanu, 1996). As an athlete you can be high in ego-and low in task-orientation, or vice versa, you can be high in both, or even low in both at the same time (Roberts & Kristiansen 2012). Some earlier literature (e.g. Treasure 1997 & Ommundsen & Roberts 1999) has discussed these different approaches, where it has been argued that people should be high in task- and low in ego-orientation. However, during the last couple of years it has been argued that it might be beneficial for some athletes to be high in both task-and ego orientation. Roberts, Treasure & Conroy (2007) said that being ego oriented with a high perception of competence is facilitative of achievement and functions as a motivating concept. But, they also argued that performance (ego) goals are more fragile and can lead to maladaptive achievement striving as context information is being processed.

How a professional athlete or a college footballer motivates him/herself, if he/she is ego-or task orientated depends of course on several variables; the environment/climate created by coach, teacher or parent being one of them. Do the coaches create a performance (ego-) or a mastery (task-) oriented climate? According to Roberts & Kristiansen (2012) and Ames (1984a, 1992b) we can separate task-involving aspects of the context in sport as a mastery-climate; and the ego-involved aspects of the context as performance criteria. The environment created by e.g. football coaches, will differ from club to club and from coach to coach; and the amount of influence each has on their respective players also, as a team consists of multiple individuals.

Though during evolution AGT has *expanded*, realizing athletes do not always seek to approach goals, but apparently some athletes actually enter training and competition with the intention to *avoid* goals and certain outcomes. A 2x2 model was invented and developed, where not only mastery approach and performance approach were accounted for, but also the related counterparts; mastery avoidance and performance avoidance. Roberts and colleagues (2007) suggested that achievement goals should also consider both the *definition of competence* and the *valence of striving;* meaning that you need to determine skill level before setting goals; and account for the effort you put into reaching the goals.

Atkinson (1964) refers to studies done already before 1964 where it was suggested that persons who score low on achievement act as if they were more motivated by a fear of failure than a tendency to seek and enjoy success. Since then scientists have discussed whether or not *avoidance* is in any way relevant when it comes to motivational orientation. It seems that people lost belief in the myth that people/athletes could actually approach athletics, sports and competition being *avoidance-oriented*. Roberts, Treasure & Conroy (2007) highlighted due to several scholars working in parallel in the mid 1990s (e.g. Elliot 1997, Skaalvik & Valas 1994), that many of them returned to the possibility that individuals may sometimes focus on striving not to be incompetent as much as, or more, than they are striving to reach success and be competent. In an achievement context it would seem obvious that competence is an outcome preferred over incompetence, and that people find the two appetitive and aversive, respectively. However, between these two outcomes people can differentiate largely, considering their valence to achieve their goals or to the degree to which the focal outcome is pleasant or unpleasant (Roberts et.al. 2007).

Figure 1 The 2 x 2 achievement goal framework. Adapted from "A 2 x 2 Achievement Goal Framework," by A. J. Elliot and H. A. McGregor, 2001, Journal of Personality and Social Psychology, 80: 502. Copyright 2001 by the American Psychology Association. Adapted with permission.

According to Roberts et.al. (2007: 4) achievement goal theory assumes that the individual is "*an intentional, goal-directed organism who operates in a rational manner, and that achievement*

goals govern achievement beliefs and guide subsequent decision making and behavior in achievement context". To be able to understand the motivation for the individuals, one needs to take into account the function and meaning of the achievement behavior of the individual and also understand the goal of action. People in general, and athletes within sport context in particular adopt goals within different settings, and through these goals individuals give meaning to their achievement behavior. These specific goals reflect the purposes of achievement striving, whereas once they are adopted the achievement goal determines the integrated pattern of beliefs that undergird approach and avoidance strategies, the differing engagement levels and the differing responses to achievement outcomes. They (ibid: 4) further argue that *"..an individual`s investment of personal resources, such as effort, talent, and time, in an activity is dependent on the achievement goal of the individual*".

People in general want to demonstrate competence and avoid demonstrating incompetence. The desire to demonstrate such is by Roberts et.al. (2007) considered their conceptual energizing force according to achievement goal theory.

Achievement Goal Theory is probably the most applied theory when it comes to goal setting. Roberts & Kristiansen (2012) argued that individuals who set specific and challenging goals perform better than those who set no specific goals, or participate be means of trying to do ones best. Goal setting techniques are fundamental to maximizing athletic potential, and are often the first psychological technique introduced when implementing mental training (Hardy, Jones & Gould, 1996 in Roberts & Kristiansen 2012). "*In fact, goal setting has been claimed to be the single most used psychological intervention of sport psychologists working with Olympic athletes as long ago as 1989*" (Gould, Tammen, Murphy, & May, 1989 in Roberts & Kristiansen 2012: 2)

Previous Research

As mentioned earlier limited research has been done on team handball in general, and even less on the specific area of motivation within the context of team handball. As the extent of handball specific research available is limited, I have used examples from other sports where the findings can be related to, and is relevant for, handball as a team sport. I have chosen to look into other team sports where the subject of substitution is present, but also individual sports where the achievement goal theory has been relevant.

Kristiansen, Roberts & Abrahamsen (2008) did a study on elite wrestling, where the response from Olympic winners supported the link between AGT and goal setting. Most of the participants in that study argued that the ability to work with details, have daily goals and stay focused on the goals for practice through each practice session were factors behind their success. They further argued that "winning" was not an issue; rather they would stay task focused in the daily technique practice sessions. As mentioned earlier, the goal orientation is orthogonal; it can change within a split second, but also athletes are often both task-and ego oriented at the same time. Like one wrestler who said that he always knew that performing his task well would get him one step closer to winning; and that he had to focus on both performing the task, but also about winning.

> *An important point to make here is that choosing a mastery approach is not about not wanting to win; it is simply the best way of setting practice goals that may culminate in achieving a dream goal (or performance goal). Motivation over the long term is better served with mastery-based short-term and long-term goals* (Roberts & Kristiansen 2012: 28)

A perfect example of mastery focus is seven time winner of Tour de France, Lance Armstrong. From his biography we find his response to a journalist asking him what he thought about during 6-7 hours on the bike in a competition stage of the Tour de France;

> *My mind didn`t wander. I didn`t daydream. I thought about techniques of the various stages. I told myself over and over again that this was the kind of race in which I had to always push if I wanted to stay ahead. I worried about my lead. I kept a close watch on my competitors, in case one of them tried a breakaway. I stayed alert to what was around me, and wary of crashing (*Armstrong & Jenkins, 2001: 244).

Motivating your athletes for continued participation is a major challenge in both individual and team sports. Numerous research studies have been conducted on this subject, especially focusing on youth athletes where the dropout rates are critical (e.g., Craike, Symons & Zimmermann 2009., Fraser-Thomas, Côtè & Deakin 2008a., Fraser-Thomas & Deakin 2008b., & Lindner, Johns & Butcher 1991). In a study by Craike & colleagues (2009) they suggested ten strategies to prevent young women from dropping out of sport; where the number one suggestion is *enhancing intrinsic motivation*. One of the tools applied to enhance intrinsic motivation and prevent drop out from sport is goal setting, which is considered the most applied motivational enhancement technique in sport psychology.

Limited communication and interaction with teammates and coach as a substitute

Team cohesion, or more specifically, exclusion from cohesive activities, is one of several aspects relevant in this matter. In the study of Woods & Thatcher (2009: 457) one participant said "*The eleven that are starting come back in (from warm up) and he (the coach) talks to them while we are still out warming up and whatever. So we don`t actually go*". This response came from a soccer substitute who reported little interaction with teammates and coaches before the game. Other participants in this study reported little communication with the coaching staff when being a substitute, among other things they received no explanation why they were chosen as a substitute. Woods & Thatcher (ibid) also reported that substitutes` preparation to play was impaired by poor communication with the coach. Furthermore they (ibid) argued that substitutes in sports like soccer, where the substitution options are limited, may be less likely to play, in contrast to sports like e.g. field hockey and team handball, where "roll-on roll-off" substitutions are permitted.

Rotella & Newburg (1989) did a study on experiences of ` *being a substitute*` where they found that when not selected for the team, players felt they had merely become "benchwarmers" and to some degree lost their identity as athletes. A psychological and emotional blow like being benched may cause substitutes to lose control over attaining their dreams, goals and aspirations. According to Rotella & Newburg (ibid) losing identity might be a big concern for many athletes. This line of argument is supported by Hansen (2003) who found that some find it difficult to defend their identity as a good soccer player once they had become a substitute. "*Historically substitute players tend to be overlooked and oft-times treated differently than starting players. This leads to many having negative experiences*" (Wang, Callahan & Goldfine 2001: 1).

Studies on the substitute situation

As previously mentioned teenagers are at a critical age with regard to dropping out of sports. Even though there might be many different reasons for dropping out, AGT provides at least some guidelines on how to preserve, or even enhance, their motivation. Recently, some studies have been conducted on different age groups, sports and on both coaches and athletes when it comes to motivational orientation and the coach-athlete relationship. Some of the studies will be introduced here.

Wang et. al. (2001) claimed that college coaches are more concerned about winning than providing players with positive experiences. A coach has to face numerous challenges during

a season, and how to motivate each individual player, how to effectively use substitute players and provide them with positive experiences are important challenges for a coach. If coaches do not cope with these substitute players properly and wisely these players may not have the positive athletic experience they wish for (ibid).

Wang et. al. (2001: 3) argued that a coach has a lot of power in team sport, as "*determining athletes` skill level is a subjective process, which is purely based on the coach`s observation and judgment*". Substitute players may often perceive themselves to be as good as starting players, or even better. The disparity between player`s and coach`s perception may lead to conflicts, because players may feel overlooked when they don`t get the amount of playing time they expect.

Wang et. al (ibid) suggested that if a substitute player is a senior student-athlete, he or she might get support from teammates to a greater extent than freshmen students would in a similar situation. This might in some cases lead to revenge behavior from players, victimizing the coach. They further argue that this particularly might be the consequence for coaches benching "star players". Star players often have a great deal of respect from teammates, media, supporters etc; and benching such players, at any level, might lead to revenge behavior.

In sum: A coach and an athlete might have completely different perceptions of skill the level of the latter and this might lead to a major source of conflict between player and coach. Once a player develops a negative attitude towards the coach, he or she can fight their coach; manipulating them in different ways. "*Therefore, if the coach does not properly cope with substitute players, team cohesion and performance can be significantly hampered*" (ibid: 113).

In a study by Coelho e Silva, Figueriredo, Relvas & Malina (2004) they compared young, male soccer players (15-16 years old) to see if there were any differences between the players related to amount of playing time. Their results showed that players who got more playing time were significantly more fit than the ones with less playing time.

In addition the players in the "less playing time" group showed lower scores on three items of the sport satisfaction scale: "*Challenge afforded by the competition, Number of games during the entire season, and opportunities to play*" (Coelho e Silva et al. 2004: 503). They also found that athletes in the "more playing time" group were less satisfied on three items: "*Results of games and competition, Friendship in the club and Improvement of my skills*". However, the two groups did not differ in motivation for sport; with three exceptions. "*My parents or close friends want*

me to participate, I like to compete and Influence of coaches" (ibid: 503). Players with more playing time rated these items higher. It appeared that players with more playing time had more social support from parents and friends, and also perceived more support from coaches.

Self confidence is yet another vulnerable dimension for athletes often affected by the coach-athlete relationship. According to Horn (1985) and Smith, Smoll & Curtis (1979) a coach`s instructional behavior in both competition and during practice is associated with changes in athletes` self concept and perceived competence over the course of a season. Wang et. al. (2001) argued that if *good players* (by definition) have their playing time restricted by their relationship with the coach, it will gradually lower their self-esteem and self-confidence. In addition these players might, in the event of actual playing time, in certain situations, be afraid of making mistakes, and become more hesitant and less confident; which in most cases will make it even more difficult to perform at their skill level. In many cases we then might face deeper psychological challenges, namely *competitive anxiety* (for more about Competitive Anxiety see e.g. Cox 2007, Mellalieu, Hanton & Fletcher 2009 & Wang et. al. 2001). "*When substitute players got a chance to play under a losing situation, they could easily become the targets of blaming*" (Wang et. al. 2001: 115).

In team-sport there will always be many complex challenges. First of all teammates are all in the same team, and should all be united in achieving the same goals; but, however, at the same time they are also competing for playing time; trying to outperform each other. Yes, substitutes may become targets of blame, but rejection by starting players can also negatively affect the relationship between starters and substitute players (ref. the situation with Carlos Tevez in the Champions League 2011). "*Such rejection is also detrimental to substitute players` psychological wellbeing and confidence*"(ibid: 115). This may lead to higher competitive anxiety for the substitute players in future competition, due to fear of making mistakes. These massive psychological barriers are roadblocks for many substitute players. Not dealing with these challenges in a "*rightfu*l" manner, considering every player is individual and has his or her individual needs for progressing, achieving goals, getting proper feedback and so on, might consequently lead to *substitute* players turning against their coach, or even quitting the team. This is by Wang et. al. (ibid) even considered one of the most difficult challenges every coach in team sports has to face. They (ibid) further argued that in a team (e.g. handball) communication between coach and athlete affects the athletes` self-perception, confidence

and self-efficacy by conveying information about how competent or skillful the coach considers the actual player to be. …"*the coach should more highly emphasize substitute players` efforts and improvements than substitute players` achievement*" (ibid: 117).

A coach's actions and attitude can affect his or her athletes in different ways. As Wang et al. (2001) pointed out, an athlete`s self perception, confidence and self efficacy is susceptible to a coach`s abilities to communicate properly with athletes. Not dealing with situations, or even problems, arising might lead to the negative atmosphere having a *domino effect*. Jacobs & Campbell (1961) said many years ago that negative atmosphere in a team sport such as abusive behavior toward coaches, officials and substitute players, a lazy attitude toward training or reliance on individual versus team goals might persist for several seasons unless they are properly dealt with.

> *Generally speaking, the coach in team sports typically shows less tendency to initiate interpersonal contact with substitute players. The coach tends to spend more time with key players ……Coaches also need to keep consistent to treat all the players fairly. In reality, coaches commonly perceive star-players as more important members of the team than regular players* (Wang et.al. 2001: 120-121).

One thing is the individual player`s task-or ego-orientation; though in team sports you also need to consider the climate, which will be perceived as ego-or task-oriented by the players, and is also subject to the achievement goal theory.

Applying AGT
Research has shown that some of the most important factors for developing a group out of a collection of individuals are the establishment of group goals and rewards (Shaw 1981, Zander 1982). Further they welcome substitute players to participate if not on the court then off; to emphasize group effort; which can contribute to substitute players' enhanced performance and establish their self-confidence.

Gould (2006) favors goal setting where coaches /athletes set challenging, but realistic, goals so that the difficulty of the task does not exceed the performer`s ability. He further argued that unrealistic goals that exceed the ability of the athlete only lead to failure and frustration.

Carron (1984) said that setting reasonable, attainable goals can help substitute players reduce excess competitive anxiety; and serves four important functions of goal setting:

- *it directs the individual`s attention and actions toward appropriate behavior*
- *it motivates the individual to develop strategies to achieve the goal*
- *it contributes to increased interest in the activity, and*
- *it leads to prolonged effort*

Individual goals and rewards should be downplayed, whilst coaches should emphasize the group`s goals, objectives and the rewards that will accrue to the group if these are achieved (Carron 1984: 21).

> *Being named a substitute for a sports match can be argued to be antithetical to one`s aim, namely to play that sport. A substitute is something that takes the place of an `other` but continues to provide the same function. In sport, it is a person who stands-in-reserve for another competitor during a game, to replace that competitor according to the rules of that game* (Ryall 2008: 59).

Of course this varies a lot between different sports, teams, coaches, players and so on, in that all athletes are individual with their own perception of situations. "*Therefore, the substitute experience may be encouraging and motivating for some athletes, but may be a stressor that could potentially involve self-presentation concerns, anxiety or burnout for others*" (Woods & Thatcher 2009: 453).

In the conclusion by Ryall (2008) she argued that a substitute is confronted with the fact that he/she literally finds him/herself on the edge; and that is it up to the athlete to make a choice how to deal with this fact. This is where the Achievement Goal Theory comes into play. Do you focus on outperforming the others, the starting players (ego), or do you focus on performing your tasks, and by doing so improving your skills.

According to e.g. Roberts & Kristiansen (2010) and Jowett & Lavallee (2007) athletes have a better chance to preserve or even enhance their motivation with a task-orientation. This is also suggested by Wang et al. (2001) who said that coaches should emphasize skill improvement, as a better way to evaluate and reinforce individual athletes, rather than using absolute performance scores or levels of skill achievement.

Of course this varies for all athletes, but it is important for both coaches and athletes to know possible consequences for the different "motivational approaches" in sports. In a study by Cresswell & Eklund (2007) they found that the substitute role may be associated with athletic burnout in professional rugby. Additionally Wang et. al. (2001) argued that substitute players run the risk of dropping out of the sport, and might quit the team before the season is over. In addition they pointed out that due to conflicts between coaches and substitute players team cohesion in many cases might be jeopardized, which is supported by Woods & Thatcher (2009). Both junior and senior athletes might run the risk of e.g. competitive anxiety and stress, and if not dealt with this might lead to athletic burnout; which again might lead to dropping out of sports (for more about Burnout, see Cox 2007).

There are many reasons for producing this thesis. First of all I wanted to study the motivational orientation in the Norwegian top handball league; and ultimately use the results hereby provided to hopefully enlighten both coaches and players within the huge sport that handball is, to better preserve or even enhance player motivation in the future. Several warnings regarding the substitute role has been presented. The substitute role has been related to loosing identity as an athlete (Rotella & Newburg 1989), being overlooked and having negative experiences, limited communication with the coaching staff, and the players` perception of ability which might be affected, being that the coach is determining athletes` skill level, based on the coach`s observation and judgment and the fact that the coach decides who gets to play (Wang et.al. 2001). Given all the research suggesting that the substitute role could be related to negative consequences such as competitive anxiety, burnout and more; I wanted to see if there was any differences between the players` playing time and their respective motivational orientation. In addition, what could be just as interesting is the players` perception of motivational climate. Communication with the coach is one of many items in the Perception of Motivational Climate in Sport Questionnaire (PMCSQ), which is part of determining whether the climate is perceived as task-or ego oriented. Could it be that difference in playing time is a contributing factor determining players` ego/task orientation and their perception of the climate? If significant differences are discovered, it could be a hint that coaches often offer players different amount of coaching and communication; and maybe such findings could help coaches observe situations in a wider perspective in the future.

Method

The Postenliga is the highest national level of competition in team handball in Norway. In handball each team has a starting lineup consisting of one goalkeeper and six court players. They are allowed to have seven players on the bench, where "roll-on-roll-off" substitution is permitted, unlike e.g. soccer. A handball match lasts for 60 minutes (2x30), where both teams are entitled one timeout (60 seconds) per half. The aim of this research was to examine the level and characteristics of motivation in the Norwegian Postenliga.

Study Design

Motivation Postenliga 2012 was conducted through a quantitative, cross sectional survey, using Questback as the online (electronic) provider of the questionnaire. A survey is a good and relevant way to reveal current practices and opinions in a population at a given time (Thomas, Nelson & Silverman 2005).

The main target in this project was to see if there were differences between those with a lot of playing time vs. those "struggling" on the bench. In handball matches there is no organized record of playing time for each player. Given the research by Serdarusic (2006), that an average handball attack lasts for +/- 30 seconds, the respondents were asked to calculate and mark their average playing time per game so far this season on a five-point scale (0, ≤10, 11-20, 21-30, >30).

Pilot

Prior to the main study, a pilot was conducted with female junior team handball players in the region of Oslo, Norway. Thomas et. al. (2005) emphasize the importance of a pilot study, arguing that many methodological errors can be addressed by conducting this before the original study. This pilot however discovered no errors; all questions were comprehensible according to the pilot-respondents, and the overall time for the questionnaire turned out to be approximately 8minutes, a bit less than first estimated.

Participants

The population was all the registered players (225) in the male Postenliga in Norway in 2011/2012. Clubs in the Postenliga 2011/2012 participating in this study were:

- Bsk/Nif
- Drammen
- Elverum

- Follo
- Fyllingen Bergen
- Haslum HK
- Hk Herulf Moss
- Notteroy
- OIF Arendal
- Runar
- Sandefjord
- Viking Stavanger

177 of the 225 players responded to the questionnaire (78,7%).

Collection of data

The project was presented to the Norwegian Handball Federation (NHF) and the Norwegian Top Handball (NTH) whom both supported the project. This was not only to inform them; but also as a way to get the governing bodies to support this project, making the collection of data more applicable for respondents. The head coaches of all the clubs were contacted by email and telephone, and given information about the survey and an opportunity to decline participation for their players. Some of the coaches requested additional information, though ultimately none of the twelve head coaches rejected the project. The different clubs and their coaching staff provided the necessary contact information for their players; both email addresses and phone numbers. Recognizing that many similar surveys struggle with low response rates, I chose to visit all the clubs in advance of the survey, to inform them about the project and the value of participation. For the players and their opinions/responses not to be affected by the previous season the survey was conducted between round 11 & 15 in the series 2011/2012 (November 23rd - December 16th 2011). The league fixture was checked, making sure the survey was not sent out close to competition. The questionnaires were sent out at different times for the clubs, where the respondents were asked to answer when receiving, meaning ≥48 hours before/after a match/competition, to ensure that their response was not materially affected by recent actions (e.g. being benched last match). Text messages were also sent out to all players when the questionnaires were sent out, as a reminder, in addition to having the coaches also remind them.

Ethics

The first question in the survey was their "written consent"; **"Question nr. 1. I have received information about the project and give my consent to participate in the investigation as described".** Front page of the survey was an information letter, concerning procedure of the study, the possible risks in participating, reasons for responding, the right to reject and also offering to answer any questions they might have regarding participation. Only two response options were available for **Q1**, "Yes/No", and 100% of the 177 respondents confirmed.

A dialogue was established with the **Norwegian Social Science Data Services** (NSD), who accepted the questionnaire and the project at hand. Participants in the study were not anonymous to the scientists, but all the responses were treated with full confidentiality, meaning respondents will remain completely anonymous to the public. This was due to the fact that the survey was distributed via Questback, where the participants` email addresses were visible to the project manager. In research that involves studies on humans, it is important to be aware of factors that may have adverse consequences for the participants. Thomas, Nelson & Silverman (2005) highlight four points scientists need to consider in such research:

- *The right to privacy or nonparticipation*
- *The right to remain anonymous*
- *The right to confidentiality*
- *The right to expect experimenter responsibility* (ibid: 88)

This project violates neither the Norwegian law nor generally accepted values, and it was not in any way harmful to the participants to take part in the study. I would rather say that it could help increase their knowledge on the subject.

All questionnaires and responses have been stored in a locked computer (password coded), at all times; to ensure complete anonymity for the participants.

Measures

Perception of Success Questionnaire (POSQ) was the tool used to assess the task and ego orientation in this survey. "*POSQ has been developed as a sport specific measure of ego and task goal perspectives.....and has been found to be both valid and reliable across various samples when examining motivational goal perspectives in sport*" (Roberts & Ommundsen 1996: 48).

Considering reliability in the study by Ommundsen & Roberts (1996) they reported high internal consistency with Cronbach`s alpha of 0.86 for perception of mastery orientation and 0.77 for perception of performance orientation. Corresponding numbers for this thesis are presented later.

In this part of the questionnaire the respondents were asked to rate to what degree they agreed with the different statements on a 5-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree) (See appendix 1).

This version of POSQ had 12 items, where the respondents were asked to indicate *When playing sport, I feel most successful when*: Items 1, 2, 3, 6, 10 and 11 are Ego orientation (e.g. *I beat other people*), whilst items 4, 5, 7, 8, 9, 12 are Task orientation (e.g. *I reach personal goals*). In the Norwegian version of the POSQ, there was one additional item "I always give 100%" (Task), which was also included in the English version. Analysis was conducted both with and without this additional item.

After POSQ, Perceived Motivational Climate in Sport Questionnaire (PMCSQ) was applied, a similar questionnaire with in this study 11 items considering the perceived motivational climate in the handball team. Seifriz, Duda & Chi (1992) developed PMCSQ to assess athletes` perceptions of the prominent motivational climate goal structures created by their coach, with a 21 item questionnaire (12 performance/ego & 9 mastery/task). The original version of PMCSQ was modified in the work of Pensgaard, Roberts & Ursin (1999), to include 15 items (9-ego & 6-task); which again was later modified and recently used in the work of e.g. Kristiansen, Halvari & Roberts (2010?) & Ommundsen, Lemyre, Abrahamsen, & Roberts (2010, 2012) to include 11 items (6 ego & 5 task), the same as used in this study. The athletes were asked to reflect upon how they experienced the climate in their team, and "on this team…" preceded each item. Items 1, 2, 3, 4, 5 and 6 are ego-oriented climate (e.g. …*players feel good when they do better than teammates*), whilst items 7, 8, 9, 10 and 11 are task-oriented climate (e.g. …*the coach focuses on skill improvement*).

To make proper analysis some of the items in POSQ & PMCSQ had to be computed to get all the "Task-items" in the same "Task-booth" and opposite (ego). Missing values were replaced with the respective variable average. For POSQ; Alpha coefficients for the 6 item ego and 6 item task scales were 0.876 & 0.796 respectively. For PMCSQ; Alpha coefficients for the 6 item ego and 5 item task-climate scales were 0.782 & 0.844, respectively (Table 1). The validity and reliability of these scales have been supported in the above studies.

In addition to POSQ & PMCSQ, there were questions considering:

- *Age*
- *Consecutive seasons within present club*
- *Continuously injured ≥2months so far this season*
- *Hours of training*
- *Pay for playing handball*
- *Playing time*
- *Working hours beside handball*
- *Youth national team participation*

Two open questions were also added:

- *What is/are the biggest motivational factors for you playing team handball?*
- *Do you have any handball related worries? If so, please describe.*

These two questions were only used as supplements for the discussion of the findings already accounted for by POSQ & PMCSQ.

Methodological challenges

Because there is no record of playing time in handball matches in the Postenliga today, we needed to rely on the players themselves, as they self-report their own calculated playing time due to the "*30 seconds per attack*" by Serdarusic (2006). Obviously this will vary between players, and some might have a totally different perception of their own playing time from what actually is/was the case, but as no record of playing time is presently available, I considered this the best way of *calculating* this variable.

The questionnaires are in both English and Norwegian, and are retrieved from original editions and are considered both reliable and valid. There might be some translation errors, from Norwegian or other foreign literature, though almost all literature has been retrieved in English. The pilot did not discover any language difficulties and all questions were considered comprehensible.

In the PASW18 one minor error was discovered. When respondents failed to answer a question in the electronic questionnaire, PASW18 automatically inserted 0, which would have affected the response total- and average values negatively, given the 5-point Likert scale from

5-1. The 0-values were first removed from the data making them *missing values*; then the *Replace Missing Value* function was used in PASW18, replacing the missing values with the average score for the scale.

Questback and PASW18

The electronic questionnaire was distributed through Questback (Norwegian and English versions), where all the responses were collected directly. Questback is the leading supplier of feedback management solutions in Europe with offices in 17 countries in Europe, North America and Africa (for more about this, see Questback 2012). From Questback the responses were exported to PASW18 (former SPSS) for analysis. PASW18 is a data analysis application mostly used for the analysis of survey and questionnaire data. Computers do not make the mistakes that can occur in hand calculations, and are in most cases a lot faster (Thomas et.al. 2005). Some of the question/response alternatives were inverted and recoding was necessary to properly analyze them. PASW18 was used to search for correlation between the different variables.

Results

Achievement Goal Theory-Motivation

The main purpose of this project was to see if there was any difference in motivational orientation related to playing time. The POSQ was applied to evaluate motivational orientation, to see whether the respondents were more task-or ego oriented in accordance with the achievement goal theory. The main hypothesis suggests there is a difference, that players with more playing time are more task-oriented, given that they do not have to focus on outperforming teammates for the same spots, but rather can focus on the tasks at hand. PMCSQ was applied to evaluate the perceived climate. Additional variables were also subject to analysis to test several other support hypotheses.

Throughout this analysis *Scheffè* post hoc procedure was conducted, as it is a powerful test with little risk of errors. The *Least-Significant Difference* (LSD) pair-wise comparison makes no attempt to control the Type 1 error (Field 2009) and is therefore a less powerful post hoc test; though it was used in one of the following analyses (Task orientation-Playing time) to support that already found when *Scheffè* was applied.

Table 1 N & % for players` age, playing time & pay in addition to Mean score, Standard Deviation & Alpha Coefficient for the motivational scales (N total=177).

	N	**%**	
Age			
<20	47	26.6	
20 -24	83	46.9	
25-29	34	19.2	
30-34	10	5.6	
≥35	3	1.7	
Playing time			
0	18	10.2	
≤10	27	15.3	
11-20	26	14.7	
21-30	39	22.0	
>30	67	37.9	
Pay			
0-1.999	50	28.2	
2-4.999	34	19.2	
5-9.999	43	24.3	
10-19.999	33	18.6	
>20.000	17	9.6	
Scale scores	**Mean**	**Sd**	**Alpha**
Task orientation	4.4577	.52000	.796
Ego orientation	3.5437	.89915	.876
Perception of Ego climate	3.1554	.81235	.782
Perception of Task climate	4.0274	.71202	.844

Correlation

Table 2 Pearson`s Correlation between the categories (N=177)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1											
2. Playing time	.270**	1										
3. Pay	.488**	.531**	1									
4. Hours training	-.197**	-.018	.009	1								
5. Ego orientation	-.002	.116	.294**	.080	1							
6. Task orientation	.010	.138	.032	.026	.187*	1						
7. Task climate	.007	.219**	.033	-.013	.018	.219**	1					
8. Ego climate	-.042	-.030	.014	.085	.299**	-.149*	-.211**	1				
9. Youth national teams	.072	-.265**	-.238**	-.002	-.016	-.012	-.049	.052	1			
10. Injury	.343	.226**	.093	.046	.005	-.027	-.016	-.048	-.123	1		
11. Consec. seasons.	.056	.131	.087	.019	-.139	-.049	-.081	.016	-.019	-.067	1	
12. Hours Working	.227**	.178*	.101	-.196**	-.037	.082	-.055	-.050	.081	.073	.252**	1

**.Correlation is significant at the 0.01 level (2-tailed).

*.Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 2 there were several significant correlations in this material. Those considered most interesting will be further analyzed following.

Task orientation-Playing time

Table 3 Mean scores and standard deviations for players` task orientation related to playing time in a oneway Anova Analysis. According to Anova there are significant differences in the material (p= 0.09).

Playing time	Mean	N	SD
0	4.3750	18	.50670
≤10	4.5123	27	.37247
11-20	4.2392	26	.72725
21-30	4.3397	39	.55025
>30	4.6114	67	.41416
Total	4.4577	177	.52000

Table 4 Mean differences and standard errors in task-orientation when comparing the ones playing more than 30 minutes to the other playing time groups (with LSD post hoc analysis).

Differences in task orientation between those playing 30 minutes or more compared to the other playing time groups.		Mean Difference	Std. Error	Sig.
>30	0	.23642	.13431	.080
	≤10	.09908	.11532	.391
	11-20	.37219*	.11689	.002
	21-30	.27168*	.10189	.008

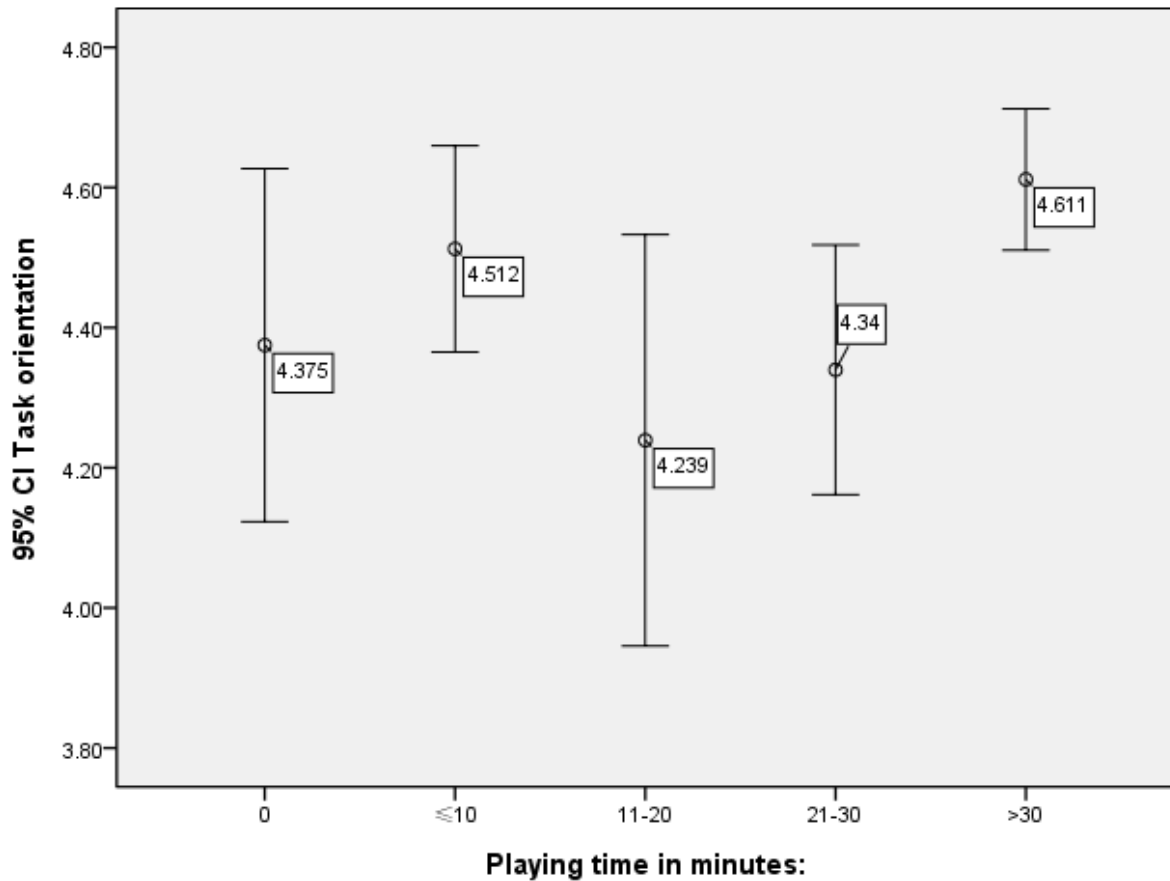*The mean difference is significant at the 0.05 level.

Figure 2 Mean scores for players` task orientation related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Table 3 shows that there were significant differences in task orientation mean scores between groups with different amount of playing time (p=0.09). Table 4 shows where the respective differences were (oneway Anova analysis). Players playing more than 30 minutes in average were significantly more task oriented than those playing 11-20 minutes (p<0.042) (Scheffè), as demonstrated in Figure 2. Those playing more than 30 minutes scored higher on task orientation than all the other players. However, those playing 10 minutes or less on average also scored relatively high on task-orientation. Applying LSD for the post hoc analysis, the players playing more than 30 minutes in average were significantly more task-oriented than those playing 11-20 minutes (0.002) and 21-30 minutes (p<0.008).

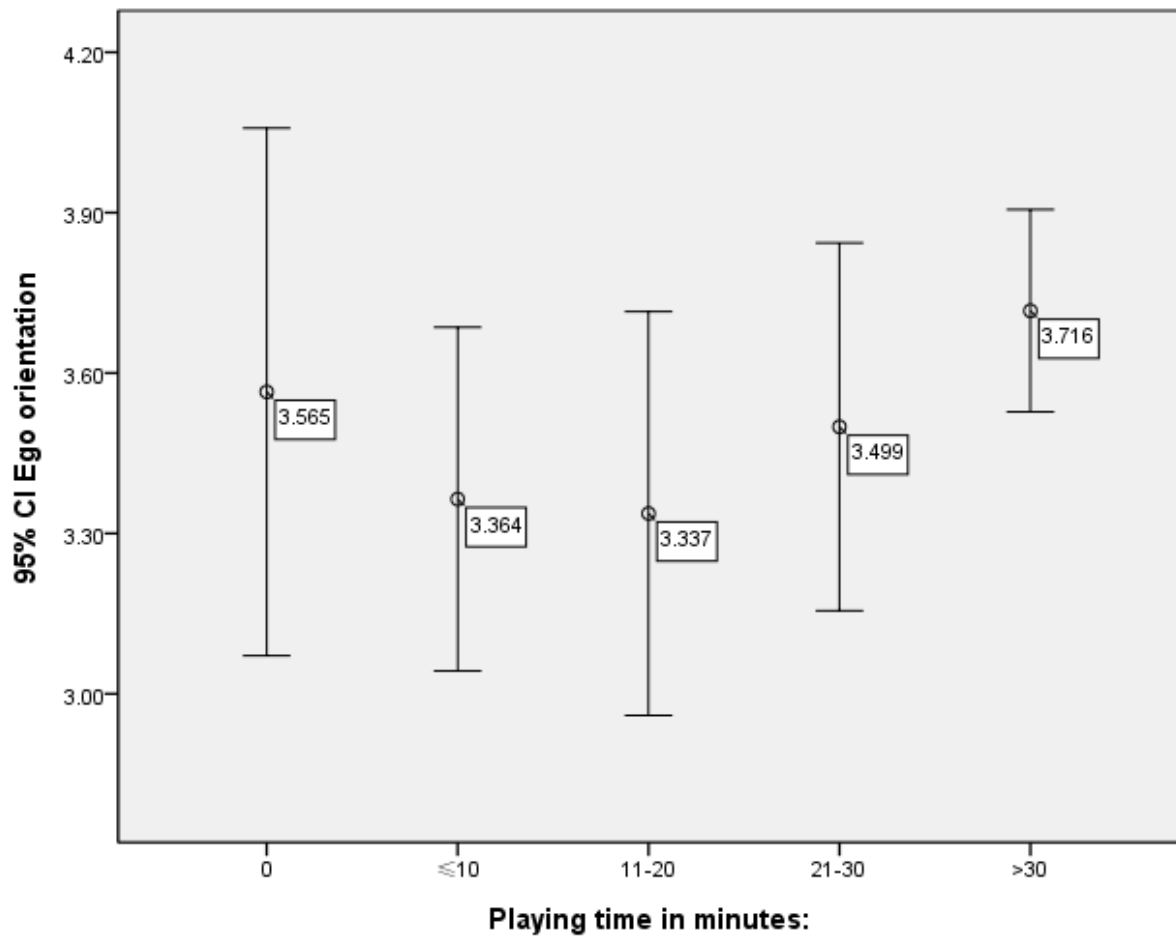**Ego orientation-Playing time**

Figure 3 Mean scores for players` ego orientation related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 3 demonstrates that there were some differences considering players` ego orientation related to playing time; however none significant according to a oneway Anova analysis.
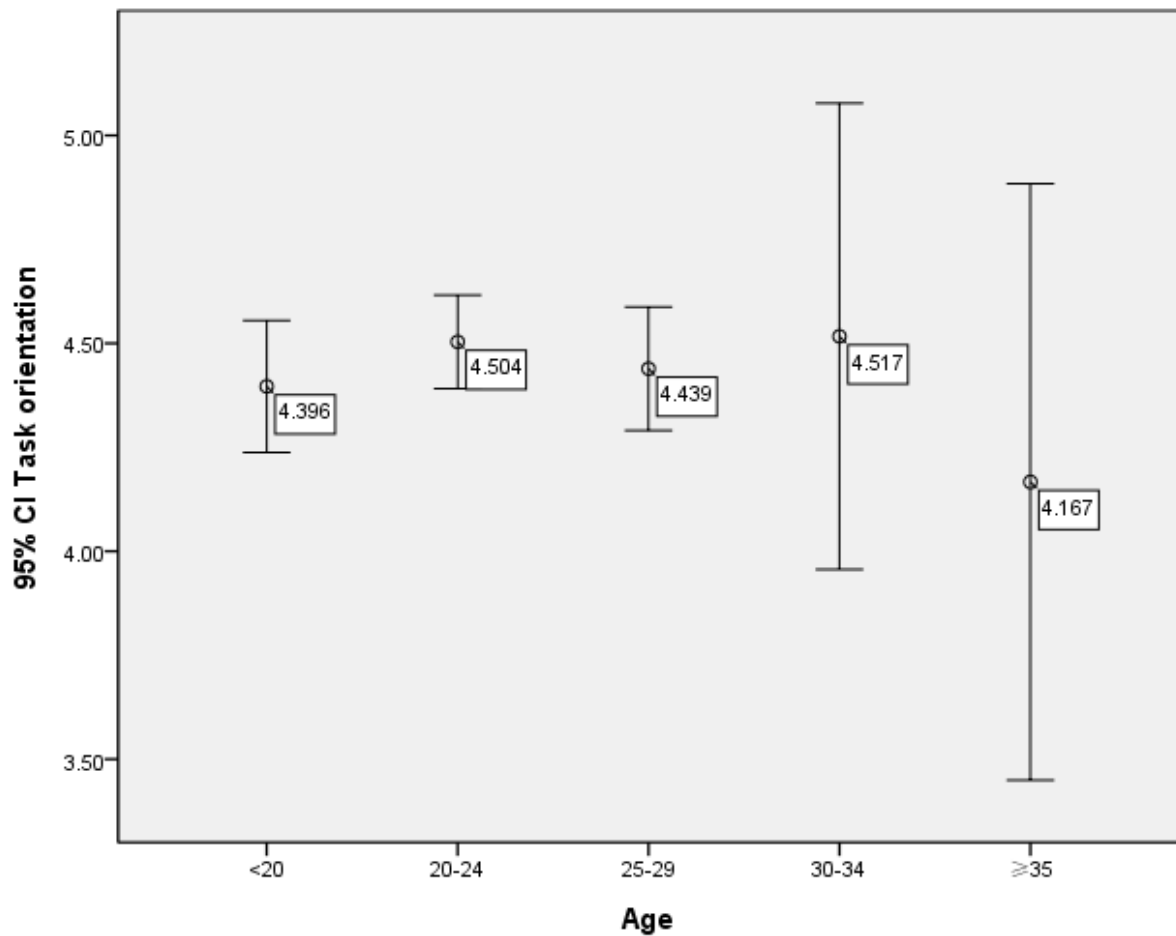
Task orientation-Age

Figure 4 Mean scores for players` task orientation related to age with a 95% CI.

Figure 4 demonstrates that there was not much difference in task orientation related to age in this study. The players 35 years and older differed from the rest, though there were only 3 respondents in this category, also with the largest standard deviation (SD). In other words it is hard to discuss the minimal differences in this material.

Perception of Climate/Playing time

We have already observed significant differences in the players` task-orientation related to playing time. Another relevant subject in this matter is the perceived climate.

Table 5 Correlation between Perception of Task-climate and categories of Playing time.

	Playing time	Task-climate
Pearson`s Correlation	1	.219**
Sig. (2-tailed)		.003
N	177	

** Correlation is significant at the 0.01 level (2-tailed).
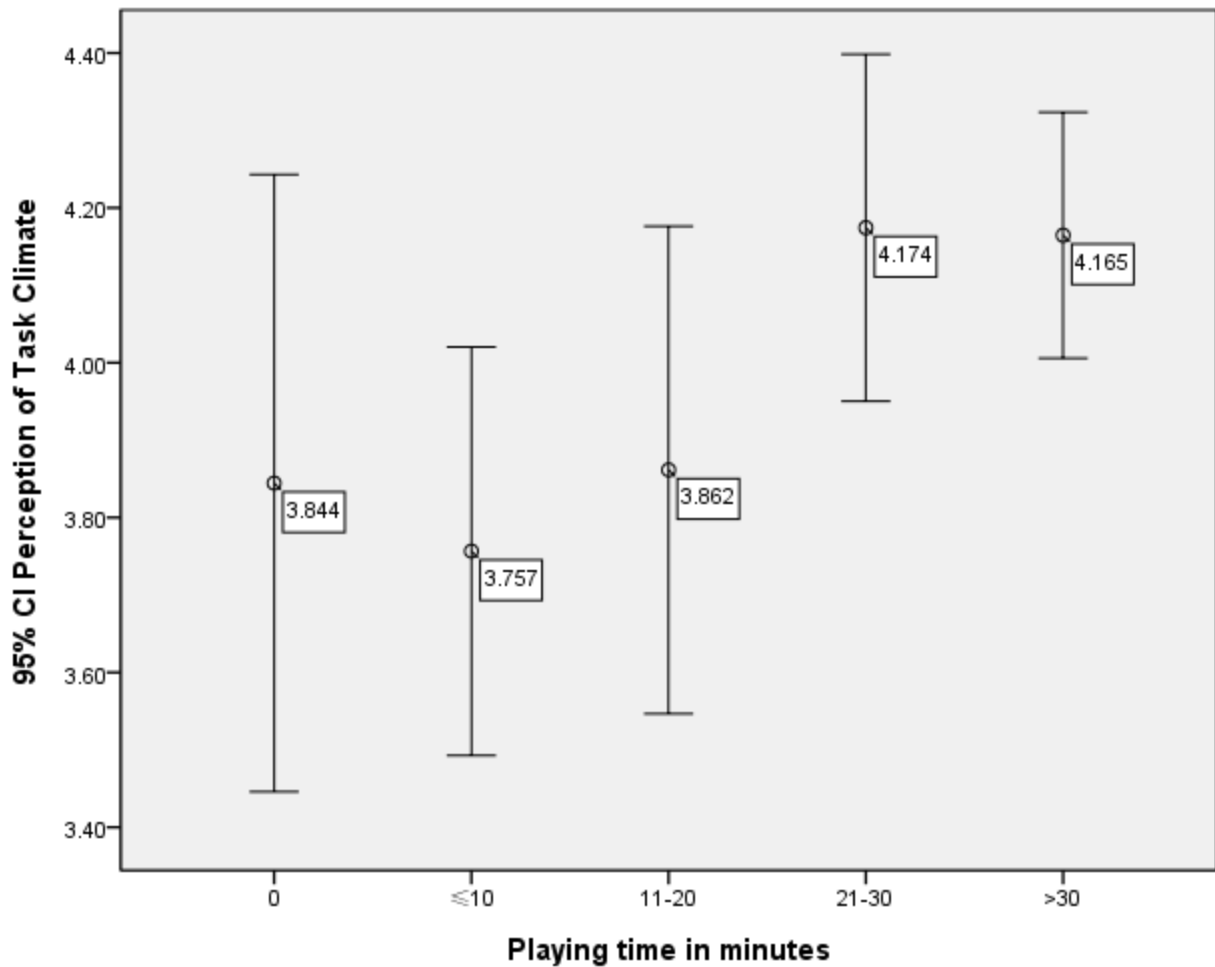

Figure 5 Mean scores for players` Perception of Task climate related to their average playing time in minutes so far this season with a 95% Confidence Interval.

When it comes to the players` perception of the task-climate related to playing time, there was a weak correlation (.219), but still significant at the .01 level, with .003 (sig. 2-tailed) as presented in Table 5. Figure 5 demonstrates that players playing 21-30 & >30 minutes in average scored higher than the rest on perception of task climate (oneway Anova analysis).
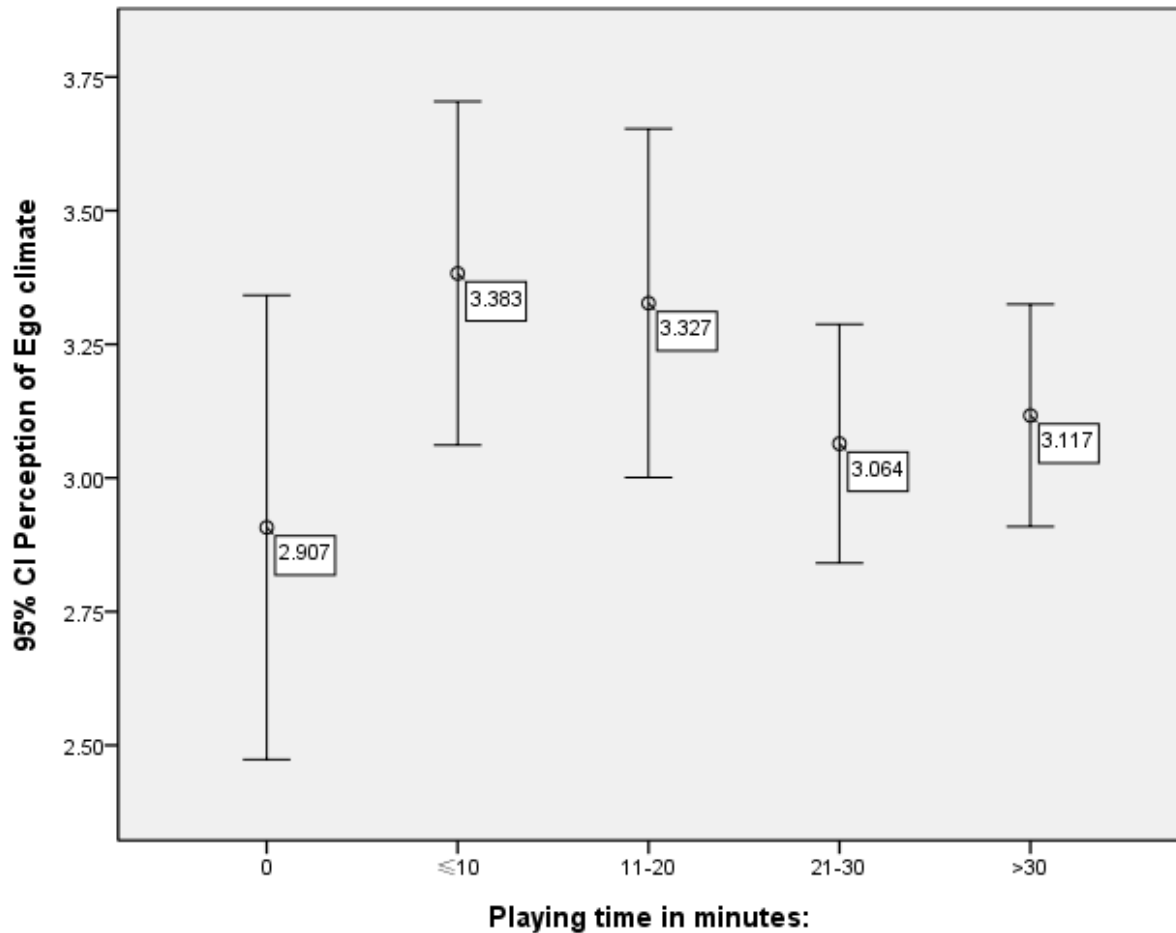
Figure 6 Mean scores for players` Perception of Ego climate related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 6 demonstrates that there were some differences considering players` perception of ego climate related to playing time; however none significant according to a oneway Anova analysis.

Age-Playing time

Table 6 Mean scores and standard deviations for players` playing time related to age in a oneway Anova Analysis. Anova Analysis revealed that there was correlation between age and playing time (p=0.000).

Age	Mean	N	SD
<20	2.94	47	1.374
20-24	3.75	83	1.360
25-29	4.03	34	1.193
30-34	4.60	10	.843
≥35	3.00	3	1.732
Total	3.62	177	1.385

Table 7 Correlation between Age and categories of Playing time.

	Playing time	Age
Pearson`s Correlation	1	.270**
Sig. (2-tailed)		.000
N	177	

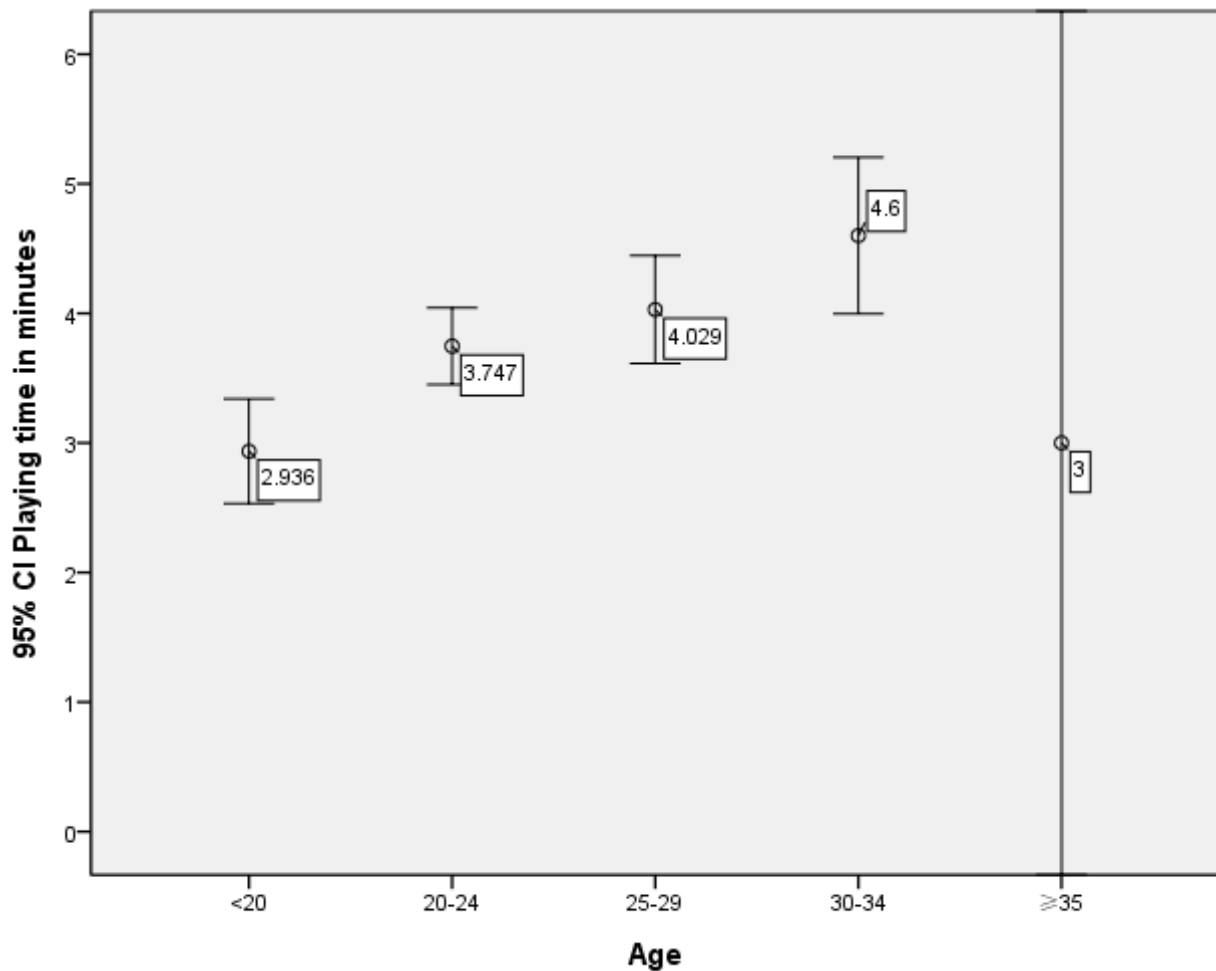** Correlation is significant at the 0.01 level (2-tailed).

Figure 7 Mean scores for players` playing time in minutes related to age. The Y axis represents the 5 point likert scale for playing time in minutes; meaning 1= 0, 2= ≤10, 3= 11-20, 4= 21-30 and 5= >30, with a 95% Confidence Interval.

Using Pearson`s correlation analysis (Table 2 & 7) we see that there was a weak positive correlation (0.270) for age and playing time, and significant (p=0.000). Figure 7 demonstrates that the older the players were, the more playing time they reported; with the exception of those 35 and older, but again; there were only 3 respondents in this category, with a Mean of 3 and SD of 1,732 (Table 6).

Pay/Ego orientation

Table 8 Correlation between Ego orientation and categories of Pay.

	Pay	Ego orientation
Pearson`s Correlation	1	.294**
Sig. (2-tailed)		.000
N	177	

** Correlation is significant at the 0.01 level (2-tailed).

Table 9 Differences in ego orientation between the players earning >20.000kr/month compared to the groups of players with less pay.

Players earning >20.000kr/month compared to the others		Mean Difference	Std. Error	Sig.
>20.000	0-1.999	.91474*	.24286	.008
	2-4.999	.75980	.25695	.073
	5-9.999	.69015	.24782	.106
	10-19.999	.37819	.25824	.709

*The mean difference is significant at the 0.05 level.

Table 10 Descriptive statistics for the players` pay and their respective ego-orientation.

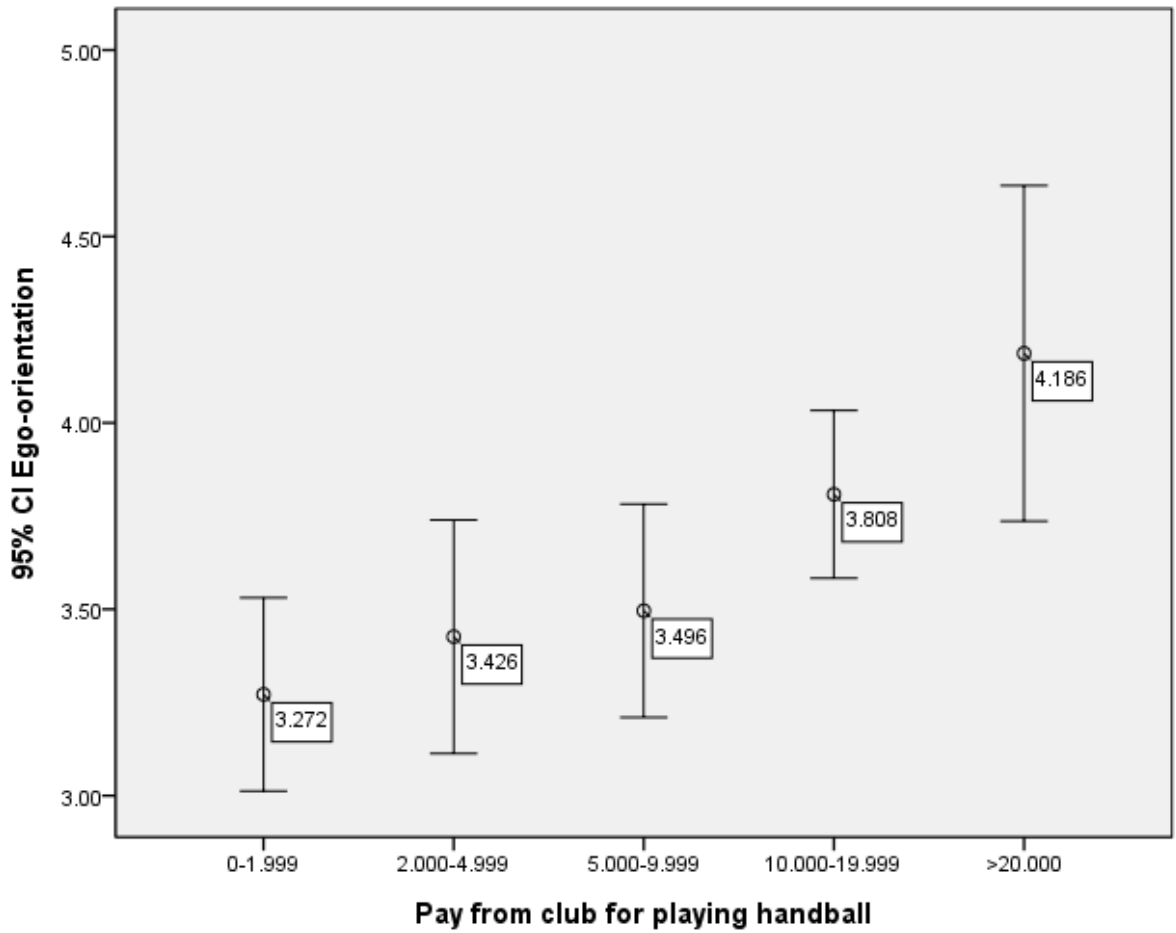| Pay	Mean	N	SD
0-1.999	3.2715	50	.91155
2-4.999	3.4265	34	.89724
5-9.999	3.4961	43	.92902
10-19.999	3.8081	33	.63481
>20.000	4.1863	17	.87576
Total	3.5437	177	.89915

Figure 8 Mean scores for players` ego-orientation related to the money (Norwegian kroner per month) earned for playing handball with a 95% Confidence Interval.

Using Pearson`s correlation analysis (Table 2 & 8) we see that there was a weak, positive correlation (.294), yet still a significant one at the .01 level with .000 (Sig.2-tailed) between money involved and players` ego-orientation. The more money involved, the higher the players scored on ego-orientation, as demonstrated in Figure 8. Table 9 (oneway Anova analysis) also shows that those earning >20.000kr/month are significantly more ego oriented than those earning 0-1.999kr/month.

Playing time-Pay

Table 11 Correlation between Pay and categories of Playing time.

	Playing time	Pay
Pearson`s Correlation	1	.531**
Sig. (2-tailed)		.000
N	177	

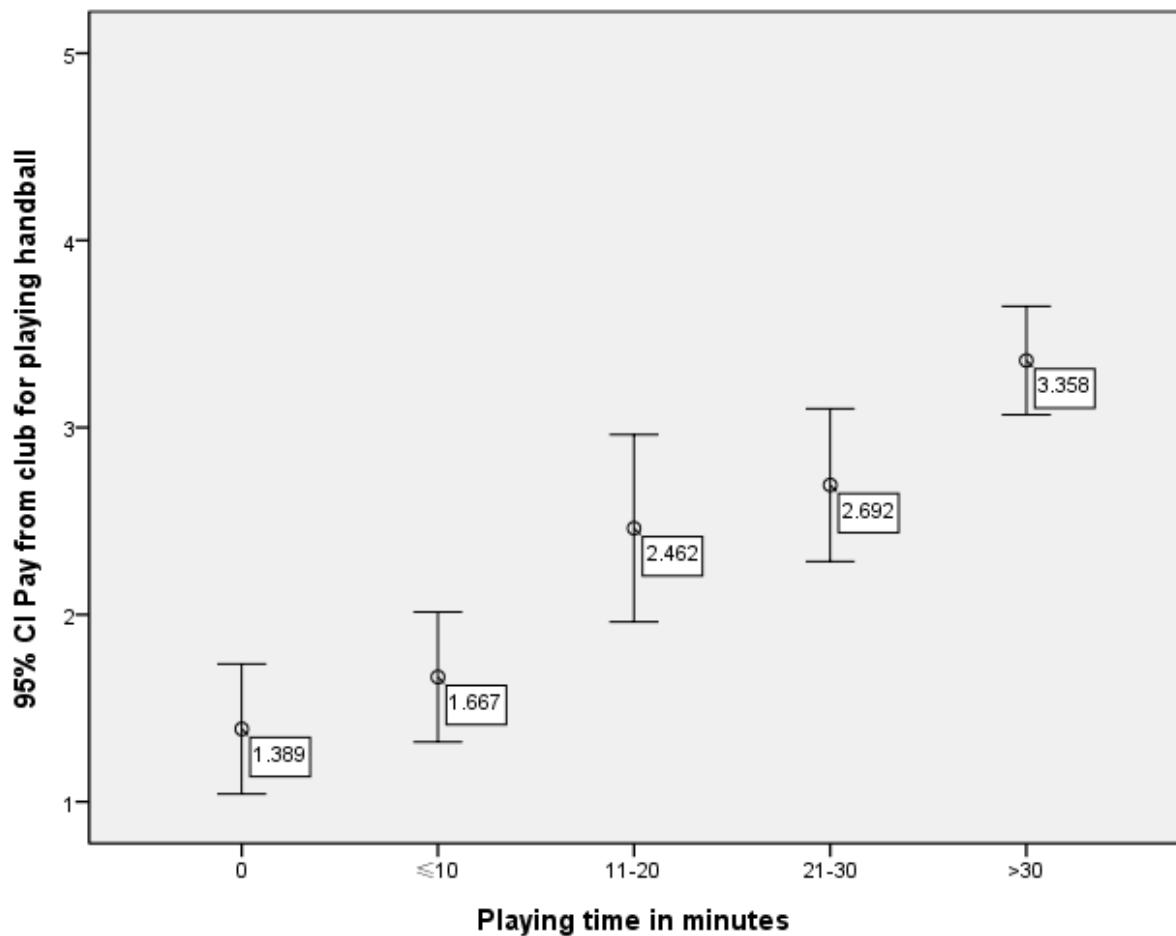** Correlation is significant at the 0.01 level (2-tailed).

Figure 9 Mean scores for players` playing time related to their pay (Norwegian kroner per month) from club for playing handball. The Y axis represents the 5 point likert scale for pay; meaning 1= 0-1.999, 2= 2-4.999, 3= 5-9.999, 4= 10-19.999 and 5= >20.000 with a 95% Confidence Interval.

Using Pearson`s correlation analysis (Table 2 & 11) we see there was a moderate, positive correlation (.531) significant at the .01 level with .000 (Sig.2-tailed), between money earned for playing handball and playing time in minutes. The more playing time the players reported, the more money they reported in pay, as demonstrated in Figure 9.

Discussion

As demonstrated in Table 1 the majority of players are aged 20-24. The second biggest Age category is <20; whereas there are only 13 players registered in this study as 30 years and older. In Playing time the majority actually reported playing >30 minutes in average per game. The other four Playing time categories did not differ much. Considering the descriptives for Playing time; it was interesting to see the different Pay-categories. Here the

majority of players reported earning least (0-1.999kr/month), completely opposite from playing time. This could be perceived as quite odd, considering the results indicating a positive correlation between Playing time & Pay, but then again this might indicate the findings to be even stronger. Table 1 also demonstrates that the average Task orientation is a lot higher than the equivalent Ego orientation, similar to Perception of Task climate reporting higher scores than Perception of Ego climate.

Discussion Results:

Task/ego orientation-Playing time: There were no significant differences related to playing time in ego orientation. Those with more playing time scored higher on task orientation than those who played less, but the relation was not linear and clear cut, because those who played very little (less that 10 minutes) also scored quite high on task orientation. It may seem as playing more or less than 11-20 minutes makes a difference for task orientation. I would argue to say that if a player manages to play >30 minutes in average per game, this player has a lot of playing time, and might not struggle to get such-in the sense that those with less playing time might struggle more for their respective playing time. For players playing 11-20 minutes and those playing 20-30 minutes, I would guess the struggle for playing time is perceived as harder, as they can compare themselves with the ones playing >30 minutes on average. Why the ones playing 0 and less than 10 minutes in average per game score so high on task orientation might seem confusing.

Due to the results that those with limited playing time score high on task orientation, one might speculate that these are young, up and coming players, who are relatively satisfied just being part of a team in the Postenliga. One might also speculate that younger players are more task-oriented as they are the "new generation", growing up learning that one should focus on tasks instead of ego. It is no secret that goal setting and achievement motivation has blossomed during the past few decades, making achievement goal theory much more familiar to the younger players. However, this speculation does not get support in this study. Looking at Figure 4 we see that there are small differences in task orientation related to age. Looking at Figure 2 it seems that players playing 11-20 minutes on average are least task oriented. One possibility is that players with least playing time (0 & ≤10) score high on task orientation, as they must improve themselves to secure more playing time. The players with much playing time (21-30 & >30) might be able to still focus on tasks, as they play relatively much (many of them are in the starting line up etc). Though players playing 11-20 minutes on average

might score lower on task orientation being in the situation they are,caught in between having people behind them trying to outperform them for playing time, and at the same time trying to outperform the ones with more playing time than themselves. These players might find themselves in the most competitive playing time group; making them less task oriented, but, again, this is just speculation.

Perception of Climate-Playing time: If we look at the results in Figure 2 we see that the players with least playing time (0 & ≤10) score relatively high on task-orientation, similar to those with much playing time (21-30 & >30). However, if we look at the Perception of task climate in Figure 5, we see that the players with little playing time (0 & ≤10) score low, while these with much playing time (21-30 & >30) score high. It is not difficult to see that players have completely different task orientation themselves, compared to how they perceive the task climate to be. Figure 6 demonstrates that there were no significant differences in the perception of ego climate related to playing time.

It was quite interesting to see that the players` task orientation differed related to playing time. As suggested by my hypothesis, the players with most playing time scored highest on task orientation. However it was a little surprising to see that those with least playing time (0 & ≤10) also scored relatively high on task orientation. What makes these findings even more interesting, is the players` **Perception of Climate**. In Figure 5 we clearly see that there is a gap between those playing more than 21 minutes and those playing 20 minutes and less. The players with most playing time (>30 & 21-30) score much higher than the rest on Perception of Task Climate. It is quite interesting to see that the players with little playing time consider themselves to be rather task oriented (Figure 2), but compared to those with much playing time they do not consider the climate to be very task oriented. It could seem as though the players with much playing time consider the climate to be task oriented to a greater extent than the rest, as those with less playing time need to outperform teammates for playing time. This could explain some of the difference in Perception of Climate, related to Playing Time.

As mentioned in the Previous Research part, many athletes with limited playing time reported little communication with the coaching staff, some felt overlooked, and some even mentioned loosing identity as an athlete. This is all part of the PMCSQ (see appendix 1), where some of the questions dealt with the coach-athlete relationship; does the coach favor star players, do the players get proper feedback and so on. Figure 5 might be a hint that coaches offer players with a lot of playing time more attention than those with less playing time.

Age-Playing time: As we can see in figure 7 there is a significant positive correlation between playing time and age, meaning that the older the players are, the more playing time they have had (with exception of the 3 respondents 35 and older). The youngest players played on average least. This could partly be explained by the fact that some of the younger players are not physically fully developed. There is no doubt that there is a big step from junior up to senior handball, and many of the younger players might just need a couple of years adjusting. In general senior handball is faster, more physical, and for junior players facing senior players, they suddenly meet players citius, altius, fortius; that is stronger, faster and higher (taller) than what they are used to from junior handball. This is supported in the study by Tsigilis & Hatsimanouil (2005), where they did research on Greek handball, and found that both age, height and weight increased as the performance level got higher. There were in other words no big surprises related to these findings in the current study.

Pay-Ego orientation: Another quite interesting finding is the results showing that handball players seem to score higher on ego orientation as their pay for playing handball increases. In Table 9 we see that the players earning >20.000kr/month from their handball club are significantly more ego involved than those with a *symbolic* pay of 0-1.999kr/month. There was a positive correlation between money involved and ego orientation (Table 8), which becomes quite obvious in Figure 8. It is possible that players with substantial paychecks feel pressure to justify earning that money, which could lead to ego orientation, as they have to perform better than their teammates/competitors with less pay. There are additional suggestions to explain this in the discussion following.

Playing time-Pay: There was a significant, moderate, positive correlation between money earned for playing handball and playing time in minutes, indicating that more playing time correlates with higher paychecks, which can be seen in Figure 9. This might not be a big surprise, as one usually has to pay for quality, also when it comes to quality handball players. However, as demonstrated in Figure 8, more money correlated with being more ego oriented. And as we can see in Figure 9 more money correlated with more playing time. As we have already seen in Figure 2, the players with most playing time (>30 & 21-30) scored high on task orientation. Similarly we can see in Figure 5; those with most playing time scored higher on perception of task climate, and at the same time scored higher on ego orientation (Figure 3).

Additional significant correlations

Table 1 demonstrates a negative correlation between Youth national teams (YNT) related to both Playing time & Pay; which could seem odd for many. However, the item YNT was only either/or, i.e., the players responded to if they had any experience in youth national teams at all; not the amount of caps, at what age they participated etc. There was also a positive correlation between Playing time & Injury, which seems even stranger, given that players with injuries could not play when injured. But, similar to YNT, there were no specifics to when the injury occurred or the actual length of absence (other than ≥*2 months*). These items were therefore not analyzed further; though I encourage future research to do so. There was a positive correlation between Age & Working hours, which might explain the negative correlation between Hours Training & Age in addition to Hours working & Hours Training.

Discussion in General:

After doing this research, looking at the different results presented I am left with a relatively humble question; so what? Is this information at all useful? Of course my opinion is not even close to objective on this point, but I do believe this research has a certain value. After doing a Bachelors in Coaching/Sport Psychology at the Norwegian School of Sport Sciences and then my Masters on the same topic, in addition to working as a handball coach myself, I would argue that this is useful information, for both coaches and players in the future.

In a team sport there will always be competition for playing time, and in many ways this might cause frustration, lack of motivation and more for some. By enlightening people on these findings, it might help athletes and coaches direct focus in a more mastery-oriented direction; as most of the theorists and research articles mentioned here argued that task-orientation better preserves or even enhances motivation, which again might enhance performance. I have also chosen to discuss achievement goal theory and my application of it further down.

The two final questions in the questionnaire were open and qualitative;

- 13) **Name the biggest motivational factor(s) for you playing handball:**

The responses varied a lot and there are obvious differences according to achievement goal theory. Considering ego orientation, there were several responses saying e.g.

- *I wanna win*
- *I wanna become the best*
- *Winning*

, but there were also task oriented counterparts, with responses such as:

- *Personal mastery, personal development and the possibility to achieve something*
- *Set goals- and then work hard reaching those goals*
- *…nothing beats the feeling of achieving something together with teammates*

Studying the Norwegian Postenliga there was no surprise that there would be differences, but also it was very interesting to see the responses to this open question, which clearly shows players have very different motivational orientation when it comes to playing handball, as already demonstrated and suggested by the respective figures.

There were also other responses, which could be better described with Organismic Intergration Theory (OIT) which is a subcategory of Self Determination Theory (SDT), when some players said they play because of promises made to deceased family members…"*to continue playing as long as my body approves*". This would in OIT terms be considered Introjected regulation, where one might suffer from guilt when e.g. not doing as promised or planned (for more about OIT see (Deci & Ryan 1985). I believe that applying SDT or OIT to a study similar to this in a team handball environment could be very interesting, and I strongly encourage other researchers to conduct such.

- 14) **Give a short description of any handball related concerns/worries you might have:**

It is no secret that handball is a rough sport and that there are many injuries playing, but I am a little surprised to see so many players with injury-related worries. I guess one should be thankful for all the research being done to prevent injuries. The Oslo Sports Trauma Research Center and the Department of Sports Medicine at The Norwegian School of Sport Sciences have done several very important research studies on handball related injuries (e.g. ACL-injuries) and shoulder injuries in the Postenliga) (for more about this see Oslo Sports Trauma Research Center 2012).

Discussion AGT:

Within sport psychology different scientists have come up with very different theories of how to best motivate athletes, how to prevent drop out, anxiety and so on. In my research on the Norwegian Postenliga, I applied Achievement Goal Theory, which is one of the more substantial theories when it comes to sport psychology today (Roberts & Kristiansen 2012).

Roberts, Treasure & Conroy (2007) argued that the term *motivation* is overused and vague. We often hear sports commentators using the word, journalists asking athletes about it, coaches complaining over lack of it and much more; and not only in the sport milieu. There are politicians quitting politics, there are teachers who quit teaching, evidently because they lack motivation. I believe the word is in many contexts overused and often some might find it easy to blame this relatively undefined concept, using an "accepted" excuse knowing people find it hard to question the unknown; and it has been like this for a long time. Today there are many different theories of motivation with their own definition of the concept, and there are almost as many definitions as there are theorists… "*…However, most contemporary theorists agree on the important assumption that motivation is not an entity, but a process*" (ibid: 3).

Following the Norwegian womens` national handball team, we have seen both Marit Breivik, former national coach and now Thorir Hergeirsson the current team coach, talking about "tasks" throughout the games. During the Womens` Handball World Cup in Brazil in December 2011, with only a few minutes left to play, during a time-out in a match where the winner was already decided, but not the final score, we see Hergeirsson coaching certain tasks; "not conceding more than one goal" or "win the last two minutes with two goals". We have seen similar coaching by Per Johansson, head coach of the Swedish womens` national team, also during the World Cup in Brazil. We have seen Ole Gustav Gjekstad, one of Norway's most recognized coaches, now head coach of Larvik HK womens` handball team, doing the same. Larvik HK won the Champions League 2010/2011, and have won the Norwegian league every year since 2004/2005 (Norwegian Handball Federation 2012; Larvik HK 2012); and even here they practice goal setting. I would argue that these are typical examples of coaches trying to create a mastery oriented climate. Though, again I must emphasize the importance of evaluating this process. If the evaluation is continuously absent, in my opinion the whole idea of goal setting loses its` purpose.

Discussion Applying AGT:

When it comes to sports and physical activity, we often talk about achievements. Whether you jog, swim or play on a handball team, there are always certain outcomes to be expected, mostly related to the improvement factor; you want to get better, faster, fitter etc. The AGT puts focus on how to motivate yourself and/or others to achieve your goals and not make you develop anxiety, drop out of sport/exercise and/or other negative outcomes. Jowett & Lavallee (2007) suggested, according to AGT, that instead of focusing on ego performance, where you challenge yourself to be/become better than others, teammates, opponents etc, you should focus on certain tasks. Your task goal orientation could include scoring more goals than you did last game, getting more rebounds, more assists etc, very similar to what is practiced by e.g. Breivik, Hergeirsson, Johansson and Gjekstad. By doing this it is much more likely to enhance enjoyment, satisfaction and interest during sports, and is especially important for continued participation. Anxiety is also a lot more likely to develop during an ego orientation than for people adopting the task orientation.

> *An individual`s investment of personal resources, such as effort, talent and time, in an activity is dependent on the achievement goal of the individual. The overall goal of action in achievement goal theory, thereby becoming the conceptual energizing force, is assumed to be the desire to develop and demonstrate competence and to avoid demonstrating incompetence. The demonstration and development of competence is the energizing construct of the motivational processes of achievement goal theory* (Roberts, Treasure, & Conroy 2007: 4).

Roberts et. al. further argued

> *…that athletes adopting an ego orientation may experience anxiety as a function of whether or not they believe they can demonstrate sufficient competence in an achievement context. Anxiety should be less likely with a task orientation, because an individual`s self worth is not threatened* (2007: 8).

It might be confusing for many not only when theorists argue whether or not to be task or ego involved, but at the same time some of them (e.g. Roberts, Treasure & Conroy 2007) argue that it might be beneficial to be high in both task-and ego. However, many theorists (e.g. Nicholls 1984, 1989, Jowett & Lavallee 2007, Roberts & Kristiansen 2012, Locke & Latham 1990, 2002) argue the benefits of being task oriented, and many research studies support this, of which some have been presented here. Goal setting seems to be "the one and only way" to do things in life, but of course there are researchers and scientists who are critical. According to Hall & Kerr (2001) goal setting is a "double-edged sword", and Burton & Naylor (2002)

say that it has a "Jekyll and Hyde nature". Of course there is no one theory that applies to every athlete, and there is no evidence suggesting that AGT applies to every handball player in Norway, or elsewhere in the world. Some athletes probably perform better comparing and competing with other athletes. They may even have better progression doing this, and at the same time manage to preserve their motivation. However, since the first goal setting study was conducted more than 30 years ago, most professional athletes are now very well aware that goal setting is a very useful technique. But, there is a lot of confusion and insecurity about what kind of goals should be set, and how this should, or could, actually maximize their performance. Due to all the research that has been done, favoring the benefits of goal setting and achievement goal theory, I am quite comfortable having applied AGT to my thesis; even though Roberts & Kristiansen (2012) make it clear that some researchers continue to argue why and how well it works.

Limitation of this study:
It should also be specified that this was a cross-sectional study, meaning this study does not provide a cause-and-effect relationship. This was a study conducted at one point during the season, meaning that these results imply that there were differences; not the causality. However, of course analyses have been conducted, which in some cases present correlation between certain variables.

The population in the Norwegian Postenliga was only 225 registered players in 2011/2012, of whom 177 responded. Although the response percentage was 78,7, which is considered relatively high in such electronic questionnaires, there were still only 177 respondents, making generalization unrealistic. This study is in no way capable of suggesting similar differences in other leagues; these results are for the Norwegian Postenliga this season. Also, with a limited number of players, there were also some analyses where some categories contained very few respondents. This might jeopardize reliability of the analysis, but this was both presented in the results and later discussed. In addition this study only investigated male handball players. Females often experience their sport environment differently from males (e.g. Gilbert, 2001), which could, for future research, be an interesting comparison.

Conclusion
Looking at the figures and tables presented, I must say that there are several interesting findings in this study. As my main hypothesis suggested, the players with most playing time reported being more task oriented than those with less playing time. Additionally the players with most playing time reported higher scores on perception of task climate, age and pay. The

players playing the most also get paid the most; and the players paid the most scored higher on ego orientation; which again could suggest that those playing the most are also more ego oriented. When doing the ego orientation/perception of ego climate-playing time analysis directly, there were no significant findings suggesting that the players with more playing time were more ego oriented; however when doing these other analyses there were findings suggesting the before mentioned. Those playing the most get equivalent pay; and those earning most scored highest on ego orientation, which indirectly implies that those playing most also scored higher on ego orientation. As e.g. Roberts, Treasure & Conroy (2007) argued, it might be beneficial for some athletes to be both high in ego-and task orientation when the perception of competence is equivalent. However, they also specified that athletes who are performance/ego oriented are more fragile which might lead to maladaptive achievement striving as context information is being processed.

By all means it is positive to see that the players playing most score relatively high on task orientation and that they also scored high on perception of task climate, which could be an implication that players with a lot of playing time perceived both themselves and the climate as mastery focused. However, there are many players in the least-playing categories, who did not score as high on both perception of task climate, and to some degree also task orientation themselves. In today's competitive environment, with risks of e.g. anxiety, burnout and even drop out from sport, this might, and hopefully will, function as a wakeup call for coaches and athletes in the future, to better preserve the environment for all, also those with less playing time. Throughout this thesis both theorists and previous research have suggested that athletes` motivation is better preserved with a mastery/task orientation.

Future research should continue to examine motivational orientation in team sports. This study came up with some suggestions to factors that could influence handball players` motivational orientation.

In addition many of the respondents revealed worries about injuries, which could also be a highly relevant subject for future research.

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Tables:

Table 2 N & % for players` age, playing time & pay in addition to Mean score, Standard Deviation & Alpha Coefficient for the motivational scales (N total=177).

Table 2 Pearson`s Correlation between the categories (N=177)

Table 3 Mean scores and standard deviations for players` task orientation related to playing time in a oneway Anova Analysis. According to Anova there are significant differences in the material (p= 0.09).

Table 4 Mean differences and standard errors in task-orientation when comparing the ones playing more than 30 minutes to the other playing time groups (with LSD post hoc analysis).

Table 5 Correlation between Perception of Task-climate and categories of Playing time.

Table 6 Mean scores and standard deviations for players` playing time related to age in a oneway Anova Analysis. Anova Analysis revealed there was correlation between age and playing time (p=0.000).

Table 7 Correlation between Age and categories of Playing time.

Table 8 Correlation between Ego orientation and categories of Pay.

Table 9 Differences in ego orientation between the players earning >20.000kr/month compared to the groups of players with less pay.

Table 10 Descriptive statistics for the players` pay and their respective ego-orientation.

Table 11 Correlation between Pay and categories of Playing time.

Figures:

Figure 5 The 2 x 2 achievement goal framework. Adapted from "A 2 x 2 Achievement Goal Framework," by A. J. Elliot and H. A. McGregor, 2001, Journal of Personality and Social Psychology, 80: 502. Copyright 2001 by the American Psychology Association. Adapted with permission.

Figure 6 Mean scores for players` task orientation related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 7 Mean scores for players` ego orientation related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 8 Mean scores for players` task orientation related to age with a 95% CI.

Figure 5 Mean scores for players` Perception of Task climate related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 6 Mean scores for players` Perception of Ego climate related to their average playing time in minutes so far this season with a 95% Confidence Interval.

Figure 7 Mean scores for players` playing time in minutes related to age. The Y axis represents the 5 point likert scale for playing time in minutes; meaning 1= 0, 2= ≤10, 3= 11-20, 4= 21-30 and 5= >30, with a 95% Confidence Interval.

Figure 8 Mean scores for players` ego-orientation related to the money (Norwegian kroner per month) earned for playing handball with a 95% Confidence Interval.

Figure 9 Mean scores for players` playing time related to their pay (Norwegian kroner per month) from club for playing handball. The Y axis represents the 5 point likert scale for pay; meaning 1= 0-1.999, 2= 2-4.999, 3= 5-9.999, 4= 10-19.999 and 5= >20.000 with a 95% Confidence Interval.