

UNIVERSITY OF TARTU  
Institute of Sport Sciences and Physiotherapy

**Kaisa Karjane**

**Controlling coaches' behaviour, psychological need thwarting, motivation and results of the U-16 and U-20 girls volleyball competitions**

**Treeneri kontrolliv käitumine, psühholoogiliste vajaduste ohustamine, motivatsioon ja võitlustulemused U-16 ja U-20 võrkpalli tüdrukutel**

**Master Thesis**

Physical Education and Sport

Supervisor:

Prof.PhD, Vello Hein

Tartu 2016

# TABLE OF CONTENTS

ABSTRACT .....	3
TÖÖ LÜHIÜLEVAADE.....	4
1. REVIEW OF THE LITERATURE .....	5
1.1 Coaches' interpersonal teaching style, psychological need thwarting .....	5
1.2 Self-determined motivation .....	7
1.3 Coach and motivation.....	7
2. PURPOSE OF THE RESEARCH AND TASKS .....	9
3. METHODS.....	10
3.1 Participants and study design .....	10
3.2 Measures.....	10
3.3 Data analysis.....	11
4. RESULTS.....	12
5. DISCUSSION.....	19
6. CONCLUSION .....	22
REFERENCES .....	23
APPENDIX 1. ....	27
APPENDIX 2. Lihtlitsents lõputöö reprodutseerimiseks ja lõputöö üldsusele kättesaadavaks tegemiseks .....	31

## **ABSTRACT**

**Aim:** This study has two aims; firstly it aims to validate among youth Estonian volleyball players the measures of Controlling Coach Behaviours Scale (CCBS), Psychological Need Thwarting Scale (PNTS) and Sport Motivation Scale (SMS-II). Secondly, explore the relationships between motivation, coach controlling behaviours, psychological need thwarting and competition results and to clarify age related differences.

**Methods:** CCBS, PNTS and SMS-II were assessed in 298 volleyball girls who participated in U16 and U20 Estonian Volleyball Federation Cup in 2015. The official ranking for the competitive event served as an objective performance score. Statistical analyses were performed by confirmatory factor analyses and for the comparison between groups were used Wilcoxon test.

**Results:** After modifying the SMS-II, CCBS and PNTS questionnaire all reliability demonstrated good content. Comparing older and younger players, U16 volleyball girls' intrinsic and identified motivation were significantly higher than older girls' and amotivation were higher in U20 girls. U20 girls perceived more controlling types of teacher behaviour and dimensions of psychological need thwarting than U16 girls. Regression analysis showed that external motivation significantly predicted competition result among younger players. The competition results for older players were predicted by excessive personal control and controlling use of reward. U20 winners were more amotivated, they also perceived more need thwarting and coach controlling behaviour than U16 winners group.

**Conclusion:** Estonian version of CCBS, PNTS and SMS-II is valid. Younger volleyball girls' were more intrinsically motivated and less amotivated than older volleyball girls. U20 volleyball girls also perceived more coach controlling behaviour and need thwarting than U16 volleyball girls. From practical recommendation the coaches would consider that for achievement the high competition results they have to avoid girls' need thwarting and excessive personal control, and to be more motivating.

**Keywords:** self-determined motivation, psychological need thwarting, coach interpersonal style, competition results

## TÖÖ LÜHIÜLEVAADE

**Eesmärk:** Uurimusel oli kaks eesmärki. Esiteks valideerida Eesti võrkpalli noorte seas CCBS, PNTS ja SMS-II küsimustikud. Teiseks eesmärgiks oli avasada uusi seoseid motivatsiooni, treeneri kontrolliva käitumise ning vajaduste ohustamise ja võistlus tulemuste vahel ning uurida vanuselisi erinevusi.

**Metoodika:** CCBS, PNTS ja SMS-II küsimustikku täitsid 298 võrkpalli tüdrukul, kes osaleid U16 ja U20 Eesti Võrkpalli Liidu Karikavõistlustel. Antud võistluse tulemused oli võistkonna tulemuse järjestuse aluseks. Andmete analüüsimiseks kasutati kinnitavat faktoranalüüsi ja gruppide vaheliseks võrdluseks Wilcoxon testi.

**Tulemused:** Pärast küsimustike CCBS, PNTS ja SMS-II modifitseerimist kõik reliaabluse näitajad oli piisavad. Nooremate ja vanemate mängijate võrdluses olid U16 võrkpalli tüdrukud rohkem sisemiselt ja identifitseeritult motiveeritud, kui vanemad tüdrukud ja U20 tüdrukutel oli kõrgem amotivatsioon ning nad tajusid oma psühholoogilisi vajadusi rohkem ohustatamana ja treenerit kontrollivamana kui U16 võrkpalli tüdrukud. Regressioon analüüs näitas, mida kõrgem oli väline motivatsioon seda paremaid tulemusi saavutati. Kuid vanemate puhul ei olnud motivatsioon oluline, oluliseks osutus treeneri kontrolliv käitumine. Mida rohkem võistlejad tajusid liigset isiklikku kontrolli ja vähem preemiatega kontrollimist (*controlling use of reward*), seda paremaid tulemusi võistkonnad saavutasid. Mõlemas vanuseklassis vajaduste ohustamine ei olnud seotud võistlustulemustega. U20 ja U16 võitjate gruppide võrdluses leiti motivatsiooni tüüpidel üks erinevus – amotivatsioon. U20 võitjate grupp oli rohkem amotiveeritud ning nad tajusid oma treeneri käitumist rohkem vajadusi ohustavamana ja kontrollivamana.

**Kokkuvõte:** Eesti keelne versioon CCBS-ist, PNTS-ist ja SMS-II-st on valideerne. Nooremad võrkpalli tüdrukud olid rohkem sisemiselt motiveeritud ja vähem amotiveeritud kui vanemad. Vanemad tüdrukud tajusid ka rohkem treeneri kontrollivat käitumist ja vajaduste ohustamist, kui nooremad. Treeneritel tuleks arvestada, et paremate võistlustulemuste saavutamiseks hoiduksid nad hoolealuste vajaduste ohustamisest ja liigsest kontrollivast käitumisest ning olema rohkem motiveerivad.

**Märksõnad:** enesemääratlemise motivatsioon, psühholoogiliste vajaduste ohustamine, treeneri suhtlemis stiil, võistlustulemused.

# **1. REVIEW OF THE LITERATURE**

Coaches' role to achieve goals in sport is not hard to underestimate. Recently, researchers have turned more attention on coaches' behaviour related to different outcomes like students' motivation (Amorose & Anderson-Butcher, 2007; Rocchi et al., 2013; Hollembeak & Amorose, 2007), well- and ill-being (Adie et al., 2012; Blanchard, 2009; Balaguer et al., 2012), and less to sport performance (Pope & Wilson, 2015) and competition results (Gillet et al, 2009; Gillet et al., 2010). Coaches' behaviour characterized as interpersonal style between coaches and athletes is investigated from the aspects of athletes' perception the coaches' autonomy supportive and controlling styles (Amorose & Anderson-Butcher, 2015). Research has begun to show that autonomy supportive behaviour is related to autonomous motivation via need satisfaction and controlling behaviour is related to controlled motivation via need thwarting (Vansteenkiste & Ryan, 2013). In competitive sport is important to win and that is usually accompanied by reward. According to the SDT reward is related to controlled motivation.

Until recently, sport research has not addressed the implication of coach controlling styles to athletes' need thwarting, motivation and to competition results. The aim of this study was to explore the association of perceived coaches' controlling behaviour, thwarting the psychological needs and motivation with the competition results among young female volleyball players.

## **1.1 Coaches' interpersonal teaching style, psychological need thwarting**

In this study author concentrates on coaches' interpersonal teaching behaviour. There is lots of researches about autonomy supportive coach behaviour (Adie et al., 2012; Amorose & Anderson-Butcher, 2007; Banack et al., 2011; Hein & Jöesaar, 2015) and basic psychological needs satisfaction (Adie et al., 2012; Amorose & Anderson-Butcher, 2007; Banack et al., 2011), but in this study negative side of the human behaviour will be reviewed like psychological need thwarting and the controlling interpersonal style.

For a long time it has been considered that autonomy-supportive and controlling style are two ends of the continuum line and mutually related such as different types of motivation (Silk et al., 2003), but Amoura with her college (2015), suggested that two styles are independent, these are negatively non-significantly correlated. The positive effect of teachers' or coaches' autonomy

supportive behaviour on the psychological need satisfaction for autonomy, competence and relatedness which in turn positively related to autonomous motivation is well documented (Adie et al., 2012; Amorose & Anderson-Butcher, 2007; Standage et al., 2005).

However, less research evidence exists about the relationships between controlling behaviour and need thwarting (Bartholomew et al., 2010). Lack of need satisfaction is not equivalent to experiences of need thwarting. In fact, need thwarting better predicted compromised relational functioning compared to need dissatisfaction (Bartholomew et al., 2011). Need satisfaction was a stronger predictor of interpersonal competence compared to need thwarting and need dissatisfaction (Costa et al., 2015). For instance, a low score on a need satisfaction scale may not necessarily indicate that an athlete feels as if his or her needs are being thwarted during their interactions with the sport coaches; it may merely suggest that the athlete feels dissatisfied with the extent to which his or her needs are currently being met. As such, a female athlete could feel incompetent in her sport purely because she does not have the necessary skills to perform well (despite the best efforts of her coach); however, another female athlete might feel incompetent because her coach is severely demeaning and critical of her. The first situation is a case of low need satisfaction (or need dissatisfaction) whereas the latter is a case of need thwarting (Bartholomew et al., 2011).

Balaguer et al., (2012) investigated how the environment created by coach is related to satisfaction or thwarting psychological needs. They found that changes in the players' perceptions of an autonomy supportive environment significantly predicted changes in psychological need satisfaction (positively) and in psychological need thwarting (negatively). Changes in psychological need satisfaction positively predicted changes in subjective vitality and negatively related to cross-time variation in global burnout scores. In contrast, changes in the players' perceptions of a controlling coach-created environment were positively associated with changes in psychological need thwarting that corresponded to increases in player burnout. Several researchers have reported that burnout is also positively associated with high extrinsic and low intrinsic motivation and may affect athletes' motivational orientation (Li et al., 2013; Lonsdale & Hodge, 2011).

## **1.2 Self-determined motivation**

Sport central theme is motivation and why people do this. People have not only different amounts, but also different kinds of motivation. That is, they differ not only in level of motivation, but also in the orientation of motivation (Ryan & Deci, 2000).

Different motivation type are related with to various factors (coming back to sport after injury (Podlog & Eklund, 2005), burnout (Li et al., 2013; Lonsdale & Hodge, 2011), well-being, ill-being (Mouratidis et al., 2008), concentration (Standage et al., 2005), dropout in sport (Sarrazin et al., 2002) and competition result (Gillet et al., 2009; Gillet et al., 2010). Low self-determined motivation may increase the risk of athlete (Lonsdale & Hodge, 2011) and dropout in sport (Sarrazin et al., 2002). Particular efforts could be made to help support the basic psychological needs of athletes and decreased risk of burnout (Lonsdale & Hodge, 2011) and dropout (Sarrazin et al., 2002).

Elite athletes' have high level of intrinsic motivation (Mallet & Hanrahan, 2004) and also high level of extrinsic motivation (Gillet & Rosnet, 2008). However impact of athletes' motivation on achievement levels has not yet been fully clarified, especially in youth sports (Alfermann & Würth, 2006). Preliminary evidence in adult sports reveals a positive relation between motivation and performance in adult sports. Gillet and her colleges (2009) showed that self-determined motivation had a positive impact on sport performance during seasons among tennis players. There is also limited results how the competition results are related to the different types of motivation and coaches' behaviour (Karjane & Hein, 2015).

## **1.3 Coach and motivation**

Coaches are important in athletes training and as well as in their lives. Their behavior and attitude gives the example of the youngsters, they lead (consciously or unconsciously) them to their footsteps. Coaches may give athletes everything necessary for comprehensive development, but on the other hand they can inhibit athlete development with their activities. Coach motivational beliefs do not affect each athlete individually, but also creates motivational environment, and thus athletes' motivational orientation will also interact with each other (Rattas, 2012).

Coaches, parents, heroes and peers affects motivational climate in sport context, and the studies of perceived motivational climate are principally based on the climate created by a coach

(Carr et al., 1999; Carr et al., 2000). In order to have more insight on the coaches' interpersonal behaviour and athletes' psychological needs Bartholomew and her colleagues developed questionnaire to measure coaches' controlling behaviour (CCBS) (Bartholomew et al., 2010) and need thwarting (PNTS) (Bartholomew et al., 2011).

Until now, there are only few studies where the relationships between coaches' controlling behaviour and athletes' motivation in respect of sport competition results were investigated (Gillet et al., 2010; Karjane & Hein, 2015). As noted before in adult sports Gillet and her college (2009) showed that self-determined motivation had a positive impact on sport performance during seasons. They also found that coaches' autonomy support was related to motivation toward sport activity and motivation predicted the competition results (Gillet et al., 2010). Gillet and her college used hierarchical model of intrinsic and extrinsic motivation for that they used the French version of SMS to determine athletes contextual self-determined motivation and the Situational Motivation Scale for situational motivation. Specifically results showed that coach autonomy support were positively associated with contextual self-determined motivation, this was again positively associated with situational motivation and situational motivation predicted their performance. Pope and Wilson (2015) got similar results. Their study was designed to test model of interpersonal coaching styles to athletes' basic psychological needs, self-determined motives and finally rugby performance. The interpersonal coaching styles of autonomy support, structure, and involvement positively predicted the athletes corresponding needs. However, only autonomy support significantly predicted self-determined motivation, while competence and relatedness did not. Finally, self-determined motivation moderately predicted rugby performance.

## **2. PURPOSE OF THE RESEARCH AND TASKS**

This study has two aims; firstly it aims to validate among youth Estonian volleyball players the measures of CCBS (Bartholomew et al., 2010), PNTS (Bartholomew et al., 2011) and Sport SMS-II (Pelletier et al., 2013). Secondly, explore the connections between motivation, coach controlling behaviours, psychological need thwarting and competition results and notice differences in the age group.

Based on the literature and previous studies four hypothesis were made. First, CCBS, PNTS and SMS-II are valid instrument for use among youth athletes in Estonian. Secondly, there are differences between younger and older volleyball players in perceived coach behaviour, psychological need thwarting, and motivation types. Thirdly, although there is limited literature about guiding expectations regarding the association between competition results and controlling coach behaviours, it was hypothesized that the competition results of players is related to the perceptions of the controlling types of coach behaviour, psychological need thwarting, and motivation. Fourthly winners would be more intrinsically and extrinsically motivated than losers.

According to the main aim the specific tasks were:

1. To validate the CCBS (Bartholomew et al., 2010), PNTS (Bartholomew et al., 2011) and SMS II (Pelletier et al., 2013).
2. To determine U20 and U16 volleyball female players' self-determined motivation, perceived coach controlling, psychological need thwarting and Estonian Volleyball Federation Cup results
3. To compare U16 and U20 volleyball girls' with motivation, coach controlling behaviours and psychological need thwarting
4. To assess perceived coach controlling behaviour, psychological need thwarting and motivation effect to the competition result in regression analyze.
5. To compare younger and older first six and last six volleyball players team with controlling coach behaviours, psychological need thwarting and sport motivation.

### **3. METHODS**

#### **3.1 Participants and study design**

The sample included 298 young female volleyball players (U20 42%, U16 58%), who took part in U20 and U16 Estonian Volleyball Federation Cup in 2015. Competitions were held on 20-22 February 2015 in Pärnu, Narva and Põlva (U16) and 31 January to 3 February 2015 in Võru, Pärnu and Tallinn (U20).

The permission to take part in the study was taken from the club coaches, who were supervisor for the players. Participation was voluntary, anonymous and confidential, they were informed about the instructions on how to fill in the questionnaire. The researchers emphasized to the participants that all the questionnaires were designed to measure athletes' own perceptions and there were no right or wrong answers and all questions about the questionnaire were allowed. The athletes completed the questionnaires before or after a game without the presence of a coach.

#### **3.2 Measures**

The coaches' controlling behaviour was measured by CCBS (Bartholomew et al., 2010) and need thwarting by PNTS (Bartholomew et al., 2011). Motivation was measured by SMS II (Pelletier et al., 2013). Athletes responded on 7-point Likert-type scales 1 (strongly disagree) to 7 (strongly agree). The questionnaire took approximately 15-25 minutes to complete. The SMS-II included 15 items to measure intrinsic regulation, identified regulation, introjected regulation, external regulation and amotivated regulation factors. In this study, a measure of integrated regulation was not included, because integrated regulation is not usually assessed in research on adolescents, since it requires a high degree of introspection and self-awareness (Meyer et al., 2014). The PNTS included 12 need thwarting items to measure autonomy, competence and relatedness factors. The CCBS included 15 items to measure controlling use of rewards, negative conditional regard, intimidation and excessive personal control factors.

The study has been obtained by the University of Tartu Human Research Ethics Committee for permission to number 242/17-T 17. November 2014.

### **3.3 Data analysis**

The data were analysed using the LISREL 8.8, SPSS 20 and Excel 2013. Cronbach's alphas were calculated for all items to assess the internal reliability of the subscales, acceptable level was 0.70 (Nunnally, 1970). Group comparison was made by independent sample Wilcoxon test.

Confirmatory factor analyses (CFA) were used to test the validity the factor structure of the instruments. Goodness-of-fit of the model with the data was evaluated using multiple recommended indexes of good-fit: the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), the Normed Fit Index (NFI) and Root Mean Square Error of Approximation (RMSEA). For CFI, NNFI and NFI acceptable values was above 0.9 and for RMSEA value should be between 0.05 and 0.08 (Hu & Bentler, 1999).

Eighteen teams participated on U20 Estonian Volleyball Federation Cup competition. Teams were divided into two groups according to the competition results. In the top ranking list the teams from one to six formed the winner group and six form bottom formed loser group. Twenty four teams participated on U16 Estonian Volleyball Federation Cup competition. In the top ranking list the teams from one to six formed the winner group and six form bottom formed loser group.

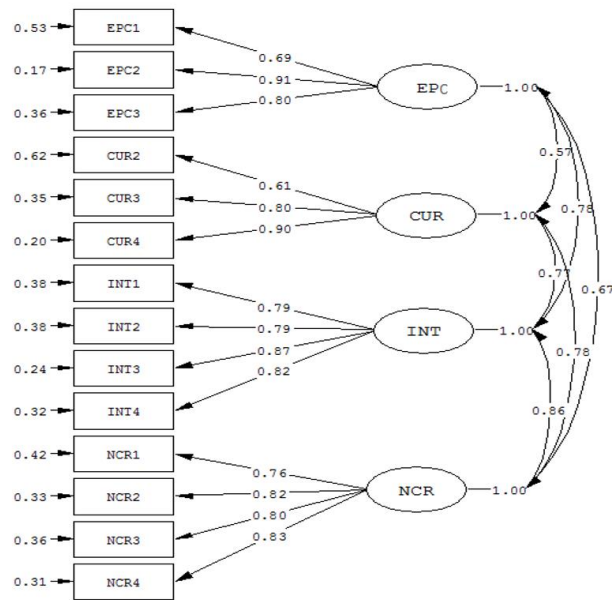
For all team were calculated averages in every motivation type, controlling behaviour scale and need thwarting scale. After that, regression analyses were conducted to explore relationships between competition results and teams perceived coach controlling behaviour, need thwarting and motivation types.

## 4. RESULTS

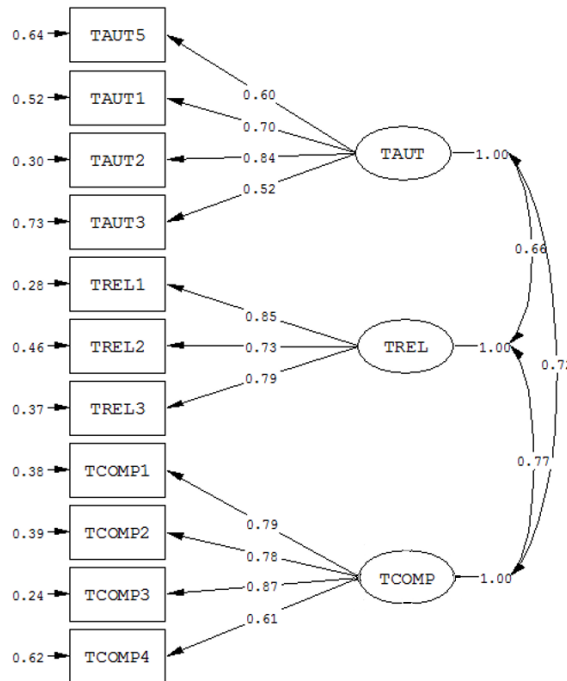
The reliability coefficient of the external regulation subscale from SMS-II was not on acceptable level. Elimination item “Because people around me reward me when I do” resulted in increased reliability coefficient from 0.67 to 0.79 and decreased RMSEA from 0.068 to 0.060. In respect of CCBS, the reliability coefficient of the controlling use of rewards subscale was also not on acceptable level. Elimination the item “My coach tries to motivate me by promising to reward me if I do well” resulted in increased reliability coefficient from 0.64 to 0.77 and the goodness of fit statistics improved. The reliability coefficient of relatedness subscale from PNTS was not on acceptable level and the factor loading was only 0.29. Elimination the item “I feel other people are envious when I achieve success” resulted in increased reliability coefficient from 0.64 to 0.77. The goodness of fit indices for CCBS, PNTS and SMS-II are reported in Table 1 and CCBS, PNTS and SMS-II confirmatory factor structures are presented in Figures 1, 2 and 3 respectively.

**Table 1.** The goodness of fit statistics of Controlling Coach Behaviours Scale, Psychological Need Thwarting Scale and Sport Motivation Scale II

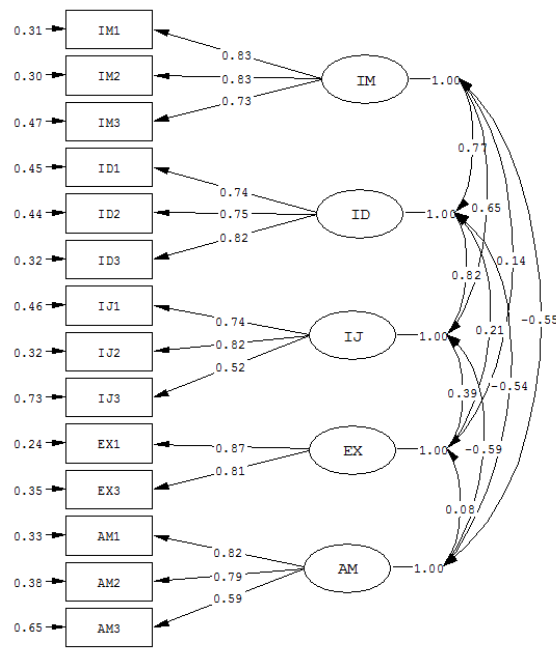
Questionnaire	S-B $\chi^2$	CFI	NNFI	NFI	RMSEA	CI <sub>95</sub> RMSEA
1. Original Controlling Coach Behaviours Scale	198.16	0.98	0.98	0.97	0.068	0.055-0.80
2. Modified version without controlling use of rewards first question	159.89	0.99	0.98	0.98	0.065	0.051-0.078
3. Original Psychological Need Thwarting Scale	131.11	0.98	0.97	0.96	0.073	0.057-0.088
4. Modified version without relatedness fourth question	117.16	0.98	0.97	0.97	0.079	0.062-0.096
5. Original Sport Motivation Scale II	190.56	0.97	0.97	0.96	0.068	0.056-0.081
6. Modified version without external regulation second question	138.24	0.97	0.97	0.96	0.060	0.046-0.074



**Figure 1.** Confirmatory Factor Analysis of the Controlling Coach Behaviours Scale. EPC – Excessive Personal Control; CUR – Controlling Use of Rewards; INT – Intimidation; NCR – Negative Conditional Regard. All paths are significant at  $p < 0.01$ .



**Figure 2.** Confirmatory Factor Analysis of the Psychological Need Thwarting Scale. TAUT – autonomy; TREL – relatedness; TCOMP – competence. All paths are significant at  $p < 0.01$ .



**Figure 3.** Confirmatory Factor Analysis of the SMS-II. IM – intrinsic regulation; ID – identified regulation; IJ – introjected regulation; EX – external regulation AM – amotivated regulation. All paths are significant at  $p < 0.01$ .

The differences between the younger and older volleyball groups in respect of controlling types of teacher behaviour, dimensions of psychological need thwarting and types of motivation are presented in Table 2. U16 volleyball girls' intrinsic ( $p < 0.01$ ) and identified ( $p < 0.001$ ) motivation were significantly higher than older girls' averages, amotivation ( $p < 0.001$ ) were significantly higher in U20 girls group and no differences were found in introjected regulation and external regulation. U20 girls perceived more in all types of coaches' controlling behaviours and dimensions of psychological need thwarting than U16 girls, most of them in level  $p < 0.001$ .

**Table 2.** The coaches' controlling behaviour, athletes' need thwarting and their motivation of U16 and U20 age groups

	U20		U16		Sig
	Mean	SD	Mean	SD	
IMM	5.89	1.09	6.24	0.9	**
IDM	5.51	1.1	5.98	1.01	***
IJM	5.19	1.11	5.32	1.26	
EX13M	3.51	1.8	3.37	1.97	
AMK	2.92	1.4	2.13	1.33	***
EPCM	3.67	1.64	2.35	1.54	***
CUR234M	2.94	1.35	2.47	1.39	**
NCRM	3.44	1.62	2.46	1.45	***
INTM	3.09	1.56	2.02	1.24	***
TAUTM	3.12	1.32	2.57	1.17	***
TREL123M	2.12	1.14	1.77	1.04	***
TCOMP	3.42	1.43	3	1.5	**

Sig – significant; \*\*\* –  $P < 0.001$ ; \*\* –  $P < 0.01$ ; \* –  $P < 0.05$ ; IMM – intrinsic regulation mean; IDM – identified regulation mean; IJM – introjected regulation mean; EX13M – external regulation first and third question mean; AM – amotivated regulation mean; EPCM – excessive personal control mean; CUR234M – controlling use of rewards second, third and fourth question mean; INTM – Intimidation mean; NCRM – Negative Conditional Regard mean; TAUTM – thwarting of the autonomy mean; TREL123M – thwarting of the relatedness mean; TCOMP – thwarting of the competence mean.

Table 3 provides a summary of the two regression models. The first model shows how the dimensions of the perceived coaches' controlling behaviour predict competition results and different motivation types predict competition results. In regression models the competition results were ranked so that better results represent smaller numbers. Younger volleyball players' motivation predicted competition results ( $p < 0.01$ ) significantly external motivation ( $p < 0.001$ ) and higher external motivation meant better results. Older players' perceived coaches' controlling behaviour predicts competition results ( $p < 0.01$ ) significantly controlling use of reward and excessive personal control ( $p < 0.05$ ), the more players felt excessive personal control and the less controlling use of reward the better were results. In both ages psychological needs thwarting didn't predict significantly competition results.

**Table 3.** The predictors of the competition results from different types of coaches' controlling behaviour and motivation

	Competition results	
	U20	U16
	$\beta$	$\beta$
Coaches' controlling behaviour		
Controlling use of reward	0.41*	0.30
Negative conditional regard	-0.14	-0.53
Excessive personal control	-0.53*	-0.22
Intimidation	-0.24	0.17
R <sup>2</sup>	0.76**	0.18
Self-determined motivation		
Intrinsic motivation	-0.32	0.48
Identified motivation	0.42	-0.10
Introjected motivation	0.40	0.36
External motivation	-0.42	-0.80***
Amotivated motivation	-0.03	0.13
R <sup>2</sup>	0.42	0.63**

R<sup>2</sup> – R Square;  $\beta$  – standardized coefficients; \*\*\* – P<0.001; \*\* – P<0.01; \* – P<0.05

The differences between the U20 and U16 winner and loser groups in respect of controlling types of teacher behaviour, dimensions of psychological need thwarting and types of motivation are presented in Table 4. The winner and loser groups of older volleyball players were significantly different from external regulation ( $p < 0.001$ ), excessive personal control ( $p < 0.001$ ), negative conditional regard ( $p < 0.001$ ) and intimidation ( $p < 0.001$ ) with bigger winner group averages. Perceived psychological need thwarting didn't differ between groups.

**Table 4.** The coaches' controlling behaviour, athletes' need thwarting and their motivation of winner and loser groups

	U20		U20		Sig	U16		U16		Sig
	winner gr		loser gr			winner gr		loser gr		
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	
IMM	6.02	1.01	6.01	1.04		6.09	0.91	6.70	0.53	***
IDM	5.66	1.10	5.62	1.07		5.73	1.17	6.44	0.63	**
IJM	5.17	1.14	5.29	1.01		5.07	1.35	5.59	1.07	
EX13M	3.93	1.83	2.41	1.39	***	3.86	2.21	3.41	1.94	
AMM	2.73	1.41	3.10	1.62		2.21	1.42	1.77	1.03	
EPCM	4.18	1.58	2.17	1.13	***	2.34	1.49	1.87	1.22	
CUR234M	2.83	1.30	3.38	1.38		2.25	1.26	2.23	1.20	
NCRM	4.00	1.48	2.59	1.55	***	2.55	1.44	1.98	1.01	
INTM	3.60	1.55	2.32	1.54	***	2.05	1.04	1.65	1.16	
TAUTM	3.34	1.42	3.12	1.33		2.64	1.31	2.28	0.95	
TREL123M	1.99	1.02	2.26	1.45		1.65	0.97	1.57	0.94	
TCOMPM	3.63	1.28	3.40	1.84		3.08	1.56	2.47	1.22	

gr. – group; Sig – significant; \*\*\* –  $P < 0.001$ ; \*\* –  $P < 0.01$ ; \* –  $P < 0.05$ ; IMM – intrinsic regulation mean; IDM – identified regulation mean; IJM – introjected regulation mean; EX13M – external regulation first and third question mean; AM – amotivated regulation mean; EPCM – excessive personal control mean; CUR234M – controlling use of rewards second, third and fourth question mean; INTM – Intimidation mean; NCRM – Negative Conditional Regard mean; TAUTM – thwarting of the autonomy mean; TREL123M – thwarting of the relatedness mean; TCOMPM – thwarting of the competence mean.

The winner and loser groups of younger volleyball players (U16) were significantly different from intrinsic regulation ( $p < 0.001$ ) and identified regulation ( $p < 0.01$ ). All motivation types, except external regulation and amotivation, were higher among players of loser group than players of winner group. Perceived psychological needs thwarting, coach controlling behaviour were not different between groups.

The differences between the U20 and U16 winners groups in respect of controlling types of teacher behaviour, dimensions of psychological need thwarting and types of motivation are presented in Table 5. The winner group of younger volleyball players and the winner group of older volleyball players' were significantly different from amotivation ( $p < 0.05$ ) and in all perceived

psychological needs thwarting and coach controlling behaviour cases. The winner group of older players perceived significantly more coach controlling behaviour and psychological needs thwarting. The only significantly different motivation type, amotivation were higher in older winner groups.

**Table 5.** The coaches' controlling behaviour, athletes' need thwarting and their motivation of U16 and U20 winners groups

	U20 winner gr		U16 winner gr		Sig
	Mean	SD	Mean	SD	
IMM	6.02	1.01	6.09	0.91	
IDM	5.66	1.10	5.73	1.17	
IJM	5.17	1.14	5.07	1.35	
EX13M	3.93	1.83	3.86	2.21	
AMM	2.73	1.41	2.21	1.42	*
EPCM	4.18	1.58	2.34	1.49	***
CUR234M	2.83	1.30	2.25	1.26	**
NCRM	4.00	1.48	2.55	1.44	*
INTM	3.60	1.55	2.05	1.04	***
TAUTM	3.34	1.42	2.64	1.31	**
TREL123M	1.99	1.02	1.65	0.97	*
TCOMPM	3.63	1.28	3.08	1.56	*

Sig – significant; \*\*\* –  $P < 0.001$ ; \*\* –  $P < 0.01$ ; \* –  $P < 0.05$ ; IMM – intrinsic regulation mean; IDM – identified regulation mean; IJM – introjected regulation mean; EX13M – external regulation first and third question mean; AM – amotivated regulation mean; EPCM – excessive personal control mean; CUR234M – controlling use of rewards second, third and fourth question mean; INTM – Intimidation mean; NCRM – Negative Conditional Regard mean; TAUTM – thwarting of the autonomy mean; TREL123M – thwarting of the relatedness mean; TCOMPM – thwarting of the competence mean.

## 5. DISCUSSION

The purpose of the present study was to validate an Estonian version of CCBS (Bartholomew et al., 2010), PNTS (Bartholomew et al., 2011) and SMS-II (Pelletier et al., 2013), among girl volleyball players. CCBC and PNTS instruments were former used in PE context with Estonian school children and also indicated the existence of the validity (Hein et al., 2015). PNTS were validated also in Spanish by Cuevas and his college (2015). In general terms, the results showed that the Estonian version of PNTS, CCBS and SMS-II are a valid and reliable instrument for assessing experiences of psychological need thwarting and coach controlling behaviours in a sport context, and assessing athletes' self-determined motivation.

The results of the factor analysis revealed that the modified PNTS reflected the three-factor model proposed by SDT. The resulting model demonstrated adequate fit indices, these data are close to the indices of fit of the original scale (Bartholomew et al., 2011) and Spanish version (Cuevas et al., 2015). In this study one relatedness item was removed because its factor loading wasn't at acceptable levels. The same item had the weakest factor loading in the original scale (Bartholomew et al., 2011).

The resulting model demonstrated adequate fit indices, these data are close to the indices of fit of the CCBS original scale (Bartholomew et al., 2010). Similarly to PNTS one controlling use of rewards item was removed from CCBS because its factor loading wasn't at acceptable levels. The same item had the weakest factor loading in the original scale (Bartholomew et al., 2010).

In respect of the motivation types the results of this study showed that youth volleyball players were intrinsically and externally motivated, however their intrinsic motivation was higher than external motivation. These results are consistent with several previous studies (Gillet & Rosnet, 2008; Mallett & Hanrahan, 2004) where elite athletes were also motivated internally and externally.

In the Vansteenkise and Deci (2003) study, the athletes who won the competition were more intrinsically motivated than losers. Losers who received positive feedback were more intrinsically motivated than losers who did not. Obviously, it is one of the explanations why losers were intrinsically more motivated than winners among younger athletes in the present study. However, for older athletes no differences in respect of intrinsic motivation was observed. In contrast, winner were more externally motivated than losers. The winner perceived their coaches'

behaviour as more controlling than losers. Consequently, coaches who wished that their athletes would be winner applied more controlling behaviour. According to self-determination theory (Deci & Ryan, 1985) several researcher (Bartholomew et al., 2011; Bartholomew et al., 2010) have reported that controlling behaviour will lead to external motivation and autonomy supportive behaviour to intrinsic motivation. Although, external motivation facilitates to win the competition, in the long term it may cause the drop out from sport (Li et al., 2013).

The findings of the present study showed that the players from U20 winner group perceived their coaches to be more controlling than players from loser group. The same trend was followed in respect of external motivation. The results of this study in some extent corroborate the findings obtained in the experimental study of Amoura and her college (2015), where students' group who got their tasks in the low autonomy and high control condition led to the highest situational self-determined motivation. In general, young people are going to the sport training and competitions on a voluntary basis, and current situation was similar to Amoura and her college (2015) experiment, but Gillet (2010) showed that higher results were related to autonomy supportive behaviours. Therefore, in the future studies should be looking both behaviours (autonomy and controlling) together, because first one cannot rule out the second one (Amoura et al., 2015).

The regression analyses showed that results of competitions of the younger volleyball players' competition were predicted mainly by external motivation and for older volleyball players' two types of controlling behaviour; excessive personal control and controlling use of rewards were important predictors of the competitions results. The comparison between two age groups indicated to similar results that younger volleyball players' perceived their coaches were less controlling than older plyers, consequently older players' coaches are more likely controlling. There is important to note that U20 felt not only more controlled, but also more amotivated, what may lead to dropout from sport (Li et al., 2013). Younger age group was also more intrinsically motivated than older age group, but comparing only winners groups in both age groups only amotivation were dissimilar.

Results showed that volleyball teams whose players perceived less control of reward and more excessive personal control achieved better results. Obviously, not all controlling types of coaches' behaviour may have negative effect on the results of sport performance. More specifically, in the case of the less perceived control of reward the young volleyball players achieve better competition results. If the players perceived that their coaches did not use reward extensively as conditional requirements for exercise, then such kind of coach's behaviour in some extent may

be similar to the autonomy supportive behaviour. From this point of view, the findings are comparable to previous studies about autonomy supportive behaviours, where higher results were related to autonomy supportive behaviours (Gillet et al., 2010; Gillet et al., 2009). Moreover, as noted by several researchers (Amoura et al., 2015; Bartholomew et al., 2010) autonomy supportive and controlled behaviours are two different styles and might not be mutually exclusive.

Although this study provides new information into the area of coaches' behaviour effects on the results, there are limitations that should be noted. Firstly, this study was a cross-sectional research design. Given the dynamic relationship between the coach and the athlete coaches controlled behaviours fluctuation during the season and even during the competition is obvious. For example, longitudinal studies are recommended to capture the dynamic variations throughout the season or competitions. Secondly, age and training experiences of players were not considered which may affected the results. For instance, for players on both competitions (U20 and U16) upper age limit was applied but lower age limit was not. Consequently, the players who were younger were allowed to participate on U20 and U16 competition. Therefore, in the future study to have more insight on the players' perception the coaches' controlling behaviour and their motivation in respect of competition results the age and training experience need to be taken into account.

In the Estonian youth volleyball a lot of young coaches have starting working among older coaches and same coaches don't train younger and older ones. Since every coach have their own style (Cushion et al., 2012), future studies should investigate longitudinally coach behaviour in different age groups and its affect to the competition results. For the future studies at the 2017 and 2019 with the same groups of volleyball players with same questionnaire adding one question: 'Has your coach changed in the intervening period?' This should lead us to new discoveries in this field and show how winners coach manage their team. Fourthly, in this study were only volleyball players, and in the future should be taken part in other similar sports, for example basketball, football and indiacca.

In sum, it is believed that the present findings contribute to the understanding how the volleyball players of the winners differ from the losers in respect of coaches' behaviour and motivation and they have to consider this in coaching processes. For deeper understanding more detailed and comprehensive analysis is needed to explore the coaches' behaviour on the results of the sport competitions.

## 6. CONCLUSION

The study met its goals. Based on the results of the current dissertation the following conclusions were made:

1. The factor validity of Estonian version of the inventories CCBS, PNTS and SMS-II were on acceptable levels.
2. Younger volleyball girls' were more intrinsically motivated and less amotivated than older volleyball girls. U20 volleyball girls also perceived more coach controlling behaviour and need thwarting than U16 volleyball girls.
3. The types of motivation predicted competition results for U16 volleyball girls and dimensions of the perceived coach controlling behaviour predicted competition results for U20.
4. Players from U20 winner group perceived their coaches as more controlling than players from loser group and players from U16 loser group were more intrinsically motivated than winners. U20 first six volleyball teams' coaches were more controlling and need thwarting than U16 first six volleyball teams' coaches.

Generally the first and second hypothesis were confirmed. Third hypotheses was partially confirmed and fourth hypotheses didn't stand up.

## REFERENCES

1. Adie JW, Duda JL, Ntoumanis N. Perceived coach-autonomy support, basic need satisfaction and the well- and ill-being of elite youth soccer players: A longitudinal investigation. *Psychology of Sport & Exercise* 2012; 13: 51-60.
2. Alfermann D, Würth S. Do Coaches influence young athletes' skill level? A common assumption, but hard to prove. Boen F., Cuyooer B., Opdenacker J. *Current research topics in exercise and sport psychology in Europe*. Leuven: LannooCampus Publishers; 2006, 69-76.
3. Amorose AJ, Anderson-Butcher D. Autonomy-supportive coaching and self-determined motivation in high school and college athletes: A test of self-determination theory. *Psychology of Sport & Exercise* 2007; 8: 654-670.
4. Amorose AJ, Anderson-Butcher D. Exploring the Independent and Interactive Effects of Autonomy-Supportive and Controlling Coaching Behaviors on Adolescent Athletes' Motivation for Sport. *Sport, Exercise, and Performance Psychology* 2015; 4: 206-218.
5. Amoura C, Berjot S, Gillet N, Caruana S, Finez L. Effects of autonomy-supportive and controlling styles on situational self-determined motivation: some unexpected results of the commitment procedure. *Psychological Reports* 2015; 116: 33-59.
6. Balaguer I, González L, Fabra P, Castillo I, Mercé J, Duda. Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: A longitudinal analysis. *Journal of Sports Sciences* 2012; 30: 1619-1629.
7. Banack HR, Sabiston CM, Bloom GA. Coach Autonomy Support, Basic Need Satisfaction, and Intrinsic Motivation of Paralympic Athletes. *Research Quarterly for Exercise and Sport* 2011; 82: 722-730.
8. Bartholomew KJ, Ntoumanis N, Ryan RM, Thøgersen-Ntoumani C. Psychological Need Thwarting in the Sport Context: Assessing the Darker Side of Athletic Experience. *Journal of Sport & Exercise Psychology* 2011; 33: 75-102.
9. Bartholomew KJ, Ntoumanis N, Thøgersen-Ntoumani C. The Controlling Interpersonal Style in a Coaching Context: Development and Initial Validation of a Psychometric Scale. *Journal of Sport & Exercise Psychology* 2010; 32: 193-216.

10. Blanchard CM, Amiot CE, Perreault S, Vallerand RJ, Provencher P. Cohesiveness, coach's interpersonal style and psychological needs: Their effects on self-determination and athletes' subjective well-being. *Psychology of Sport & Exercise* 2009; 10:545-551.
11. Carr S, Weigand DA, Hussey W. The relative influence of parents, teachers, and peers on children and adolescents' achievement and intrinsic motivation and perceived competence in physical education. *Journal of Sport Pedagogy* 1999; 5: 28–51.
12. Carr S, Weigand DA, Jones J. The relative influence of parents, peers and sporting heroes on goal orientations of children and adolescents in sport. *Journal of Sport Pedagogy* 2000; 6: 34–55.
13. Costa S, Ntoumanis N, Bartholomew KJ. Predicting the brighter and darker sides of interpersonal relationships: Does psychological need thwarting matter? *Motivation & Emotion* 2015; 39: 11-24.
14. Cuevas R, Sanchez-Oliva D, Bartholomew J, Ntoumanis N, Carcia-Calvo T. Adaptation and validation of the psychological need thwarting scale in Spanish physical education teachers. *Spanish Journal of Psychology* 2015; 18: 1-9.
15. Cushion C, Ford PR, Williams AM. Coach behaviours and practice structures in youth soccer: Implications for talent development. *Journal of Sports Sciences* 2012; 30: 1631-1641.
16. Deci, EL, Ryan RM. *Intrinsic Motivation and Self-determination in Human Behavior*. New York: Plenum Press; 1985.
17. Gillet N, Berjot S, Gobancé L. A motivational model of performance in the sport domain. *European Journal of Sport Science* 2009; 9: 151-158.
18. Gillet N, Rosnet E. (2008) Basic Need Satisfaction and Motivation In Sport. *The online journal of sports psychology* 2008; 10.
19. Gillet N, Vallerand RJ, Amoura S, Baldes B. Influence of coaches' autonomy support on athletes' motivation and sport performance: A test of the hierarchical model of intrinsic and extrinsic motivation. *Psychology of Sport and Exercise* 2010; 11: 155-161.
20. Hein V, Jõesaar H. How perceived autonomy support from adults and peer motivational climate are related with self-determined motivation among young athletes. *International Journal of Sport and Exercise Psychology* 2015; 13: 193-204.

21. Hein V, Koka A, Hagger MS. Relationships between perceived teachers' controlling behaviour, psychological need thwarting, anger and bullying behaviour in high-school students. *Journal Adolescence* 2015; 42: 103-114.
22. Hollembeak J, Amorose AJ. Perceived Coaching Behaviors and College Athletes' Intrinsic Motivation: A Test of Self-Determination Theory. *Journal of Applied Sport Psychology*. 2007; 17: 20-36.
23. Hu L, Bentler P. M. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling* 1999; 6: 1–55.
24. Karjane K, Hein V. Controlling coaches' behaviour, psychological need thwarting, motivation and results of the volleyball competitions. *Acta Kinesiologiae Universitatis Tartuensis* 2015; 21: 51–60.
25. Li C, Wang CKJ, Pyun DY, Kee YH. Burnout and its relations with basic psychological needs and motivation among athletes: A systematic review and meta-analysis. *Psychology of Sport and Exercise* 2013; 14: 692-700.
26. Lonsdale C., Hodge K. Temporal ordering of motivational quality and athlete burnout in elite sport. *Medicine & Science in Sports & Exercise* 2011; 43: 913-921.
27. Mallett CJ, Hanrahan SJ. Elite athletes: why does the 'fire' burn so brightly? *Psychology of Sport and Exercise* 2004; 5: 183-200.
28. Meyer JD, Tallir I, Soenens B, Speleers L, Haerens L. Does Observed Controlling Teaching Behavior Relate to Students' Motivation in Physical Education? *Journal of Educational Psychology* 2014; 106: 541-554.
29. Mouratidis A, Vansteenkiste M, Lens W, Sideridis G. The Motivating Role of Positive Feedback in Sport and Physical Education: Evidence for a Motivational Model. *The Journal of Sport & Exercise Psychology* 2008; 30: 240-268.
30. Nunnally J. C. *Introduction to psychological measurement*. New York: McGraw-Hill; 1970.
31. Pelletier LG, Rocchi MA, Vallerand RJ, Deci EL, Ryan RM. Validation of the revised sport motivation scale (SMS-II). *Psychology of Sport and Exercise* 2013; 14: 329-341.
32. Podlog L, Eklund RC. Return to Sport After Serious Injury: A Retrospective Examination of Motivation and Psychological Outcomes. *Journal of Sport Rehabilitation* 2005; 14: 15-20.

33. Pope JP, Wilson PM. Testing a sequence of relationships from interpersonal coaching styles to rugby performance, guided by the coach–athlete motivation model. *International Journal of Sport and Exercise Psychology* 2015; 13: 258-272.
34. Rattas N. Enesehinnangu ja meisterlikkuse eesmärkide roll noorsportlaste spordist väljalangemisel. Longituuduuring. Magistritöö, Tartu: Tartu Ülikooli kehakultuuriteaduskonnas; 2012.
35. Rocchi M, Pelletier LG, Couture AL. Determinants of coach motivation and autonomy supportive coaching behaviours. *Psychology of Sport and Exercise*. 2013; 14: 852-859.
36. Ryan RM, Deci EL. Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*. 2000; 25: 54-67.
37. Silk JS, Morris AS, Kanaya T, Steinberg L. Psychological control and autonomy granting: opposite ends of a continuum or distinct constructs? *Journal of Research on Adolescence* 2003;13: 113 - 128.
38. Sarrazin P, Vallerand R, Guillet E, Pelletier L, Cury F. Motivation and dropout in female handballers: a 21-month prospective study. *European Journal of Social Psychology* 2002; 32: 395-418.
39. Standage M, Duda JL, Ntoumanis N. A test of self-determination theory in school physical education. *British Journal of Educational Psychology* 2005; 75: 411-433.
40. Vansteenkiste M, Deci EL. Competitively Contingent Rewards and Intrinsic Motivation: Can Losers Remain Motivated? *Motivation and Emotion Journal* 2003; 27: 273-299.
41. Vansteenkiste M, Ryan RM. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration* 2013; 23: 263-280.

## APPENDIX 1.

Tere! Olen Tartu Ülikooli kehalise kasvatuse ja spordi magistrant. Olen ise tegelenud võrkpalliga alates teisest klassist ning tegutsen hetkelgi veel nii treeneri, mängija kui ka kohtunikuna. Nagu näha on võrkpall minule väga südamelähedane ning seetõttu valisin ka sellega seotud teema oma magistritööks. Tegelen võrkpallurite motivatsiooni, treeneri käitumise ning nende seoste uurimisega. Selle küsimustikuga soovingi rohkem teada saada põhjustest, miks Sa mängid võrkpalli, millised on Sinu plaanid pärast kooli seoses võrkpalliga ning kuidas tajud oma treeneri käitumist. Ma vajan Sinu abi, et seda uurimust läbi viia.

Iga inimene on erinev ning seetõttu pole siin õigeid ega valesid vastuseid. Mind huvitab Sinu arvamus. Sinu vastuseid kasutavad ainult uuringu läbiviijad ning neid ei näidata kellelegi teisele. Ära jää liiga kauaks ühe väite juurde pidama ning **tee ring ümber numbrile**, mis kõige paremini kirjeldab Sinu arvamust.

Palun vasta kõigile küsimustele ning küsimuste korral võid julgelt minu poole pöörduda.

Ei ole üldse nõus	Olen mingil määral nõus	Ei oska öelda	Olen peaaegu täiesti nõus	Täiesti nõus		
1	2	3	4	5	6	7

Palun hinda, mil määral oled nõus järgnevate väidetega, miks Sa käesoleval ajal tegeled võrkpalliga.	Ei ole üldse nõus							Täiesti nõus						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Mulle pakub naudingut võimalus veel rohkem õppida võrkpalli kohta.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
On väga huvitav teada, kuidas ma saan oma võrkpalli mängimisoskust täiustada.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Varem olid mul head põhjused spordiga tegelemiseks, kuid nüüd küsin endalt kas peaksin jätkama.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
See on üks parimaid viise, mille ma olen valinud, et arendada enda erinevaid külgi.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Inimesed, kellest ma hoolin, oleksid minu peale pahased, kui ma sellega ei tegeleks.	1	2	3	4	5	6	7		
Ma tunneksin ennast halvasti, kui ma ei tegeleks võrkpalli mängimisega.	1	2	3	4	5	6	7		
Ma tunnen ennast paremini, kui ma sellega tegelen.	1	2	3	4	5	6	7		
Ma leian, et on nauditav leida uusi mängimise strateegiaid.	1	2	3	4	5	6	7		
Mul on tunne, et ma ei tea enam, kas ma olen võimeline sellel alal edu saavutama.	1	2	3	4	5	6	7		
Mind ümbritsevad inimesed tunnustavad mind, kui ma sellega tegelen.	1	2	3	4	5	6	7		
Ma olen valinud selle spordiala, kui ühe võimalusena ennast edasi arendada.	1	2	3	4	5	6	7		
Ma ei saa tegelikult ise ka aru, kas mu koht on spordis.	1	2	3	4	5	6	7		
Ma ei tunne ennast küllalt väärtuslikuna, kui ma sellega ei tegele.	1	2	3	4	5	6	7		
Ma arvan, et teised inimesed ei kiidaks heaks, kui ma ei tegeleks sellega.	1	2	3	4	5	6	7		
Ma leian, et see on hea võimalus arendada minus neid külgi, mida ma hindan.	1	2	3	4	5	6	7		
<b>Palun hinda, mil määral oled nõus järgnevate väidetega oma tunnetest ja mõtetest, kui osaled võrkpalli treeningutel ja mängudel.</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;"><b>Ei ole üldse nõus</b></td> <td style="width: 50%; text-align: center;"><b>Täiesti nõus</b></td> </tr> </table>							<b>Ei ole üldse nõus</b>	<b>Täiesti nõus</b>
<b>Ei ole üldse nõus</b>	<b>Täiesti nõus</b>								
Ma tunnen, et mind takistatakse treeningutel oma valikute tegemises.	1	2	3	4	5	6	7		
Ma tunnen, et mind sunnitakse teatud viisil käituma.	1	2	3	4	5	6	7		
Ma tunnen end ümbritsevate inimeste poolt tõrjutuna.	1	2	3	4	5	6	7		
Esineb olukordi, kus mind pannakse tundma võimetuna.	1	2	3	4	5	6	7		
Ma tunnen, et mind ei tunnustata teiste poolt.	1	2	3	4	5	6	7		
Ma tunnen, et ma olen kohustatud treeningul järgima minu eest tehtud otsuseid.	1	2	3	4	5	6	7		
Ma tunnen, et ma ei meeldi teistele inimestele.	1	2	3	4	5	6	7		
Vahel on mulle öeldud asju, mis panevad mind tundma mitte osavana.	1	2	3	4	5	6	7		

Ma tunnen, et ma olen survestatud nõustuma mulle ette antud treeningprogrammiga.	1	2	3	4	5	6	7
Esineb juhtumeid, kus mind pannakse tundma mitte osavana.	1	2	3	4	5	6	7
Ma tunnen, et teised inimesed on minu peale kadedad, kui ma saavutan edu.	1	2	3	4	5	6	7
Ma tunnen end mitte osavana, kuna mulle ei ole antud võimalust oma võimeid maksimaalselt ära kasutada.	1	2	3	4	5	6	7
Ma tunnen, et ma olen survestatud nõustuma mulle ette antud treeningrežiimiga.	1	2	3	4	5	6	7
<b>Palun hinda, mil määral oled nõus järgnevate väidetega, kuidas Sina tajud oma praeguse võrkpalli treeneri käitumist.</b>							
<b>Minu treener...</b>	<b>Ei ole</b>			<b>Täiesti</b>			
	<b>üldse nõus</b>			<b>nõus</b>			
... üritab mind motiveerida lubades mind hea soorituse korral premeerida.	1	2	3	4	5	6	7
... kiidab mind vaid sellepärast, et mind rohkem pingutama panna.	1	2	3	4	5	6	7
... ei ole minuga nii sõbralik kui ma ei ürita näha asju tema moodi.	1	2	3	4	5	6	7
... eeldab, et kogu minu elu keerleb antud spordiala ümber.	1	2	3	4	5	6	7
... karjub minu peale teiste ees, et ma teeksin tema poolt ette antud kindlaid ülesandeid.	1	2	3	4	5	6	7
... ähvardab mind karistada, kui ma ei harjuta treeningul täpselt ette antud kindlal viisil.	1	2	3	4	5	6	7
... kiidab mind vaid seetõttu, et ma keskenduksin treeningul antud ülesandele.	1	2	3	4	5	6	7
... üritab kontrollida seda, mida ma oma vabal ajal teen.	1	2	3	4	5	6	7
... paneb mind hirmutades tegema asju, mida tema tahab.	1	2	3	4	5	6	7
... toetab mind vähem kui ma ebaõnnestun või teen halva soorituse treeningul ja võistlustel.	1	2	3	4	5	6	7
... püüab sekkuda minu tegemistesse lisaks spordile ka muudes valdkondades.	1	2	3	4	5	6	7
... alandab mind teiste ees, kui ma ei tee neid asju, mida tema tahab.	1	2	3	4	5	6	7
... pöörab mulle vähem tähelepanu kui ma olen teda pahandanud.	1	2	3	4	5	6	7

... kiidab mind ainult selleks, et ma teeksin ära treeningul kõik tema antud ülesanded.	1	2	3	4	5	6	7
... arvestab minuga vähem kui ma olen talle pettumuse valmistanud.	1	2	3	4	5	6	7

Selleks, et Sinu vastused käesolevale küsimustikule oleks hiljem võimalik kõrvutada teiste antud uurimuse käigus täidetud küsimustike vastustega, siis palun kirjuta enda kohta järgmine informatsioon.

Võistkonna nimi: \_\_\_\_\_

Treeneri(te) sugu: Naine  Mees  Mees ja naine  (tee mäрге kasti)

Vanuseklass: U-16  U-20  (tee mäрге kasti)

Teie sünnikuupäev: Päev \_\_\_\_\_ Kuu \_\_\_\_\_ Aasta \_\_\_\_\_

Ema nime kolm esitähte: \_\_ \_ \_

**Palun vaata üle, et täitsid ikka kõik küsimused ära.**

**Aitäh!**

## **APPENDIX 2. Lihtlitsents lõputöö reprodutseerimiseks ja lõputöö üldsusele kättesaadavaks tegemiseks**

Mina Kaisa Karjane (*autori nimi*)

(sünnikuupäev: 19.02.1992)

1. annan Tartu Ülikoolile tasuta loa (lihtlitsentsi) enda loodud teose

Controlling coaches' behaviour, psychological need thwarting, motivation and results of the U-16 and U-20 girls volleyball competitions (*lõputöö pealkiri*),

mille juhendaja on Vello Hein (*juhendaja nimi*),

1.1. reprodutseerimiseks säilitamise ja üldsusele kättesaadavaks tegemise eesmärgil, sealhulgas digitaalarhiivi DSpace-is lisamise eesmärgil kuni autoriõiguse kehtivuse tähtaja lõppemiseni;

1.2. üldsusele kättesaadavaks tegemiseks Tartu Ülikooli veebikeskkonna kaudu, sealhulgas digitaalarhiivi DSpace'i kaudu kuni autoriõiguse kehtivuse tähtaja lõppemiseni.

2. olen teadlik, et punktis 1 nimetatud õigused jäävad alles ka autorile.

3. kinnitan, et lihtlitsentsi andmisega ei rikuta teiste isikute intellektuaalomandi ega isikuandmete kaitse seadusest tulenevaid õigusi.

Tartus/Tallinnas/Narvas/Pärnus/Viljandis, 16.05.2016 (*kuupäev*)