Reykjavík University, School of Science and Engineering May 6th 2013

The Translation of Controlling Coach Behavior Scale (CCBS) from English to Icelandic and evaluation of Psychometric Properties of the Icelandic version

Rakel Logadóttir

Thesis of 120 ECTS credits

Master of Science in Exercise Science and Coaching

June 2013

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Háskólinn í Reykjavík, Tækni- og verkfræðideild 6. maí 2013

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Abstract

The Controlling Coach Behavioral Scale (CCBS) is a multidimensional self-report assessment instrument designed by Bartholomew et al. (2010). The Scale measures sport coaches´ controlling interpersonal style from the perspective of Ryan´s and Deci (2000a) self-determination theory. The aim of this study is to translate the original English version of CCBS into Icelandic and evaluate its psychometric properties by recruiting athletes from different types of sports. The Icelandic version of CCBS demonstrates a good internal consistency for all four subscales used. Furthermore, the test – retest shows a strong positive correlation for all of the four subscales and a high correlation for the total score. However, some subscales are a little lower than in Bartholomew's study. Measurement of convergent validity of the scale shows medium to high negative correlation between the athlete´s assessment of coach communication ability and the total score of the Icelandic version of CCBS. These results underpin the convergent validity of the scale. The most interesting finding is that athletes in individual sports rank their coaches higher in communication ability compared to athletes in team sports. Furthermore there are some gender differences in the assessment of coaches controlling interpersonal style as well as in communication skills.

Úrdráttur

Controlling Coach Behavioral Scale (CCBS) er fjölvíða spurningalisti sem hannaður var af Bartholomew ofl. (2010) til að meta stýrðan samskiptastíl þjálfara út frá sjálfsákvörðunar kenningu Ryan´s og Deci (2000a). Markmið þessarar rannsóknar er að þýða CCBS listann yfir á íslensku og meta próffræðilega eiginleika íslensku útgáfunnar með aðstoð ólíkra hópa íþróttafólks frá nokkrum íþróttafélögum á Reykjavíkursvæðinu. Niðurstöður rannsóknarinnar sýna að íslenska útgáfan af CCBS sýnir fram á gott innra réttmæti fyrir alla fjóra undirflokka listans. Marktæktarprófunin sýnir fram á sterka jákvæða fylgni milli allra fjögurra undirflokkanna og háa fylgni fyrir heildarútkomu listans. Samleitniréttmæti prófun sýnir miðlungs til háa neikvæða fylgni á milli mats íþróttafólksins á samskiptahæfni þjálfara síns og heildarskors á íslensku útgáfunni af CCBS. Þessar niðurstöður renna frekari stoðum undir samleitnisréttmæti listans. Áhugaverðustu niðurstöður þessarar rannsóknar eru að íþróttafólk sem stundar einstaklingsíþróttir metur þjálfara sína hærra í samskiptahæfni samanborið við íþróttafólk sem stundar hópíþróttir. Að auki er kynbundinn munur á samskiptastíl þjálfara sem og á samskiptahæfni.

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Introduction

In a sports setting, the coach-athlete relationship can be both complex as well as debatable. Coaches differ in communication styles and they can have a tremendous impact on their athletes' actions and thoughts without realizing. Athletes, especially young athletes, often look up to their coaches and admire them. According to the Self-determination theory (Deci & Ryan, 1985), which is guided by a majority of research in the coaching context, an interactive style can be viewed in terms of autonomy-supportive and controlling coach behavior. The majority of literature presents the effect of autonomy-supportive coaching strategies on athlete motivation and performance. The results are consistently in favor of the autonomy-supportive coaching environment compared to a controlling one (Amorose & Anderson-Butcher, 2007; Conroy & Douglas Coatsworth, 2007; Gillet, Vallerand, Amoura, & Baldes, 2010). Mageau & Vallerand (2003) studied the effect of autonomy-supportive behavior, organization and involvement on athletes' needs for autonomy, competence and the ability to relate. The authors found that these aspects in turn support athletes' intrinsic motivation and self-determined types of extrinsic motivation.

While most research in the coaching context focuses on autonomy-supportive behavior, not much research focuses on controlling interpersonal coaching styles. It is therefore in need of further examination. However, the Controlling Coach Behaviors Scale (CCBS) (Bartholomew et al., 2010) has been developed for that purpose. The CCBS is a multidimensional instrument designed to measure the effect of controlling coach behavior on athletes.

In accordance with the self-determination theory, Bartholomew, Ntoumanis, and Tøgersen-Ntoumani (2009) suggested in their study that coaches who put pressure on their athletes or behave in a controlling manner towards their athletes are more likely to prevent athletes´ feelings of autonomy, competence, and relatedness. In addition, a coach's controlling behavior can contribute to the development of controlled motives and have an undermining effect on athletes' self-determined motivation. Several negative outcomes can be detected when athletes experience pressure from the coach to act in certain ways. This can affect the athletes' well-being.

In the past, a lot of research has been conducted on children and adolescents in the context of sports. Results confirm many negative outcomes of tremendous mental and physical pressure that coaches often put on their young athletes. Negative influences such as anxiety, depression, and low self-esteem which can develop in a competitive sport environment can ultimately lead to burnout (Gould, 1993) and even development of eating disorders (Sundgot-Borgen & Torstveit, 2004).

While the CCBS instrument is the first questionnaire that only measures coaches' controlling interpersonal styles, there are other instruments that measure this aspect of the self-determination theory, along with other coaching behaviors such as autocratic and democratic behavior, decision-making style, personal rapport, social support, and autonomy-supportive and controlling interpersonal style and feedback. Instruments such as Coaching Behavior Scale for Sport (CBS-S) (Côté, Yardley, Hay, Sedgwick, & Baker, 1999), Leadership Scale for Sport (LSS) (Chelladurai & Saleh, 1980), and Coaches Interpersonal Behavioral Style Instrument (Pelletier, Tuson, & Haddad, 1997) measure a variety of coaching behaviors while the CCBS instrument solely measures controlling behavior.

All these instruments are multidimensional in nature. The scales are relevant for all coaches and athletes, and the literature confirms that a coach's interpersonal style can impact various outcomes like anxiety (Baker, Côté, & Hawes, 2000), motivation (Amorose & Horn, 2001; Mageau & Vallerand, 2003), performance (Gillet et. al., 2010), cohesion (Blanchard, Amiot, Perreault, Vallerand, & Provencher, 2009), dropout and well-being (Stebbings, Taylor, Spray et al. 2011).

1 Self – determination Theory

The self-determination theory (Deci & Ryan, 1985) explores human motivation and personality within the social-environmental situations that may increase rather than weaken intrinsic motivation and healthy psychological adjustment. The self-determination theory embraces the idea that all people have natural, internal, and beneficial propensities to develop a more complex and unified sense of self (Ryan & Deci, 2004).

Several researchers have viewed the self-determination theory from a social psychology and personality perspective. The basic psychological needs are the need for autonomy, the need for competence, and the need for relatedness. These basic needs control the individual's direction and continuance to engage in a goal directed by behaviors that will meet those needs (Hagger & Chatzisarantis, 2007).

Many of the researches directed by the self-determination theory have examined environmental factors as well. The environmental factors are believed to hinder or weaken one´s drive, social function, and personal happiness. Many particular, detrimental influences have been explored in the past and a majority implies that harms can be explained in terms of thwarting the three basic psychological needs mentioned earlier. As a result, research conducted according to the self-determination theory are concerned with the specific nature of positive environmental tendencies, as well as the social environmental factors that are opposed toward these trends (Deci & Ryan, 2000a).

Understanding and implementing the self-determination theory in a sports environment can therefore help coaches and athletes to be aware of the types of social interactions that can support or hinder self–determination, happiness, creativity, and well-being.

1.1 Motivation and self-determination Theory

Motivation is a powerful factor that influences human behavior in many ways. Motivation can be defined as a force regarding energy, direction, persistence, and equifinality. In the world of sports, motivation is highly cherished because of the results it brings about. There are several different factors that can make people move and act. The actions then bring about different experiences and consequences. The motives can originate from within oneself or there might be a strong external force present, like a tangible reward (Deci & Ryan, 2000a).

Duda and Treasure (2001) state that motivation can be thought of as the cornerstone of sport performance and success. For example, if a very gifted athlete is not motivated, the athlete is unlikely to reach his true potential in the athletic environment (Treasure, Lemyre, Kuczka, & Standage, 2007).

Within Deci and Ryan's (1985) self-determination theoretical framework, behavioral regulation can be distinguished by three different types of motivation based on different reasons or goals that give rise to an action. The main types are Intrinsic motivation, extrinsic motivation and amotivation (Conroy, Elliot, & Coatsworth, 2007).

Intrinsic motivation refers to an action that a person engages in purely for the sake of the enjoyment that one experiences from the activity. Such enjoyment can include feelings of accomplishment, learning, or stimulation. Extrinsic motivation on the other hand refers to an extensive display of behaviors that are performed not only for reasons inherent in the activity itself, but also for instrumental motives such as rewards (Conroy et. al., 2007).

Deci and Ryan (1985, 2000a) identified four subtypes of extrinsic motivation; external regulation, introjected regulation, identified regulation, and integrated regulation (See table 1-1). External regulation refers to when someone acts to obtain an external reward or simply to avoid getting punished. Introjected regulation is different from external regulation for people who are introjected are regulated to do things to avoid feelings of guilt. Identified regulation involves a person doing something because it is considered important, while integrated regulation involves a person doing something because it is considered both important and consistent with one´s values (Conroy et. al., 2007).

The main difference between these four subcategories of external motivation lies in the fact that external and introjected regulations symbolize controlling extrinsic motivation because of the external or internal pressure that such behavior brings about. On the other hand, identified regulation and integrated regulation are more autonomous-supportive forms of extrinsic motivation because of the choice that such behavior brings about (Katartzi & Vlachopoulos, 2011).

Amotivation refers to when someone lacks the purpose and intention for one´s action (Vallerand, 2004). In other words, the individual does not have the motivation to take part in a certain behavior. Pelletier, Dion, Tuson, and Green-Demers (1999) state that there are four ideas that define the behavior of an amotivated individual. The first idea is lack of ability to be successful. The second idea has to do with the strategy and how it is unlikely to be effective. The third idea has to do with the fact that success requires too much effort, and the fourth and final idea is that the individual

cannot achieve the desired outcome despite any amount of effort put into it (Conroy et. al., 2007).

Table 1-1 The self-determination continuum depicting the types of behavioral regulation posited by the self-determination theory (Deci & Ryan, 2000).

Behaviour	*None self-determined*					*Self-determined*
Locus of motivation	None	Not internalised				internalised
Type of Motivation	**Amotivation**	**Extrinsic-Motivation**				**Intrinsic Regulation**
Type of Regulation	Non-regulation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Regulation

1.2 Motivation and the environment

The environment can have an effect on motivation. Studies done on elite athletes have shown that these athletes are not entirely intrinsically motivated. In fact, multiple motives are more than likely to exist. This means that athletes can be motivated both intrinsically and extrinsically. The environment can also define an athlete's participation, and is likely to have a significant effect on the motivational process (Treasure et. al., 2007).

Studies done by Chantal, Guay, Dobreva-Martinova, and Vallerand (1996) examined the different motivational profiles of 98 elite Bulgarian athletes that completed the Sport Motivation Scale (SMS). Furthermore, the researchers looked into the different environmental effects on successful elite athletes versus less-successful athletes.

Elite Athletes, especially title- and medal-holders, were found to demonstrate higher levels of non-self-determined types of motivation. Furthermore, elite athletes in a controlling environment reported better performance. These successful athletes reported more frequently that their primary source of motivation was external in nature, such as rewards and feelings of obligation and pressure. In conclusion, the authors found that the best Bulgarian elite athletes were more non-self-determined, external-motivated, and amotivated than the athletes who were not as successful. These results suggest that the social environment affects the type of motivation the athlete adopts.

2 Interpersonal Coaching Style

The literature focuses primarily on two different coaching interpersonal styles that have received the most attention, the autonomy-support style and the controlling style. Researchers using self-determination theory as a guide have done more research on the autonomy-support interpersonal style in the past than the controlling interpersonal style. However, in recent years, research focus has been shifting toward controlling interpersonal style. Furthermore, many researchers have frequently been looking into the make-up of controlling behavior. Controlling behavior and autonomy-supportive behavior are not opposite behaviors (Pelletier, Fortier, Vallerand, & Brière, 2001). Coaches can act both in a controlling and autonomy-supportive manner at the same time and to different degrees (Bartholomew et al., 2009).

2.1 Autonomy Supportive Coaching Style

In the sport setting, coaches that provide an autonomy-supportive environment are democratic in behavior. They offer choices within specific rules and limits and provide a rationale for tasks and limits. Furthermore, they acknowledge feelings and the players´ perspective and frequently provide them with opportunities for independent decisions. Coaches who are autonomy-supportive also avoid behaviors that are considered controlling, like overt control, controlling statements, criticism, and not giving tangible rewards for tasks that might seem attractive to the athletes. Finally, coaches try to avoid ego-involvement in athletes (Mageau & Vallerand, 2003).

Researchers have established a link between the autonomy-supportive coaching style and increased self-determined motivation through the fulfillment of one's psychological needs, as mentioned earlier (Bartholomew et al., 2010). A number of studies done in the athletic context on autonomy-supportive coaching style show a positive relationship to the three basic psychological needs; the need for competence, autonomy, and relatedness (Alvarez, Balaguer, Castillo, & Duda, 2009; Blanchard & Vallerand, 1996; Gagne, 2003).

Gagné (2003) studied female gymnists and examined the links between coach-created settings and basic psychological needs. The results indicate a positive

relationship between coach autonomy support and perceptions of competence, autonomy, and relatedness. In other words, however much the players recognize their coach´s support of their independence is positively correlated to their psychological need for satisfaction.

Other researchers show similar results but also viewed players' motivation. Several studies have demonstrated that the more the players perceive their coach to be autonomy-supportive, the more self-determined their motivation is for practicing their sport (Conroy & Coatsworth, 2007; Gillet et al., 2010; Pelletier et al., 2001).

2.2 Controlling Coaching Style

The characteristics of controlling interpersonal style are different compared to autonomy-supportive interpersonal style. According to Deci and Ryan (2000b), communication exerted in a controlling way is coercive and can exert pressure in an authoritarian way. External regulation like forced requirements and reward eventualities can pressure an individual into participating in a behavior requested by an authoritarian figure. Introverted regulation or acting out of guilt or obligation can also have this effect. Coaches can therefore act in a forcible, compelling, and authoritarian manner in order to reinforce a specific and fixed way of thinking and behavior upon their athletes (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009).

Ryan & Deci (2000) state in their paper that the athlete´s focus of causality is shifted from internal to external by the controlling behavior of the coach. An example of controlling behavior of a coach is when the coach introduces extrinsic rewards for doing an activity that the athlete is originally intrinsically motivated in doing. A person can feel controlled by this reward and it can therefore provoke a shift from internal to external motivation like mentioned earlier.

Bartholomew, et al. (2009) propose taxonomy of six controlling coaching strategies that can have negative effects on athletes' feelings of autonomy, competence, and relatedness. These six controlling strategies can also cause the development of psychological ill being and controlled motivation. These controlling strategies are tangible rewards, controlling feedback, excessive personal control,

intimidation behaviors, promoting ego-involvement, and finally, conditional regard. Each one of these controlling strategies will be explained briefly.

1. *Tangible reward:* Rewards such as money or gold medals given to athletes in order to motivate them to participate in some kind of behavior, or in order to induce persistence of some sort of behavior (Bartholomew, et al., 2009).

2. *Controlling feedback*: A coaches´ feedback can impact athletes' intrinsic motivation. Ryan (1982) argued that positive feedback has an informational aspect and a controlling aspect to it. The informational aspect provides information about competence, while the controlling aspect provokes reproduction of certain behavior (Mageau & Vallerand, 2003). When the informational facet is not significant and the controlling facet is significant, this positive feedback can undermine intrinsic motivation. Several studies have confirmed this by using positive but controlling feedback locutions and those results led to a diminished intrinsic motivation (Mageau & Vallerand, 2003). An example of such a locution is, "Keep it up. I would like you to do even better on the next game" (Kast & Connor, 1988). This particular study demonstrated that this form of control is perceived as undermining autonomy as well as intrinsic motivation (Bartholomew et al., 2009).

3. *Excessive personal control:* In the parental context this refers to not being able to express one´s own opinions and individuality in order to avoid value-related conflicts and feelings of rejection, anxiety and guilt (Grolnick, Deci, & Ryan, 1997). In coaching context, excessive personal control can appear when coaches create a pressurized, coach-centered training environment by associating the performance of the athletes with their own (the coaches') self worth and reputation. Coaches who create such an environment are likely to observe their athletes closely in training (Bartholomew et al., 2009).

4. *Intimidation behaviors:* This refers to the demonstration of verbal abuse and yelling, threats of physical punishment, and humiliating and disparaging athletes with the use of personal attacks. These kinds of behaviors can be used to control athlete behavior by creating external pressures to avoid external punishment (Ryan, 1982).

5. *Promoting Ego-Involvement:* According to Nicholls (1989), this means evaluating one's own capability and performance in reference to others, rather than in relation to self-referenced criteria. Ego-involved people look at their performance as a

measure of their self-esteem. As a result, they put more pressure on themselves in certain situations, particularly competitive situations (Bartholomew et al., 2009).

6. *Conditional regard:* This can be looked at in terms of positive regard and negative regard. Conditional regard behavior has been further researched in parental context than within the sports context. In the parental literature, a positive regard is behavior that refers to an authoritarian figure, such as a parent, who provides love, attention, and affection only to bring about a desired behavior or attribute by its subordinates. On the other hand, a negative regard can be described as when the authoritarian figure withholds the feelings and actions mentioned above when the desired attributes and behaviors are lacking (Assor, Roth, & Deci, 2004). According to Assor et al. (2004), this behavior has been recognized as a socialization technique that can promote introjected regulation.

Although more research exists in parental literature, little qualitative research has been done in the context of sports and it suggests the use of negative conditional regard by coaches. Research by Fraser-Thomas & Côté (2009) showed that coaches who behave in such a way show complete indifference towards their athletes after losing a game, in an attempt to increase the athletes' effort in the future and exert higher performances. Children who behave the way the authoritarian figure wants them to behave, do so in order to avoid feelings of guilt or shame (Bartholomew et al., 2010).

These controlling behavioral strategies do indeed exist in one way or another in the coaching world. It is important for coaches to know and recognize these controlling behaviors in order to be aware of them. All of these controlling behaviors can undermine self–determined behavior and autonomy, and in turn, cause various negative outcomes such as dropout, burnout, and depression. Not many studies have been performed on these controlling behavioral aspects.

The most recent study done by Bartholomew, Ntoumanis, Ryan, Bosch & Thøgersen-Ntoumani (2011) viewed the role of interpersonal control and psychological need thwarting from the self-determination theoretical framework. The results showed that athletes´ perceptions of need thwarting did not provide adequate or appropriate adjustment to the environment or situation and therefore predicted outcomes like disordered eating, burnout, depression, negative affect, and physical symptoms. Furthermore, perceptions of need thwarting were associated with anxiety before training.

2.3 Coach Athlete Relationship

The coach–athlete relationship can often be multifaceted. Coaches have to think about many different factors that can affect the athletes. Factors such as physical training, psychological aspects, and communication with the players are all important aspects of being a coach. According to Jowet (2005) the coach-athlete relationship has been acknowledged as the foundation of coaching. Furthermore, the coach-athlete relationship has been recognized as a main force in the development of an athlete´s physical and psychological skill, along with a coach's ability to create an optimum working environment in which both the athletes and coach can thrive.

The make-up of an effective coach-athlete environment is much different from an ineffective relationship between a coach and an athlete. In an effective, holistic coach–athlete relationship, the emphasis is on positive growth and the development of both parties. Furthermore, it is important to recognize that both coaches and athletes are regular human beings outside of their sports, so it is crucial that they are allowed to flourish outside the sport. In an effective relationship, behaviors such as empathy, understanding, honesty, support, liking, acceptance, responsiveness, friendliness, cooperation, caring, respect and positive regard are the main reasons for its effectiveness (Jowett & Cockerill, 2003; Jowett & Meek, 2000; Jowett, 2005). On the other hand, the make-up of an ineffective relationship is characterized by lack of interest or emotion, remoteness, antagonism, exploitation and physical or sexual abuse. All of these behaviors can weaken the coach-athlete relationship and affect both the coach and the athlete in various, negative ways (Balague, 1999; Brackenridge, 2001; Jowett, 2003; Jowett, 2005).

Coaches can have both a negative and positive impact on various factors that influence athletes in one way or another. In Jowett and Cockerill´s study (2003) on the coach-athlete relationship from the perspective of Olympic medalists, the interpersonal relationship between the coach and the athlete was considered a crucial antecedent of the optimal performance of the athletes.

Respect, trust, and communication between coaches and athletes are important factors that can foster an effective and healthy relationship (Gillet et al., 2010; Jowett & Cockerill, 2003; Lafrenière, Jowett, Vallerand, & Carbonneau, 2011; Poczwardowski, Barott, & Henschen, 2002; Wylleman, 2000). On the contrary, controlling behaviors like mistrust, dominance, and lack of respect are factors that can thwart the effectiveness and the well-being of the coaches and the athletes (Blanchard et al., 2009; Burke, 2001; Jowett, 2003; Lafrenière et al., 2011).

3 Evaluation of Coaches Leadership Style

Throughout the years, many different questionnaires have been designed to measure various coach behaviors that can affect athletes in different ways. Leadership for Sport Scale (LSS), the Coach Behavior Assessment System (CBAS), the Coaching Behavior Scale for Sports (CBS-S), and the Controlling Coach Behaviors Scale (CCBS) are instruments that have been used in sports researches and tap on both the controlling and democratic aspects of coaches' behavior. However, CCBS only measures controlling aspects of coaches' behavior and does not focus on any other behavioral aspects. The other instruments measure a variety of behaviors and do not focus solely on controlling behavior.

3.1 Leadership for Sport Scale

The Leadership for Sport Scale (LSS) was developed by Chelladurai and Saleh (1980) in order to measure various coaching behaviors. The list consists of 40 questions that are divided into five subscales. Two of these subscales assess the coach´s democratic and autocratic decision-making style while two other subscales measure motivational tendencies such as social support and positive feedback, the last subscale evaluates the coach´s instructional tendencies.

Research has shown that the psychometric properties of the LSS are adequate (Tenenbaum & Eklund, 2007). The internal consistency of LSS ranged from 0.45-0.93, and the test-retest reliability coefficient ranged from 0.71-0.82. Furthermore, factorial validity of the scale was confirmed by the use of factor structure coherent

across different samples and the interpretation of the factors established the content validity of the LSS. Cronbach´s alpha was calculated in order to estimate internal consistency and was considered acceptable (Chelladurai & Saleh, 1980).

3.2 The Coach Behaviors Assessment System

The Coach Behaviors Assessment System (CBAS) developed by Smith, Small and Hunt (1977) is a behavior and observation scale designed to observe the work of coaches in the coaching context. The CBAS consists of 12 categories, and undertakes two major types of behaviors, reactive and spontaneous. Reactive behavior of the coach consists of an immediate response to mistakes, efforts or misbehaviors of the player(s) or the team. Spontaneous behaviors are concerned with either related or unrelated behaviors that are displayed during the game (Bloom, Crumpton, & Anderson, 1999; Smith et al., 1977).

In the study done by Smith, Small and Hunt (1977) measures of psychometric properties showed high scorer accuracy and inter-rater reliability of CBAS. The index of consistency ranged from 87.5%-100%, with a mean consistency score of 96.4%.

3.3 The Coaching Behavior Scale for Sports

The Coach Behavior Scale for Sports (CBS-S) was developed by Côté, Yardley, Hay, Sedgwick and Baker (1999). It is a 44-item instrument that measures a coaches´ behavior from the athletes' point of view. The CBS-S has six subscales that include technical skills, goal setting, mental preparation, personal rapport, physical training, and planning and negative personal rapport. The instrument was developed in order to provide benefits for both research and interventions and is intended as a research tool to provide insightful information about coaches' behaviors as well as performance (Côté et al., 1999).

The factor analysis for the six subscales was completed and showed that no factorial complexity was exhibited. Although all items loaded on the other factors were less than 0.40, the large majority loaded 0.2 or less. All factors had values above 1.0 and accounted for noteworthy variance beyond that of the other elements. A high item loading was noted, which indicated strong factor validity. The six-factor solution

accounted for 79.8% of the total variance. A very high internal consistency was confirmed with alpha coefficients of 0.85 or greater. Furthermore, the positive constructs demonstrated adequate test-retest reliability, but the negative personal rapport paradigm was lowest at r=0.49 (Côté et al., 1999).

3.4 The Controlling Coach Behaviors Scale (CCBS)

The Controlling Coach Behaviors Scale (CCBS) has been developed by Bartholomew and colleagues (2010). The authors of CCBS suggest that its use can be successful in obtaining data relating to the negative side of coaching and sport participation that have currently been lacking in the field. Few other questionnaires mentioned earlier deal with this behavioral aspect of coaching. However, before the development of CCBS, no list would specifically focus only on this particular aspect.

3.4.1 The Development of CCBS

A series of four studies were done in the youth sport context by Bartholomew, et al. (2010) in order to develop the CCBS. The main reason for focusing on youth sport participation is how high the dropout rate becomes among adolescents. It has been estimated that two–thirds of young people between the ages of 7-18 years old withdraw from their sports every year. The dropout rate increases during adolescence due to many different reasons (Petlichkoff, 1996).

In the first study, the authors worked on gathering necessary information in order to get a better understanding on coaching environments and to measure how relevant the controlling strategies, identified previously, are to the context of sport. Secondly, the authors identified and created a content validity index of several items that were designed to manage the controlling interpersonal behavior of coaches. In the end, five controlling strategies were identified: controlling use of rewards, negative conditional regard, intimidation, excessive personal control, and last but not least, judging and devaluing. After several modifications by authors and academic experts, as well as content validity index calculations, a pool of 33 items was created. This pool of 33 items described a variety of coaches' controlling communication behaviors

from a theoretical perspective. Both athletes and coaches believed these items to be clear and applicable to the context of sports (Bartholomew et al., 2010).

The purpose of the second study was to test the 33-item questionnaire with a larger sample, in order to test the factorial structure of the items that were created in the first study using Exploratory Factor Analysis (EFA). Seventeen items were removed following a sequence of factor analyses, and the final EFA solution included sixteen items that accounted for 43.68% of item variance and loaded on to the five factors mentioned earlier. The factor correlations were measured from small to moderate and ranged from r=0.14 to r=0.46. An internal reliability of each of the factors was measured using criteria from Kidder and Judd (1986). Despite a low internal reliability (ρ=0.53 and 0.64) in the factors "controlling use of rewards" and "excessive personal control" the authors decided to keep those two factors because the results where within the criteria used for determining internal reliability of each factor. The criteria the authors used where an inter-item correlation between r=0.20-0.70 and secondly a minimum corrected item-total correlation of r=30 (Bartholomew et al., 2010).

The goal of the third study was to use Confirmatory Factory Analysis (CFA) to cross-validate the findings of EFA completed in study 1 to further polish the construction of the scale. In addition, an examination was done in order to find out whether the results of a CCBS score were invariant across gender and type of sports (team and individual). The relationship between controlling and autonomy-supportive coach behaviors was also explored (Bartholomew et al., 2010).

The results of the CFA showed a good fit to the data. However, there was room for improvement: S-Bχ^2 (179) = 330.65, p<0.001, RCFI = 0.93, RNNFI = 0.92, SRMR=0.06 and RRMSEA= 0.05). In line with the results, authors decided to eliminate judging and devaluing one factor because of the high correlation of three other factors: conditional regard r=0.88, intimidation r=0.82, and excessive personal control r=0.72. The authors then tested the four-factor model with controlling use of rewards, negative conditional regard, intimidation, and excessive personal control. The number of questions were therefore reduced to 15 for the four-factor model and it produced an excellent fit to the data: S-Bχ^2 (84) = 144.38, p<0.001, RCFI = 0.96, RNNFI = 0.95, SRMR=0.05 and RRMSEA= 0.05. All of the four factor correlations continued to be significant. However, the correlation was below 0.70 and all four

factors demonstrated adequate internal consistency. The composite reliability coefficient ranged from 0.74 – 0.85.

The aim of the fourth study was to use different independent samples to cross-validate the 15-item, four-factor model that was previously supported in study 3 by CFA (Bartholomew, et. al., 2010). The results of study 4 confirmed the validity of the factorial model and the CCBS model displayed an excellent fit to the data: S-Bχ^2 (84) = 120.94, p<0.05, RCFI = 0.96, RNNFI = 0.95, SRMR=0.06, and RRMSEA= 0.05. A good internal consistency was confirmed for all four subscales, where the reliability coefficients ranged from 0.74 – 0.84 (Bartholomew, et. al., 2010).

3.4.2 The Structure of CCBS

Bartholomew, et al.'s (2010) CCBS questionnaire is a 15-item questionnaire that assesses four of the six controlling strategies by using a 7-point Linkert Scale ranging from 1 = strongly disagree, to 7 = strongly agree. The controlling motivational strategies practiced in CCBS are controlling use of rewards, negative conditional regard, intimidation, and excessive personal control. The questions for each controlling motivational subscales are shown here:

1) **Controlling use of rewards:**
    a. *"My coach tries to motivate me by promising to reward me if I do well"*
    b. *"My coach only rewards/praises me to make me train harder"*
    c. *"My coach only uses rewards/praise so that I stay focused on tasks during training"*
    d. *"My coach only uses rewards/praise so that I complete all the tasks he/she sets in training"*

2) **Negative conditional regard:**
    a. *"My coach is less friendly with me if I don´t make the effort to see things his/her way"*
    b. *"My coach is less supportive of me when I am not training and competing well"*
    c. *"My coach pays me less attention if I have displeased him/her"*
    d. *"My coach is less accepting of me if I have disappointed him/ her"*

3) **Intimidation**

   a. *"My coach shouts at me in front of others to make me do certain things"*
   b. *"My coach threatens to punish me to keep me in line during training"*
   c. *"My coach intimidates me into doing the things that he/she wants me to do.*
   d. *"My coach embarrasses me in front of others if I do not do the things he/she wants me to do"*

4) **Excessive personal control**

   a. *"My coach expects my whole life to center on my sport participation"*
   b. *"My coach tries to control what I do during my free time."*
   c. *"My coach tries to interfere in aspects of my life outside of my sport"*

These motivational strategies have been noted as the four most important controlling motivational strategies in the sport context and are supported by the literature and self-determination theoretical framework. (Bartholomew et al. 2010).

3.4.2.1 Scoring of CCBS

The scoring of CCBS is based on the seven – point Linkert scale. The highest number one can get for being extremely controlling is 105 points. The total number of questions (15) is multiplied by seven, which is the highest number on the scale and represents the highest controlling interpersonal style. The lower the number, the less the coach is using a controlling interpersonal style. Therefore, the lowest number one can get is fifteen.

The four subcategories, controlling use of rewards, negative conditional regard, intimidation, and excessive personal control, can be looked at separately in terms of the score. Coaches can score low or high on any of those subcategories.

3.4.3 Psychometric properties of CCBS

The four controlling subscales: controlling use of rewards, negative conditional regard, intimidation, and excessive personal control demonstrated a good internal consistency in Bartholomew and colleagues' (2010) study, along with showing great reliability coefficients that ranged from 0.74 to 0.84.

There are two studies that have applied CCBS in their research. The first study done by Stebbings, Tylor and Spray (2011) used the CCBS along with other instruments in order to focus on the antecedents of perceived coach autonomy-supportive and controlling behaviors by using the self-determination theoretical framework. In this study the controlling behavioral (M=2.23), (SD= 0.82) subscale demonstrated good internal reliability with calculated Cronbach's alpha ($\alpha > 0.83$). Controlling behavior and coach autonomy-supportive behavior had negative and moderate correlation (r=-0.33).

The second study done by Bartholomew, Ntoumanis, Ryan, Bosch, and Tøgersen-Ntoumani (2011) studied the social–environment conditions that fulfill versus hinder psychological needs and in turn affect psychological functioning and well-being or ill-being (Bartholomew et al., 2011). Their study used self-determination theoretical framework as well, in order to look into these social conditions. In study one, Raykov's composite reliability coefficient (ρ=0.97) was utilized in order to calculate the internal reliability of CCBS (M=2.48, SD=1.31). In study two, the internal reliability of CCBS (M=2.27, SD=1.16) was also assessed by Raykov´s composite reliability coefficient (ρ=0.95).

3.4.4 Back Translation Process of CCBS

In cross-cultural research, translating from English to another language for different cultures can be rather complicated at times. It is important that the translation process is done properly. This is the case with translation of CCBS from the original English version to the Icelandic version. Not only is Icelandic a very different language from English, but also Icelandic culture is also slightly different from English culture.

There are a few issues that cross-cultural researchers can come across with when translating from one language to another. Cha, Kim and Erlen (2007) state that these issues might differ because of the diverse nature of different studies and each instrument´s characteristics. Furthermore, while some issues of translation can overlap, other issues can result from the type of instrument. It is therefore necessary to follow certain guidelines in order to be able to maintain equivalence between the original and translated measurements.

Brisling (1970) offered four techniques in order to use for a cross-cultural translation. These four techniques are bilingual technique, committee approach, pretest procedure, and last but not least, back translation method (Cha et al., 2007). The back translation method is well known according to Behling & Law (2000) for its success in maintaining the similarities between the original and translated versions. One of the main issues of the back translation process is the inability to estimate the number of translators needed to translate and to get content equivalence between the original and the translated versions.

The main reason for this issue is the accessibility and availability of qualified bilingual people that have knowledge of both cultures. Knowledge of both the original language and the target language, as well as cultures of both countries, is a key element when using the back translation method. As a result, cross cultural researches often use a team methodology with two independent bilingual translators (Cha et al., 2007; Thato, Hanna, & Rodcumdee, 2005; Yam, Lopez, & Thompson, 2004).

Despite a few issues concerning the back–translation process, the main purpose of using this method is to maintain the correspondence between the original measures and the translated one. The process is dependent on a team of bilingual translators that translate the instrument from original version to the desired version and then translate it back to the original version. Because there seems not to be any golden standard for translation techniques this method is popular and recommended for the validation of instruments for cross-cultural researches (Cha et al., 2007).

In the translation process, when the CCBS was translated from English to Icelandic, each of the factors mentioned earlier were considered. The translation process of the CCBS will be further described in the method chapter.

4 Purpose of the study

The aim of this thesis is to translate and evaluate the psychometric properties of the Icelandic version of The Controlling Coach Behavior Scale (CCBS) (Bartholomew, et. al., 2010).

The research question for this thesis is *"How are the psychometric properties of the Icelandic version of CCBS questionnaire compared to the original CCBS English version?"* The hypotheses are that the psychometric properties of the Icelandic versions of CCBS questionnaire are similar to the original CCBS English version; all four controlling subscales should have acceptable internal consistency, test-retest reliability and good convergent validity as the English version; and therefore, the CCBS should be valid for Iceland.

5 Method

5.1 Participants

The sample is comprised of 38 males and 39 females aged 17 (n=50), 18 (n=16), and 19 (n=11) years old. Recruitment of participants was attained from five different sports clubs (Valur, Breiðablik, ÍR, Vikingur and Fjölnir) in the capital area of Iceland. Both individual sports participants (n=26) (track and field, karate, and swimming) and team sport participants (n=51) (soccer, handball, and basketball) took part in this study.

Table 5-1 shows how many males and females where in each age group and male and female distribution between group and individual sports. All participants were currently competing for their club teams on a regular basis at the time of the study.

Table 5-1: Participant classification by gender, age and type of sports.

Gender	Age			Group. Sp.	Indiv. Sp.	*Total*
	17	***18***	***19***			
Male	24	7	7	27	11	***38***
Female	26	9	4	24	15	***39***
Total:	***50***	***16***	***11***	***51***	***26***	**77**

Table 5-1 shows continued drop out in sports by the age of 18 and 19 years old. At the age of 17 participant numbers are the highest (n=50) and the numbers decrease by 65-70% by the age of 18 and 19. Higher numbers of participants were recruited from group sports (n=51) compared to individual sports (n=26). The ratio of males and females are similar for those groups.

Table 5-2 displays the number of participants and the amount of time they spent with their current coach.

Table 5-2: time spent with current coach

Time spent with coach	Frequency	Percent
1-6 months	13	16,9
6-12 months	10	13,0
1-2 years	18	23,4
2-3 years	22	28,6
3 years or more	14	18,2
Total:	**77**	**100**

The athletes' competitive experience extended from 0 to 10 or more years (M= 4,48; SD= 1,28) and they had spent from 1 month up to more than 3 years (M=3,18; SD= 1,34) working with their current coach. 52% of the participants had spent between one and three years working with their coach and 18,2% had worked with their coach for three or more years. Majority of participants had therefore a good amount of experience with their current coach.

Table 5-3 presents how many participants divided by group and individual sports had male or female coaches.

Table 5-3: Classification of participants participating in group and individual sports having female or male coaches.

Gender	Group sport part.	Indiv. Sport part.	Total
Male coach	40	23	**63**
Female coach	11	3	**14**
Total	**51**	**26**	**77**

Substantially higher numbers of participants were working with male coaches compared to female coaches. Three athletes competing in individual sports (n=26) reported having a female coach, and twenty-three participants reported having male coaches. On the other hand, eleven athletes competing in group-sports (n=51) reported having a female coach, while forty participants reported working with a male coach (see table 5-3).

5.1 Measure

The Controlling Coaching Behaviors Scale (Bartholomew et al., 2010) includes the four most noticeable controlling motivational strategies in the context of sports. These psychometric properties are: controlling the use of rewards, negative conditional regard, intimidation, and excessive personal control. The CCBS is a 7-point scale ranging from 1 = strongly disagree, to 7= strongly agree. There are fifteen questions that directly measure the psychometric properties of the CCBS. The make-up and development of the CCBS has been described in detail previously in the introduction chapter.

5.2 Evaluation of Coaches' Communication Ability

Participants were also asked to evaluate their coaches' communication ability according to their opinion. In order to do so, participants circled a number from 0 –

10, where zero was incapable in communication and 10 was excellent in communication. This was done in order to compare the results from the CCBS to the participants' judgment of their coaches' communication ability.

5.3 Background questionnaire

Questions concerning participants´ background where submitted in the beginning of the questionnaire. Participant's where asked their gender, their coaches' gender, how long participant´s had worked with their current coach. Furthermore questions about type of sports and how long participants had been training in months and years where asked.

5.4 Translation Process of CCBS from English to Icelandic

The translation of the CCBS questionnaire from English to Icelandic was accomplished by using part of Brisling´s (1970) back translation process. An exception was made concerning the number of translators that translated the CCBS from Icelandic to English. Instead of having six bilingual translators, four were used. The main reason is that there is no golden standard for translation techniques when it comes to a different environment, recourses, and research questions that are different (Cha, et. al., 2007). Three different translators that have studied for at least four years in the USA (author included) translated the CCBS questionnaire from English to Icelandic. A bilingual person then translated the translated list back to English in order to observe if there were dissimilarities in the two English versions. The list underwent some fine-tuning of a few words before it was ready to be used.

5.5 Procedure

All head coaches and trainers of the sports clubs were contacted, the research explained, and their permission received. One week prior to the first CCBS assessment the seventeen-year-old participants were handed a parental consent form and instructed that if permission was not be granted, a signed parental consent should

be handed back to the researcher (see appendix 1). Parental consent forms for participants that were eighteen and nineteen years old were not needed.

Before participants answered the questionnaire a general explanation of the research was given, along with explanations for the participants of the two main coaching styles. In addition, athletes were encouraged to consider their different experiences with their current coach. All athletes where reassured that their responses would be confidential and anonymous. All of the coaches were asked to leave the room while athletes completed the questionnaire in order to increase the response percentage for the complex data involved in the questionnaire (Ransdell, 1996).

Participants answered the CCBS twice in order to be able to measure the CCBS's test-retest reliability. The list was handed to participants for the second time 1-2 weeks after the first time. The time period differed between participants because of several different reasons due to illnesses, absence of training days, or competitive days.

5.6 Statistical Analysis of CCBS

At first the SPSS computer program was used to analyze all the data. Descriptive statistics was calculated along with the Alpha coefficient for the total score and subscales as well in order to evaluate the internal reliability and Persons r. Furthermore, correlation coefficient was calculated to measure the correlation between the first measurement and the second one in order to evaluate the test-retest reliability of the Icelandic version of CCBS. Finally a Pearsons – r correlation was calculated between the participants' subjective assessment of coaches' communication ability and the total score of CCBS in order to evaluate the convergent validity.

6 Results

6.1 Descriptive

Participants' descriptive information is demonstrated in Table 6-1. First the mean and standard deviation (SD) are shown for all four of the controlling

motivational subscales. Secondly the table demonstrates the mean and standard deviation according to gender and type of sports (individual or team sports). Last but not least, the table shows the total score for genders and for the controlling subscales.

Table 6-1: Descriptive information for the four of the controlling motivational strategies.

	Athlete sample					
	Male		**Female**		**Both genders**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Group (N= 51)	**(N=27)**		**(N=24)**		**(N=51)**	
Control. Use of Rewards	11,52	4,62	11,88	4,81	11,69	4,67
Negative cond. regard	12,92	4,75	13,50	5,62	13,19	5,13
Intimidation	11,63	5,26	9,46	5,44	10,61	5,40
Ex. Personal Control	10,52	4,00	8,92	4,83	9,76	4,44
Total score	*45,37*	*14,61*	*42,46*	*14,93*	*44,00*	*14,68*
	Mean	***SD***	**Mean**	**SD**	**Mean**	**SD**
Individual (N= 26)	**(N=11)**		**(N=15)**		**(N=26)**	
Control. Use of Rewards	*8,18*	*5,65*	*7,87*	*3,44*	8,00	4,41
Negative cond. regard	*9,00*	*5,88*	*10,67*	*5,25*	9,96	5,47
Intimidation	*6,00*	*2,49*	*5,40*	*2,35*	5,65	2,38
Ex. Personal Control	*4,55*	*3,33*	*6,60*	*2,92*	5,73	3,21
Total score	*27,82*	*13,50*	*30,47*	*10,02*	29,35	11,44
	Mean	***SD***	**Mean**	**SD**	**Mean**	**SD**
All participants (N= 77)	**(N=38)**		**(N=39)**		**(N=77)**	
Control. Use of Rewards	10,55	5,09	10,33	4,72	10,44	4,88
Negative cond. regard	11,79	5,34	12,41	5,59	12,10	5,4
Intimidation	10	5,27	7,89	4,89	8,94	5,16
Ex. Personal Control	40,29	16,29	37,85	14.38	8,40	4,48
Total score	*72,63*	*32*	*68.48*	*29.6*	*39,05*	*15,28*

Table 6-1 displays a small difference in how the genders evaluate their coaches' communication ability. The total scores for all participants (N=77) is highest for negative conditional regard and lowest for excessive personal control. Viewing the total scores for both genders, the highest total score for females is a little lower than for males. Both females and males rate their coaches the highest on the excessive personal control subscales and the lowest on intimidation subscales.

A one-way ANOVA was conducted in order to see if there was any significant difference between the genders in evaluation of their coaches controlling style. There was no significant difference in the total score of the list ($F(1,76) = 0.49$, $P > 0.05$) or

total score for the subscales (reward F(1,76)=0,038, P>0,05; negative: F(1,76)=029, P>0,05. intimidation: F(1,76)=3.29, P>0,05 and control: F(1,76)=0,49, P>0,05)

The total score for participants participating in group-sports is the highest for negative conditional regard and lowest for controlling use of rewards. Both males and females evaluate their coaches' highest for negative conditional regard and lowest on controlling use of rewards subscales. Participants in individual sports evaluated their coaches lower in all of the controlling subscales compared to athletes' in-group sports.

A one-way ANOVA was completed in order to see if there was a significant difference on coaches' controlling style between athletes participating in group-sports compared to the athletes participating in individual sports. The results showed a significant difference on the total score of the Icelandic version of the CCBS (F(1,76)=19,73 P<0,05) and for its subscales (reward F(1,76)=11.14,P=0,001; negative: F(1,76)=6,54, P<0,05, intimidation: F(1,76)=19,81, P<0,001 and control: F(1,76)=1692, P<0,001). From these results it can be concluded that athletes participating in individual sports believe their coaches to be less controlling compared to athletes in group-sports.

Table 6-2 shows the participants score for all coaches. First the mean and standard deviation (SD) are displayed for four of the controlling motivational subscales. Secondly, the table demonstrates the mean and standard deviation according to gender of coaches and type of sports.

Table 6-2 The CCBS scores for male and female coaches

	Male coaches		Female coaches	
Group	**Mean (N=40)**	**SD**	**Mean (N=11)**	**SD**
Control. Use of Rewards	12,13	4,84	10,09	3,75
Negative cond. Regard	13,40	4,53	12,45	7,13
Intimidation	12,08	5,13	5,27	1,85
Ex. Personal Control	11,03	4,13	5,18	1,60
Total score	*46,98*	*14,08*	*33,18*	*11,86*
Individual	**Mean (N=23)**	**SD**	**Mean (N=3)**	**SD**
Control. Use of Rewards	7,39	4,20	12,67	3,51
Negative cond. Regard	9,52	5,10	13.33	8,33
Intimidation	5,30	2,27	8,33	1,53
Ex. Personal Control	5,30	2,75	44,00	12,17
Total score	*27,43*	*10,11*	*44,00*	*12,17*
Group + Individual	**Mean (N=63)**	**SD**	**Mean (N=14)**	**SD**
Control. Use of Rewards	10,40	5,12	10,64	3,73
Negative cond. Regard	11,98	5,07	12,64	7,07
Intimidation	9,60	5,40	5,92	2,16
Ex. Personal Control	8,94	4,60	6,00	2,96
Total score	*39,84*	*15,84*	35,50	12,33

When the total score for all participants that answered questions about their female coaches is examined, the score for negative conditional regard is the highest and the intimidation subscale has the lowest score. For male coaches, the score is also highest on negative conditional regard, but the lowest if for excessive personal control. When the score for all participants were examined based on the coaches' gender, it appears that the total score for female coaches is a little lower than for male coaches.

A one-way ANOVA was completed in order to see if there was a significant difference on the coaches' gender and their controlling interpersonal style. Neither was there a significant difference on the total score of CCBS and the coaches' gender ($F(1,76)=0,29$, $P>0,05$), nor for the two of four controlling subscales: controlling use

of reward, and negative conditional regard (reward F(1,76)=0,029, P>0,05; negative: F(1,76)=0,17, P>0,05).

However, for two of the other controlling subscales, intimidation and excessive personal control, there was a significant difference on the total score when looking at the coach's gender (excessive personal control; F(1,76)=5,20, P>0,025); intimidation: F(1,76)=6,21, P=0,15). According to these results, female coaches score less than males on intimidation and excessive personal control subscales.

Examining individual sports participants' evaluations on their coaches one can see that athletes in individual sports evaluate their male coaches by 17 points less than their female coaches. On the other hand, athletes in group sports evaluate their male coaches by 12 points more than their female coaches. These results must however be interpreted with caution and no assumption can be made because there were only three participants in individual sports that had female coaches while eleven participants in group sports had female coaches.

6.2 Reliability

6.2.1 Internal consistency

Table 6-3 shows the internal consistency for male and female participants and all four of the subscales used in CCBS. Secondly the table compares the two types of sports and the four subscales used in the CCBS. Thirdly it compares the results of this study to the study done by Bartholomew et al. (2010).

Table 6-3: Internal consistency of four subcategories classified by gender and type of sports.

	Reward α	Negative α	Intimidation α	Excessive α	Total score α
Gender					
Male (N=38)	0,69	0,70	0,71	0,72	*0,88*
Female (N=39)	0,69	0,70	0,79	0,72	*0,85*
Sport type					
Group (N=51)	0,66	0,70	0,75	0,73	0,85
Individual (N=26)	0,61	0,63	0,15	0,54	0,76
All (N=77)	0,69	0,68	0,75	0,71	0,86
Bartholomew et al. 2010	0,74	0,85	0,76	0,79	

The internal consistency of all four subscales for gender and type of sport was analyzed. The internal consistency for male (n=38) and female (n=39) for all four subscales is good (male α=0,88; female α= 0,85). The internal consistency for group sports (n=51) and all four subscales are acceptable except for the reward subscale, which is questionable (reward α =0,66). The internal consistency for individual sports (N=26) is questionable for reward (α=0,61) and negative (α=0,63) subscales. The internal consistency for intimidation subscale (α=0,15) is unacceptable and poor for excessive personal control (α=0,54).

These numbers are somewhat lower compared to the numbers in the study done by Bartholomew et al. (2010) except for internal consistency for intimidation which is similar between researches. However, looking at the total score for internal consistency for all subscales, gender, and type of sports in the Icelandic version of CCBS, these numbers are similar to those in the study done by Bartholomew et al. (2010).

6.2.2 Test – retest reliability

Table 6-4 shows the test-retest reliability for the four subscales used in CCBS. There is a strong positive correlation for all of the four subscales. The lowest number is for negative conditional regard, but the highest number is for the intimidation

subscale. There is a high correlation for the total score. These results indicate that the test-retest reliability of the Icelandic version of CCBS is acceptable.

Table 6-4: Test-Retest for all four subscales

	N	Person r
Control. Use of Reward	77	0,73**
Negative Cond. Regard	77	0,66**
Intimidation	76	0,77**
Ex. Personal Control	77	0,72**
Total	76	0,86**

***P<0,001*

6.3 Convergent validity

Table 6-5 compares the results of the CCBS scales and the 0-10 scale on the questionnaire. In order to evaluate the convergent validity, the participants had to rate, in their opinion, how good they thought their coaches' communication ability was. Participants were asked to rate on a scale from 0 -10, where zero was incompetent and ten was excellent.

Table 6-5: Convergent Validity for CCBS

		CCBS total score		0 - 10 scale		
	N	Mean	SD	Mean	SD	Person r
Gender						
Male	38	40,29	16,26	8,46	1,52	-0,514 **
Female	39	37,85	14,38	7,69	1,82	-0,52 **
Sport						
Individual	26	29,35	11,44	8,96	1,15	-0,02
Group	51	44,0	14,68	7,72	1,78	-0,40 **
All	*77*	*39.05*	*15.28*	*8.07*	*1.71*	*-0.44 **

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

In general participants evaluate their coaches' communication ability on the scale from 0-10 rather high (M=8.07 SD: 1,71). Male participants tend to evaluate their coaches slightly higher in communication ability than female participants with a 0.77 differences. Furthermore, there is a significant difference between genders on the assessment of the coaches' communication skills (F(1,75)=4.02, P=0,48).

Athletes in individual sports evaluate their coaches´ communication skills higher, compared to athletes in team sports, with a difference of 1.24. There is a significant difference in the evaluation of coaches' communication skills between individual sports participants and team sports participants (F (1,75)=12.16, P=0,001).

What is noteworthy is that male participants in team sports evaluated their coaches' communication skills higher than female team sport participants. However, at the same time, the male participants rate their coaches a little higher, with not much difference on the CCBS, compared to females but the differences was not significant. This means that male team sport participants evaluate their coaches' communication skills a little better than female team sport participants. Therefore there seems to be a trend towards male participants to rate their coaches as a little more controlling compared to female participants.

The correlation between these assessments, the total score of the CCBS and the 0-10 evaluation is significant or -0.44. These results support the convergent validity of the scale to some extent.

In summation, male participants evaluate their coaches' communication skills higher or better than do female participants. Individual sport participants evaluate their coaches´ communication skills better or higher than do group participants. The convergent validity for all participants is -0.44, which supports the convergent validity of the CCBS.

7 Discussion

The purpose of this study was to translate the original English version of CCBS to Icelandic and evaluate its psychometric properties. CCBS was designed to assess sports coaches' controlling interpersonal styles from a self-determination theoretical perspective.

The results indicate that there is a small difference between genders in terms of evaluation of their coaches' communication ability. In general, male athletes evaluate their coaches' communication abilities slightly higher, compared to female athletes. Males also evaluate their coaches more controlling than female athletes do but the difference is not significant. Due to limited number of participants it is not possible to conclude that male athletes rate their coaches higher than female athletes. However, if the number of participants had been greater the results might have shown a significant difference.

In the current study almost all male athletes had male coaches, while 13 out of 39 of the female athletes had female coaches. This difference between genders in evaluating their coaches' communication abilities is significant. These results are somewhat in line with the results presented in Luthars' (1996) study where it was found that male subjects evaluated other male managers higher in communication ability, compared to female participants. Female participants evaluated their female managers lower in communication ability. Although the study done by Luthar (1996) is not within the context of sports, the results can be comparable because it assesses similar factors, or different communication ability of leaders of both genders.

There is a substantial difference between responses from participants training for team sports or individual sports. Individual sport participants evaluate their coaches' communication abilities higher than team sport participants do. The reason might be the size of the groups in team sports. In individual sports the coach is able to spend more one-on-one time with the athletes. Communication becomes close and the coach gives his instruction more frequently directly to each athlete. On the other hand, a coach that works with a bigger group, like in soccer, communicates more frequently to all athletes at once. One-on-one time for each athlete in team sports is therefore limited and the coaches' instructions might therefore be more directed towards the group as a whole. There are limited researches in the field that compare team sports and individual athletes' perception on coaches' communication skills. However, the size of the group might be the reason for this difference in the assessment of athletes in team sports versus individual athletes on their coaches' communication skills.

Participants evaluated female and male coaches a little differently on the intimidation subscale and the excessive personal control subscale. Female coaches

score less than males on intimidation and excessive personal control. Male coaches are seen to use more intimidation and excessive personal control motivational strategies compared to female coaches.

Research done by Fasting and Pfister (2000) suggest that male coaches are often seen as having a "masculine" communication style. In the same study, female soccer players reported more satisfaction with females coaches compared to male coaches. The way the female coaches communicated was seen as a preferred communication style and they believed female coaches were better psychologists. These results might reflect stereotypical roles of the genders. Men are often seen as more aggressive and physical while females are seen as the opposite. The male coaching philosophy might therefore be seen differently than the female coaching philosophy.

The internal reliability for the Icelandic version of CCBS is acceptable for almost all of the four subscales, although it is a little lower compared to the Bartholomew et al. (2010) study. In cross-cultural studies, this decrease in internal reliability is often seen and it frequently happens when an instrument is translated from its original version to another language (Cha et al., 2007). The internal reliability of the Icelandic version of the CCBS is good enough and it can be used successfully. The test–retest for the Icelandic version of the CCBS is acceptable and results indicate that it is reliable.

Measuring the convergent validity of the Icelandic version of CCBS was difficult because there are no such equivalent instruments in Icelandic. It was therefore decided to use subjective measures, whereas the athletes evaluated their coach's communication ability on the scale of 0 – 10. The author is aware of the flaws that such an assessment brings about. Each and every one has its own understanding on what is considered poor or good communication ability. Furthermore, the athlete's opinion of his or her coaches' communication ability can be affected by the situation each athlete experiences at times. However, such measurement gives enough information for the convergent validity of the Icelandic version of CCBS. There is a medium high negative correlation between the athletes' assessment of coaches' communication ability and the total score of the Icelandic version of CCBS. These results support the legitimacy of the Icelandic version of CCBS.

7.1 Limitations

Despite the acceptable results concerning the content validity and reliability of the total score of the subscales and the instrument, the study had some limitations. The internal consistency for the reward subscale in both group and individual sports is questionable. For individual sports, negative subscales are also questionable, the intimidation subscale is unacceptable, and the excessive personal control subscale is poor. The total numbers are lower compared to Bartholomew et al. (2010) study, except for the intimidation subscale, which is similar. The reason might be connected with translation factors, as noted before. Perhaps the translation might have needed to be revised and fine-tuned even more. Previous research in the field confirm that if an instrument like this one is to be used across cultures, it must be translated well linguistically and adapted culturally in order to maintain its content validity (Beaton et al., 2000; Ferraz, 1997; Guillemin, Bombardier, & Beaton, 1993; Guyatt, 1993; Hendricson et al., 1989; Herdman, Fox-Rushby, & Badia, 1997; Wagner et al., 1998).

Another limitation that one has to take into consideration is the number of participants. Seventy-seven athletes took part in this study. This number of participants is unfortunately insufficient to be able to perform factor analysis.

Finally, lack of female coaches also limits this study. It was very difficult to find female coaches working with the chosen age group. It would have been interesting to view participants score in terms of coach genders.

7.2 Future research

Future research on Icelandic versions of the CCBS should focus on fine-tuning the Icelandic version of CCBS in order to make it better in terms of the content validity of different types of sports. Furthermore, it would be interesting to use the instrument to measure the differences between how the genders perceive the controlling coaching style. Finally it would be exciting to examine why exactly coaches in individual sports are seen as better communicators, compared to team sports coaches.

8 Conclusion

Communication between coaches and athletes is a very important factor in the coaching process. Coaches that communicate in a controlling and intimidating manner can have negative effect on athletes' feelings and autonomy. Feeling intimidated by the coach and being afraid of the coach are feelings that are associated with negative personal rapport. Negative personal rapport behaviors by coaches have been shown to be closely related to heightened anxiety levels. The outcome can be total anxiety, somatic anxiety, concentration disruption, and worry (Baker, et. al., 2000). Negative personal rapport is therefore closely related to those things that CCBS measures. Furthermore, lack of respect for the coach, mistrust, and dominance are all factors that have been shown to have negative effect on a coach–athlete relationship, particularly on effectiveness and well-being of both parties (Blanchard, et. al., 2009). Knowing more about communication styles and putting more emphasis on healthy communication, where athletes give their own opinion without being afraid of what might happen, is essential. Coaches and sports federations should pay more attention to this aspect of coaching, and there should be more education focusing on communication and how controlling communication interpersonal style can affect the athletes in several negative ways.

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Appendix 1.

Leyfisbréf til foreldra

Reykjavík 2012

Kæru foreldrar,

Ég er nemandi í Háskólanum í Reykjavík og er að vinna að lokaverkefni mínu í masters námi í íþróttavísindum og þjálfun.

Mastersverkefnið gengur út á að þýða lista yfir á íslensku sem metur samskipta- og þjálfunarstíl þjálfara og gera hann nothæfan fyrir ísland. Listi þessi er settur fyrir ungmenni bæði í hópíþróttum og einstaklingsíþróttum. Verkefnið er samstarfsverkefni Háskólans í Reykjavík og Háskólans í Sevia á Spáni.

Rannsóknin fer fram á næstu dögum og vikum þar sem ég mun heimsækja mismunandi íþróttafélög á höfuðborgarsvæðinu. Þetta er gert með samþykki íþróttafélaganna.

Listinn verður settur fyrir á æfingatíma í byrjun æfingar og er áætlað að það taki ekki meira en 5-10 mínútur. Spurningarnar eru staðlaðar og eiga iðkendurnir að merkja við hverja spurningu það sem þeim finnst hverju sinni. Nafnleyndar er gætt við framsetningu spurningalistans.

Með bréfi þessu bið ég ykkur, kæru foreldrar, um leyfi til að leggja þennan spurningalista fyrir drenginn/stúlkuna ykkar. Þeim bréfum sem ekki er skilað til baka eru tekin sem samþykki fyrir rannsókninni. **Ef þið viljið ekki að stúlkan/drengurinn taki þátt þá vinsamlegast staðfestið með undirskrift hér að neðan og afhendið þjálfara á næstu æfingu**. Einnig er hægt að senda tölvupóst á netfangið rakell11@ru.is því til staðfestingar.

Eins og áður hefur komið fram eru spurningalistarnir nafnlausir og ekki hægt að rekja upplýsingarnar með neinum hætti til einstaklinga. Iðkendurnir verða beðnir um að skrifa hvorki nafn sitt né kennitölu á spurningalistann. Einungis ég og leiðbeinandinn, Hafrún Kristjánsdóttir, aðjúnkt, munum hafa aðgang af gögnunum á meðan rannsókn stendur og verður þeim svo eytt að rannsókn lokinni.

Með kveðju og fyrirfram þökk, Rakel Logadóttir, Mastersnemi í íþróttavísindum og þjálfun í Háskólanum í Reykjavík.

Með undirskrift minni vil ég ekki að unglingurinn minn taki þátt í rannsókninni:

_____ _____

Undirskrift foreldris/forráðamans Undirskrift iðkanda

Appendix 2.

Spurningalistinn íslenskaður

Lestu spurningarnar vel og settu x við þær fullyrðingar sem best eiga við um þig.

1. Skrifaðu tölu sem þú mannst (síðustu 4 í kennitölu, treygju nr. eða t.d hús nr) :_____

2. Ég er kk ( ) kvk ( )

3. Hver er aldur þinn í árum?

a. 17 ára ( )
b. 18 ára ( )
c. 19 ára ( )

4. Ég stunda:

a. Einstaklingsíþrótt ( )
b. Hópíþrótt ( )

5. Hve lengi hefur þú stundað íþróttina?

a. 0-2 ár ( )
b. 2-4 ár ( )
c. 4- 6 ár ( )
d. 6-8 ár ( )
e. 8-10 ár ( )
f. 10 ár eða lengur ( )

6. Hversu lengi hefur haft núverandi aðalþjálfara?

a. 1-6 mánuði ( )
b. 6-12 mánuði ( )
c. 1-2 ár ( )
d. 2-3 ár ( )
e. Meira en 3 ár ( )

7. Hvert er kyn aðalþjálfara?

a. kvk ( )
b. kk ( )

Fleiri spurningar á bakhlið.

Spurningar sem snúa að samskiptum þjálfarans þíns.
Settu hring utan um þá tölu sem þér þykir best eiga við hverju sinni, 1 er mjög ósammála, 4 hvorki né og 7 er mjög sammála.

	Mjög ósammála			Hvorki né			Mjög sammála
1. Þjálfarinn minn er minna vingjarnlegur við mig ef ég reyni ekki að sjá hlutina á sama hátt og hún/hann.	1	2	3	4	5	6	7
2. Þjálfarinn minn öskrar á mig fyrir framan aðra til að láta mig gera ákveðna hluti.	1	2	3	4	5	6	7
3. Þjálfarinn minn verðlaunar mig eða hrósar mér eingöngu svo að ég sé einbeitt(ur) á þeim æfingum sem lagðar eru fyrir.	1	2	3	4	5	6	7
4. Ég fæ minni stuðning frá þjálfaranum mínum þegar ég stend mig illa á æfingum og í keppni.	1	2	3	4	5	6	7
5. Þjálfarinn minn reynir að stjórna því hvað ég geri í mínum frítíma.	1	2	3	4	5	6	7
6. Þjálfarinn minn hótar að refsa mér ef ég hegða mér ekki vel á æfingunm.	1	2	3	4	5	6	7
7. Þjálfarinn minn reynir að hvetja mig áfram með því að lofa mér verðlaunum ef ég stend mig vel.	1	2	3	4	5	6	7
8. Þjálfarinn minn veitir mér minni athygli ef ég misbýð honum/henni.	1	2	3	4	5	6	7
9. Þjálfarinn minn ögrar mér til þess að gera hluti sem að hann/hún vill að ég geri.	1	2	3	4	5	6	7
10. Þjálfarinn minn reynir að skipta sér af öðrum þáttum lífs míns utan íþróttar minnar.	1	2	3	4	5	6	7
11. Þjálfarinn minn verðlaunar mig / hrósar mér eingöngu svo að ég ljúki öllum æfingunum sem hann/hún hefur lagt upp á æfingu.	1	2	3	4	5	6	7
12. Ég finn fyrir minna samþykkis frá þjálfaranum mínum ef ég hef ollið honum / henni vonbrigðum.	1	2	3	4	5	6	7
13. Þjálfarinn minn gerir lítið úr mér fyrir framan aðra ef ég geri ekki þá hluti sem hann/ hún vill að ég geri.	1	2	3	4	5	6	7
14. Þjálfarinn minn notar eingöngu verðlaun/hrós svo að ég æfi betur.	1	2	3	4	5	6	7
15. Þjálfarinn minn ætlast til þess að líf mitt snúist um þátttöku íþróttarinnar sem ég stunda.	1	2	3	4	5	6	7

8. Á skalanum 0 – 10 Hversu hæfur telur þú núverandi aðalþjálfari þinn vera í samskiptum sínum við liðið? (gerðu hring utan um tölu)

(0 er óhæfur í samskiptum og 10 er frábær í samskiptum)

0 1 2 3 4 5 6 7 8 9 10

Þakka þér fyrir !