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Christoph Rottensteiner

Young Finnish Athletes' Participation in Organized Team Sports

JYVÄSKYLÄN YLIOPISTO

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“Wer fertig ist, dem ist nichts recht zu machen, ein Werdender wird immer dankbar sein.“

Johann Wolfgang von Goethe

ABSTRACT

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The purpose of the present dissertation is to extend our understanding of young athletes' sport participation process from a psychosocial perspective by examining the reasons why young athletes persist in or withdraw from sport, and how the coach–athlete relationship and motivational aspects influence their participation behaviour in organized sport. The problem setting was based upon achievement goal theory, and self-determination theory. The analyses of this study were based on two data sets, including 2,014 and 2,243 young Finnish football, ice hockey and basketball players, aged 15 to 16 years. Participants responded to a multi–sectional questionnaire incorporating the Finnish versions of the Questionnaire of Reasons for Attrition, the Coach–Athlete Relationship Questionnaire, the Perceived Motivational Climate in Sport Questionnaire, the Sport Motivation Scale, the Perceived Physical Competence Scale, Enjoyment Scale, and the Perception of Success Questionnaire. Confirmatory factor analyses and Cronbach's alpha coefficients determined all scales in the survey to be psychometrically sound. With respect to withdrawal from organized sport, the results indicated that "having other things to do" and a decline in excitement were the most important reasons for withdrawal. Withdrawn players also reported lower scores than persistent players did in the coach–athlete relationship, task-climate, intrinsic motivation, task- and ego orientation, and perceived competence. Young athletes' profiles with high coach–athlete relationship and task climate, and moderate ego climate, as well profiles with high autonomous and controlled motivation, appeared to be the most beneficial from the perspective of sport persistence. The model of this dissertation also highlighted how young athletes' goal orientation and perceived competence predict different degrees of relative autonomous motivation and persistence in organized youth sport. The findings reinforce the necessity for sports practitioners to support and encourage young athletes' achievement goals, foster coach–athlete relationships, autonomous and controlled motivation as well as to enhance young athletes' perception of competence in order to keep them motivated to sustain participation in organized sport settings.

Keywords: youth sport, dropout, coaching, achievement goals, motivation

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Jyväskylä, 2015

Christoph Rottensteiner

FIGURES

TABLES

LIST OF ORIGINAL PUBLICATIONS

This dissertation is based on the following original publications, which will be referred to in the text by their Roman numerals I–IV. In addition, some previously unpublished results are included in the dissertation.

I Rottensteiner, C., Laakso, L., Pihlaja T., Konttinen, N. 2013. Personal reasons for withdrawal from team sports and the influence of significant others among youth athletes. *International Journal of Sport Science and Coaching*, 8, 19-32.

II Rottensteiner, C., Laakso, L., Konttinen, N. 2015. Sustained participation in youth sports related to coach-athlete relationship and coach-created motivational climate. *International Sport Coaching Journal*, 2, 29-38.

III Rottensteiner, C., Happonen, L., Konttinen, N. 2015. The interplay of autonomous and controlled motivation in youth team sports. *International Journal of Sport Psychology*, 46, 225-243.

IV Rottensteiner, C., Tolvanen , A., Laakso L., Konttinen, N. 2015. Youth athletes' motivation, perceived competence and persistence in organized team sports. *Journal of Sport Behavior*, 38(4), 1-18.

LIST OF ABBREVIATIONS

AGT	Achievement goal theory
ANOVA	Analysis of variance
CART-Q	Coach–Athlete Relationship Questionnaire
CFA	Confirmatory factor analysis
CFI	Comparative fit index
df	Degrees of freedom
DMSP	Developmental Model of Sport Participation
ES	Enjoyment Scale
HMIEM	Hierarchical Model of Intrinsic and Extrinsic Motivation
KIHU	Kilpa- ja huippu-urheilun tutkimuskeskus
KMO	Kaiser-Meyer-Olkin
M	Mean
MANOVA	Multivariate analyses of variance
MLR	Maximum likelihood
p	*p* value
PCA	Principal component analysis
POSQ	Perception of Success Questionnaire
PMCSQ	Perceived motivational climate in sport questionnaire
PPCS	Perceived Physical Competence Scale
QRA	Questionnaire of Reasons for Attrition
RAI	Relative autonomous index
RMSEA	Root mean square error of approximation
SD	Standard deviation
SDT	Self-determination theory
SEM	Structural equation modelling
SMS	Sport Motivation Scale
SRMR	Standardized root mean square residual
TLI	Tucker-Lewis index

CONTENTS

1 INTRODUCTION

It has been widely reported that participation in youth sport in childhood and adolescence is an important predictor of physical activity in adulthood (Barnekow-Bergkvist et al. 1998, Curtis, McTeer & White 1999, Tammelin et al. 2003, Malina 1996). In particular, the participation in organized youth sport in which young athletes develop skills and take part in competition has been shown to be crucial factor in adult physical activity (Curtis, McTeer & White 1999, Telama et al. 1997). In the last decade, empirical research has shown an increasing interest in understanding youth enthusiasm towards participation in organized sport (Fraser-Thomas, Côté & Deakin 2005, Butt et al. 2011, Jõesaar, Hein & Hagger 2012).

Despite all the benefits that sports clubs can offer, such as enhancement of health and well-being (Fraser-Thomas, Côté & Deakin 2005), empirical evidence shows a marked decline in participation in organized sport, in particular during adolescent years (Konttinen et al. 2013, Aira et al. 2013, Petlichkoff 1996). According to Armentrout and Kamphoff (2011), every year more than one-third of young athletes withdraw from organized youth sport. In Konttinen et al. (2013) more than 75% of young athletes discontinue their participation in track and field sports during their adolescent years. Taking these numbers into consideration, it is of the utmost importance to extend our evidence-based knowledge of the potential determinants that may influence children's and adolescents' participation behaviour in sport and exercise settings.

Research has revealed that the major motives for young athletes' withdrawal from organized sport include issues such as "conflict of interest", "lack of fun" and "interest in other activities" (Weiss & Williams 2004, Molinero et al. 2006, Molinero et al. 2009). It has also been suggested that more than 30% of all children and adolescents who withdraw from organized sport are influenced by the coach (Armentrout & Kamphoff 2011). It appears then that there are different reasons for withdrawal among young athletes, and the quality and quantity of coaching seems to be one of the crucial determinants (Lindner, Johns & Butcher 1991, Butcher, Lindner & Johns 2002). However, to the best of our knowledge, there are no prior studies which have classified withdrawal reasons

into interrelated components. This type of classification could be informative and useful for coaches and policy makers to better understand the phenomenon of sport termination among youth. Furthermore, the examination of the coach–athlete relationship and the coach-created climate among teams might provide details on athletes' behaviour in organized sport settings.

It has been argued that investigations describing motivational factors have the potential to provide additional insights into young athletes' participation behaviour in sport (Roberts 2001, Vallerand 2007, Jaakkola 2002). This is understandable because motivation is closely related to issues such as enjoyment, persistence, and success, all of which play important roles throughout an athlete's career in sport (Jõesaar, Hein & Hagger 2011, Liukkonen 1998). Two theories, namely achievement goal theory (AGT, Nicholls 1989) and self-determination theory (SDT, Deci & Ryan 1985) have been indicated as helpful and fruitful theoretical frameworks for studying young athletes' motivation (Roberts 2001). According to AGT, individuals interpret the subjective meaning of success in two ways, which correspond to two primary achievement goals, namely, task and ego goals. A person adopting a task goal focuses on developing competence or gaining mastery of a task, while a person adopting an ego goal tends to define success and construe competence in normative terms, such as winning and outperforming others. SDT is an organismic view of motivation, which takes into account the interaction between a person and the environment (Deci & Ryan 1985, Deci & Ryan 2000, Ryan & Deci 2002). According to SDT, motivation is divided into intrinsic motivation, extrinsic motivation, and amotivation. These different types of motivation can be placed along a self-determination continuum, where the level of autonomy decreases when moving from intrinsic motivation to amotivation.

Both theories have been useful in acquiring a deeper understanding of achievement behaviour and motivation and the related antecedents and consequences of individuals. Furthermore, they have also produced guidelines for various applications and interventions. However, although both theories have been applied in numerous studies, only a few studies have applied those theories to examine crucial determinants for participation in or withdrawal from organized youth sport settings (Sarrazin et al. 2002, Jõesaar, Hein & Hagger 2011). Based on AGT and SDT, it remains unclear what the crucial determinants are for young athletes to sustain participation in or withdraw from organized sport, and how these determinants interact together. In addition, there are only a few studies in the contexts of youth sport which have focused on exploring different motivational profiles that could explain young athletes' sport behaviour (Wang & Biddle 2001, Vlachopoulos, Karageorghis & Terry 2000). It has been suggested that the exploration of the different motivational profiles and path models of AGT and SDT could enrich the youth sport literature (Hodge & Petlichkoff 2000, Ntoumanis 2001). It seems that in Finland no prior investigations have been conducted which would have followed young athletes' achievement goals and self-determined motivation in organized youth sport. Because of this gap, it becomes important to examine in the context of Finnish

organized sport, young athletes' achievement motivation and self-determined forms of motivation.

The present dissertation is comprised of four studies. The dissertation was designed to gain thorough knowledge of how to encourage as well as how to enhance youth sport participation in Finland, and thus, to create the foundation for excellence and lifelong engagement in physical activity. The aim of the dissertation was to learn more about the phenomenon of youth sport participation by (a) examining reasons why young athletes persist in or withdraw from sport (b) identifying naturally occurring profiles of the coach–athlete relationship and motivation that exist within the contexts of youth team sports, and (c) generating a new model of factors influencing young athletes' participation behaviour process in organized sport that can guide further investigations. The uniqueness of the dissertation lies in the investigation of the same age cohort of youth Finnish football, ice hockey and basketball players who represent teams of different levels across the whole Finland. The dissertation presents current data of sport participation among Finnish youth team athletes from various skill levels, and demonstrates the validity and reliability of the instruments applied. In addition, the present dissertation provides findings for the development of practical tools to be applied by coaches and sports clubs in order to reduce the withdrawal rate in organized youth sport. The findings have the potential to extend the earlier literature on youth sport participation and to provide researchers, sports clubs and coaches with additional insights into young athletes' sport participation process.

2 LITERATURE REVIEW

2.1 Participation in organized youth sports

Participation in youth sport has come to the centre of general attention in the recent decades. Youth enthusiasm towards participation in sport is a widely known phenomenon. The participation provides children and adolescents with many opportunities to spend their leisure time in productive ways. The understanding and promotion of participation in sport among young athletes has therefore attracted a great deal of research attention in recent years. There is a large volume of published studies describing physical and psychological benefits of youth participation in sport, specifically in organized sport settings. For example, it has been shown that young people's regular engagement in organized sporting activities leads to better physical and psychological well-being (Fraser-Thomas, Côté & Deakin 2005). Children and adolescents can increase their physical activity, develop physical and social skills, and learn important life skills such as cooperation, discipline, fair play, leadership and self-control (Allender, Cowburn & Foster 2006, Fraser-Thomas, Côté & Deakin 2005). Moreover, it appears that joining organized sport at an early age, and continuing sporting activities through adolescence may increase the likelihood for a physically active lifestyle later in adulthood (Kjønniksen, Anderssen & Wold 2009, Telama et al. 2006), which is associated with well-being and health. Another example related to health benefits of youth sport participation comes from Taliaferro, Rienzo and Donovan (2010). They reported that participation in organized youth sport during adolescence is associated with lower likelihood of smoking and better nutritional practices.

The reasons why children or adolescents participate in organized sport are manifold. Some children participate for enjoyment, fun, a desire to be part of a team or to be with friends, whereas others participate for external reasons, such as social recognition and parental pressure (Allen 2003, Weiss & Amorose 2008). However, there may be other motives as well, such as attractive financial benefits. These external reasons can often be strong motivators for the goals that a

youngster has in mind (Wiersma 2000). Consequently, there is an increasing tendency to push youngsters into the pathway of early sport specialization and make them achieve expertise in one sport domain (Malina 2010b, White & Oatman 2009, Wiersma 2000). It has also been observed that the increasing attractiveness and popularity of spectator sports has turned youth sport into a business factor with growth potential. Another motivator for youth to participate in organized sport can be role models, who can be extremely important and influential in young peoples' development (Weiss & Williams 2004, Martin 1997). The role models of the sport world often represent an ideal for youngsters and motivate them on a personal level. However, motives such as becoming famous or achieving higher social status are questionable.

In order to create a lifelong impact on an individual's physical activity pattern, it has been recommended to encourage children and adolescents to participate in organized sport programmes by focusing mainly on enjoyment and fun (Weiss & Williams 2004). To avoid negative outcomes from sport participation – such as burnout, violence, or eating disorders among young athletes – achieving elite status should always be set as a secondary goal (Anshel 2004, Law, Côté & Ericsson 2007, Wiersma 2000). In addition, Wankel and Mummery (1990) reported that, from a psychosocial perspective, sometimes youth feel too much pressure to win, perceive themselves as having poor skills, or feel like they do not belong on their teams. Often these negative realities in youth sport settings may lead young people to experience low self-esteem and low self-confidence. One of the key issues for sports practitioners and researchers is that youth sport participation should lead to positive outcomes (i.e., physical and psychological development and lifelong sport participation), rather than negative outcomes (e.g. anxiety, pressure; Fraser-Thomas & Côté 2009). Fraser-Thomas et al. (2005) model of positive youth development highlights the key tasks of sport organizations in planning programmes that develop young athletes' healthiness and psychosocial competence. The model describes the critical role of coaches and parents, and it highlights the important role of policymakers in ensuring accessibility to sports clubs for all youth, regardless of their financial situation, gender and nationality.

The growth and popularity of professional sports in our society has been one reason why research has focused more deeply on how different sport programmes develop young athletes. One model that has been frequently citied in the development of youth sport programmes is the Development Model of Youth Sport Participation, or DMSP (Côté, Baker & Abernethy 2007, Bruner et al. 2010). The DMSP (see Figure 1) provides a sophisticated framework that can account for the different pathways of involvement in youth sport. It highlights that the different stages within each pathway are based on changes in the amount of involvement in sport, play and practice, while the choice of a specific pathway is associated with unique activities, transitions and outcomes. According to the DMSP, athletes pass through three stages of sport development: sampling (6–12 years), specializing (13–15 years), and investment (16+ years). Especially in organized youth sport, there are two paths: elite performance through

sampling and through early specialization – that are indicators of youth development progress (Strachan, Côté & Deakin 2010). In these two stages young people in general decide to invest more time in sport, decrease their interest or withdraw (Côté, Baker & Abernethy 2007).

The path through early specialization is characterized by focusing on one sport from the beginning of young athletes' sport engagement. In this path, young athletes are usually motivated by the goal of improving performance and not inherent enjoyment (Côté, Baker & Abernethy 2007). The pathway of deliberate practice has been shown to be successful in music and some sport domains (Ericsson, Krampe & Tesch-Roemer 1993). However, Côté et al. (2009) argue that the functions of deliberate practice and playful activities change with the age of young children. They further suggest that deliberate practice is usually defined as being extrinsically motivated, whereas deliberate play is usually intrinsically motivated. In the sporting context, previous studies have shown that intrinsic motivation can have a positive effect on young athletes' overall motivation and willingness to persist in organized sport (Sarrazin et al. 2002, Jõesaar, Hein & Hagger 2011). According to Côté (1999), children should be given an opportunity to develop a foundation of fundamental movement skills by sampling a range of sports. The participation in a variety of sports may allow children to experience various physical, cognitive, and psychosocial environments which provide children with the foundation required to specialize in one sport during adolescence (Balyi & Hamilton 2004, MacPhail et al. 2010).

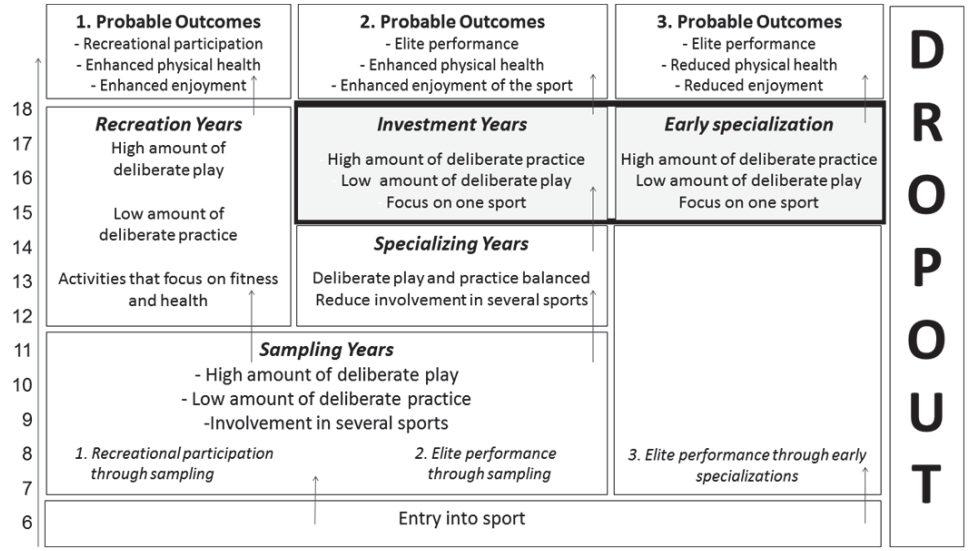

FIGURE 1 Developmental Model of Sport Participation (Côté, Baker & Abernethy 2007).

2.1.1 Sport Participation in Finland

Over the last three decades in Finland, participation in organized youth sport has significantly increased among both genders, but in particular among girls (Laakso et al. 2008). According to Vuori (2007), organized sport activities reach almost half of the youth in Finland. Children and adolescents involved in organized sport thus represent a significant subpopulation in Finnish physical culture and sport. The national survey reported that there are more than 400,000 children and adolescents between the ages of 3 and 18 years who are members of local sports clubs (Kansallinen liikuntatutkimus 2010). Therefore, the approximately 9,000 sports clubs that arrange sport and exercise for both participation- and performance-oriented children and adolescents play a significant role in youth development (Mäenpää & Korkatti 2012, Aarresola & Konttinen 2012). The sports clubs are not just major agents in the domain of sport and exercise, but they also constitute the main operational environment for different sporting activities, and promote a physically active lifestyle throughout the whole sports participation pathway among young athletes. Sports clubs represents the largest organizers of leisure time activities for children and adolescents in Finland.

Historically, the Finnish sports system has been based on the Nordic Sports Movement Model, where access to sport for all has been prioritized above that of elite sport development (Green & Collins 2008). In all Nordic countries children and youth sport has been a priority domain of national sport policy (Støckel et al. 2010). In the early 1990s, Finnish sport shifted towards a more open and fragmented system. In 2010, the Finnish sports system consisted of an umbrella organization, the Finnish Sports Federation, three domain organizations, 76 national sport federations and 38 other national level sports and physical activity organizations (Kokko 2010). Within this umbrella organization, all aspects of sports – such as mass and elite, old and young, professional and amateurs – were affiliated. The three domain organizations were responsible for youth sport, sport for all and elite sport. It should be noted that these domains had significant autonomy to carry out their own mission in sports (Mäkinen 2012).

Finnish sports clubs are able to arrange sporting and exercise activities for both participation- and performance-oriented children and adolescents (Koski 2009, Mäenpää & Korkatti 2012). In other words, the local sports clubs decide if they conduct their activities for competitive or recreational purpose. Most of the Finnish sports clubs are voluntary, driven by civic-activity and non-profit (Kokko, 2010). The participation rate varies between the different age groups and gender. Vuori et al. (2007) have reported that almost 60% of 11-year-old children, and slightly less than 40% of 15-year-old boys and girls, participate in organized club activities in Finland. Given that Finnish children begin their sport participation pathway as early as at the age of 6 years (Mäenpää & Korkatti 2012, Aarresola & Konttinen 2012), sports clubs in Finland are more than just major agents in the domain of sport and exercise, but they also play a sig-

nificant role, along with families and schools in constituting the main operational environment for different sporting activities and promoting a physically active and healthy lifestyle. It has also been shown that gender differences in leisure time physical activity are smaller in Finland than in most other countries (Telama & Yang 2000). Laakso et al. (2008) found that, over the last three decades in Finland, participation in organized sports has increased more among girls than it ha among boys.

2.2 Withdrawal from organized youth sport

The increase in sports participation, however, also entails that the percentage of withdrawal from organized youth sports has also increased (Duncan et al. 2007, Konttinen et al. 2013). It has been stated that every year more than one-third of young athletes withdraw from youth sport (Weiss & Ferrer-Caja 2002). During adolecents, in particular, the withdrawal rate from organized sport appears to be high (Petlichkoff 1996, Konttinen et al. 2013). Konttinen et al. (2013) reported that more than 55% of Finnish female and male track and field athletes from the same age group discontinued their participation between the ages of 15 and 16 years. Aira et al. (2013) had similar findings, showing that at the age of 15 years there is an extreme decline in physical activity among adolescents compared with those between the ages of 11 and 13 years. The high number of withdrawn athletes has been one of the major reasons why research has shown an increasing interest in understanding withdrawal from youth sport in the last decades.

The dropout phenomenon was first explored by Orlick (1974) already in the early 1970s. Subsequently, this phenomenon has been framed by a number of approaches. Most often, studies have highlighted descriptive factors that may influence young athletes' withdrawal from sport (Butcher, Lindner & Johns 2002, Molinero et al. 2006, Molinero et al. 2009). Studies have argued that reasons for withdrawal include issues such as conflict of interest and interest in other activities. Other common reasons for withdrawal have been identified as being related to boredom, negative experience with a coach, lack of enjoyment and skill, lack of peers and team spirit, early specialization, playing time, and negative family influences (Lindner, Johns & Butcher 1991, Butcher, Lindner & Johns 2002, Molinero et al. 2009, Siesmaa, Blitvich & Finch 2011). It is somehow surprising that although the dropout literature reaches back through four decades, relatively little research has been done on the personal reasons for withdrawal from organized sport among youth athletes.

Augustini and Trabal (1999) have used a theoretical approach to uncover predictors associated with youth sport withdrawal. They divided withdrawal reasons among boxers into interrelated factors, namely, the difference between a participant's expectations and the reality of the sport, the quality of the relationship between training partners, the coaching standards, and the organizational quality of clubs. While this classification of withdrawal reasons may be a

useful tool to identify patterns or trends within the withdrawal phenomenon, it may also limit researchers and policymakers in their investigations concerning withdrawal from sports. There may exist withdrawal reasons reported by young athletes that do not fit into any of those four factors. It can be assumed that it might be better to focus instead on the athletes by identifying the withdrawn athletes and then pay more attention to their individual reasons for withdrawal. This is particularly needed when considering young athletes who have competed at a high level or have had more years of involvement in sports, because they may have other reasons for withdrawal than do athletes who competed at a low level or had fewer years of involvement in sports.

In addition to the general withdrawal reasons mentioned in the literature, Eystein (2011) reported that the frequency of injuries and stagnation in performance were the main withdrawal reasons among promising young track and field athletes. Another example comes from Figueiredo et al. (2009). They found that persistent players were older both chronologically and skeletally, larger in body size, and performed better in functional capacity and sport-specific skill tests than withdrawn players. However, these findings should not be used to conclude that being smaller and weaker in sport increases the likelihood to withdraw. It should rather give researchers, coaches and policymakers the notion that consideration should also be given to the nature of different sports when evaluating reasons for withdrawal. For example, in gymnastics performance often favours petite body sizes, while a larger, stronger body size would be more desirable in basketball.

In addition to external and internal factors related to withdrawal from youth sport, it also seems to be beneficial to evaluate different types of withdrawn athletes. Lindner et al. (1991) have developed a model for the description of withdrawal types on the basis of earlier studies. In their classification, withdrawn athletes are categorized into four types based on their involvement in sport, the amount of time spent in training, and the level of their competitions. The first type consisted of sampler athletes who go from sport to sport without ever being seriously involved in any particular sport. The second type comprised low-level athletes who have participated on a recreational level. The third type consisted of high-level athletes who had terminated their participation in sports. The fourth type included elite-level participants. Butcher et al. (2002) reported significant differences in withdrawal reasons among these four withdrawn types. They also showed that the majority of withdrawn athletes did not permanently withdraw from sport. Some continued in another sport at the time of withdrawal or started with a new sport, and some of the withdrawn athletes later rejoined the same sport. However, this may not always be the case, as Armentrout and Kamphoff (2011), for example, have argued young athletes who withdraw from youth sport are not likely to return.

In the same study, Armentrout and Kamphoff considered that approximately one-third of all youth athletes who withdraw from youth sports are influenced by the coach. Gearity and Murry (2011) suggested that this may be due to negative aspects of coaching behaviour, including issues such as excessive

control, negative feedback, and the creation of negative self-images related to the negative reinforcement from the coach. Nevertheless, past research has focused strongly on the influence of coaching behaviours and styles on an athlete's performance outcomes, and less on the influences of coaching behaviour in withdrawal from youth sports. A study by Fraser-Thomas et al. (2008a) noted differences in the perception of coaching between withdrawn and engaged athletes. Withdrawn athletes viewed their coaches as less motivating and supportive, and more controlling and autocratic compared to those athletes who continued their participation in organized sport. Fröhlich and Würth (2003) and Pelletier et al. (2001) reported similar results, showing that the withdrawn athletes did not experience democratic behaviour or receive constructive instructions, positive feedback or social support as often as those athletes who continued. Weinberg and Gould (2003) argue that the scheduling of the season, normally planned by coaches or policy-makers, can also be one reason why young athletes terminate their participation. It may be that some coaches believe that the best way to produce superior young athletes is to have them play only one sport and to play virtually year round. However, previous studies have reported many costs of year-round training including social isolation, overdependence, withdrawal/burnout, and higher risk of overuse injury (Malina 2010a, Seto, Statuta & Solari 2010).

In addition to coaches, parents or peers may also negatively influence young athletes' sports experiences (Fraser-Thomas & Côté 2009). Parental overinvolvement, pressure, criticism, false expectations, and low amount of physical and social support have been associated with sport withdrawal (Gould et al. 1996). Ulrich-French and Smith (2009) revealed that football players who indicated a higher peer acceptance and a higher parental relationship displayed lower stress levels, higher enjoyment, and higher perceived competence in youth sports than other athletes did. It seems that the way parents or peers engage in sport settings may have important implications for sustained participation in youth sport. To achieve better insight into the topic of withdrawal from youth sport, it might be useful to subdivide parents into the mother and father roles. Furthermore, the definition of peers also appears, within the context of sport withdrawal, to be too general because, particularly during adolescence, young people may start to divide peers more into real friends, teammates or acquaintances.

Based on earlier empirical research, it can be stated that many factors affect young athletes' decisions to continue or discontinue their participation in organized youth sport, and various approaches have been applied to frame this phenomenon. It seems to be useful to integrate these diverse findings into a general model that describes and promotes a better understanding of young athletes' sport participation process. Rottensteiner and Konttinen (2014) illustrated a general model that reveals interrelated factors that can lead to withdrawal from organized sport (Figure 2). The aim of this model is to organize and summarize the existing findings from the dropout literature. The highlight-

ed grey boxes provide readers with more understanding of the perspective from which the current research has been conducted.

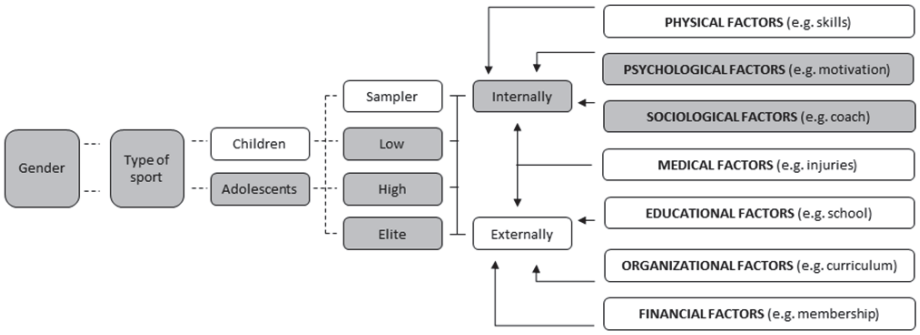

FIGURE 2 A general model of youth sport withdrawal (Rottensteiner & Konttinen 2014).

2.3 Coach–athlete relationship

It has been stated that in the development paths of young athletes, the interaction with to the coach plays an especially important role for the continuing career of a young athlete (Lafrenière et al. 2011, Jowett & Poczwardowski 2007). Previous studies have shown that negative aspects of coach behaviour, including excessive control, negative feedback, and the creation of negative self-images due to the negative reinforcement can have a strong influence on young athletes' participation behaviour (Gearity & Murray 2011, Fröhlich & Würth 2003).

The integrated model of the coach–athlete relationship describes athletes' and coaches' thoughts, emotions, and behaviour on the basis of closeness, commitment, complementarity and co-orientation (Jowett & Poczwardowski 2007). Closeness describes the affective meaning that the athlete and coach ascribe in their relationship. Commitment reflects athletes' and coaches' intentions to maintain their athletic relationship over time. Complementarity captures the affiliation motivation of interpersonal behaviours, and includes behavioural properties such as being responsive, friendly, at ease, and willing. Co-orientation includes athletes' and coaches' interpersonal perceptions and reflects the bidirectional nature of the relationship. According to the model, the closeness, commitment and complementarity ("3Cs") of coaches and athletes

can be assessed from a meta-perspective, a direct perspective, or both (Jowett 2006). The meta-perspective reflects the athletes' ability to accurately infer the coaches' 3Cs. In the present study, the direct perspective of the coach–athlete relationship was applied. The direct perspective aims at assessing an athlete's personal view of the relationship in terms of the 3Cs (Jowett & Ntoumanis 2004, Jowett 2009a, Jowett, Paull & Pensgaard 2005).

Over the last decade, a considerable amount of literature has provided support for the facilitative impacts of the integrated model of the coach–athlete realtionship (Felton & Jowett 2013, Jowett 2009a). With respect to the sport participation process, Barnett, Smoll and Smith (1992) for example, found that baseball players who played on teams whose coaches had participated in a preseason workshop designed to facilitate the coach–athlete interaction, enjoyed their sport more and exhibited lower withdrawal rate than the players who played for teams whose coaches had not participated in the workshop. Fraser-Thomas et al. (2008b) have noted that there are clear differences related to coach favouritism and one-on-one attention between dropout and engaged athletes. In their investigation, dropout athletes experienced that coaches more often ignore weaker swimmers compared to favourite swimmers. In addition, they perceived their coaches as less motivating and supportive and as more controlling and autocratic than persistence athletes did. Fraser-Thomas et al. (2008b) further stated that the relationship between athletes and the coach should always be equal and not dependent on the physical performance or mental power of the athlete.

In Olympiou, Jowett and Duda (2008), the psychological interface between the 3Cs and coach-created motivational climate was examined among team players from different age groups. They found that a perceived task-involved climate was associated with athletes' perceptions of feeling close, being committed, and interacting in a complementary fashion with their coach. In contrast, a perceived ego-involved climate was associated with athletes' view that the relationship lacks closeness, commitment and complementarity. In their model of the antecedents and consequences of leadership and the coach–athlete relationship, Olympiou et al. (2008) suggested that the quality of the coach–athlete relationship impacts young athletes' motivational patterns and affects important outcomes – such as enjoyment, satisfaction, and persistence – in organized sport. However, it should be noted that although the authors concluded that the coach-athlete relationship and the coach–created motivational climate can have implications for the athletes' participation behaviour in team sports, persistence and withdrawal from sport were not examined. A need exists, therefore, to fill this gap in the literature on sport participation.

2.3.1 Coach-created motivational climate

Based on achievement goal theory (AGT, Nicholls 1989), Ames (1992) introduced the term perceived motivational climate to capture an individual's view of the social psychological environment. Ames (1992) argued that the type of perceived motivational climate that is created by significant adults (e.g.

coaches, or teachers) can affect the behaviour and performance of an individual within any achievement context. With respect to youth sport, two types of perceived coach-created motivational climate have been identified (Duda & Balaguer 2007). Coaches may attempt to create a task-involved climate to encourage effort and improvement, while performance mistakes are considered as potential learning experiences. On the other hand, coaches who create an ego-involved climate promote normative standards regarding success and competence, and mistakes are followed by punitive feedback due to task failure and lack of ability.

Research has shown that a task-involved climate is related to fair play and social readiness in sport, as well as to utilization of effective learning and training strategies (Ommundsen & Roberts 1999, Papaioannou 1997). In Boiché and Sarrazin (2009), continuing youth athletes reported a better interpersonal relationship with their coach, and they showed higher scores regarding the coach-created task climate than withdrawn athletes. Similarly, LeBars, Gernigon and Ninot (2009) showed that persistent elite judokas perceived the role of coaches to be more task-involved than withdrawn athletes did. In addition, it has been found that there is a strong link between task-involved climates and leadership, task orientation, perceived competence, intrinsic motivation, and decreased boredom (Balaguer, Crespo & Duda 1996, Ntoumanis & Biddle 1999, Duda & Hall 2001, Duda 2001, Sarrazin et al. 2002).

An ego- involved climate has been associated with ego orientation, extrinsic motivation, and withdrawal from organized youth sport (Brunel 1999, Sarrazin et al. 2002). It has been also found that an ego-involved climate is linked to the pressure, anxiety, and tension young athletes' experience in sport, and to the belief that the aim of sport is to increase social attention as well as to the development of strategies for avoiding practice and deception (Ommundsen & Roberts 1999, Papaioannou 1997, Seifriz, Duda & Chi 1992).

According to Liukkonen (1998), significant others such as coaches, teammates, and parents play an important role in generating a motivational climate for a particular action. It becomes important to distinguish between the motivational climate created by the coach and, for example, the climate created by the teammates (Ntoumanis & Vazou 2005). It is well known that elements such as the standards and methods a coach uses, the basis of recognition and authority, or the ways a coach construes tasks have a strong influence on young athletes' perception of the motivational climate (Duda & Hall 2001, Duda 2001). The motivational climate may change from one moment to another, as the coach applies various strategies in his or her practices. This means also that the motivational climate is more open to influence through coaching behaviour than are for example, young athletes' goal orientation or perceived competence, which appear to be more stable. Smoll, Smith, Barnett and Everett (1993) showed that behaviour and the leadership style of the coach, which can be seen as general elements of the motivational climate, can be also developed by special training.

2.4 Motivation and sport participation

2.4.1 Intrinsic and extrinsic motivation

Self-determination theory (SDT, Deci & Ryan 1985) offers a theoretical approach to studying young athletes' intrinsic and extrinsic motivation in organized youth sport settings. SDT identifies three forms of motivation: intrinsic motivation, extrinsic motivation and amotivation. These three forms of motivation can be placed along a continuum of self-determination, where the level of autonomy decreases when moving from intrinsic motivation to amotivation. Intrinsically motivated activities are considered to be highly autonomous and self-determined. A person is intrinsically motivated when an activity is engaged in because of the pleasure and satisfaction derived from performing the activity. Extrinsic motivation exists when an activity is engaged in for some other reason than the activity itself. According to SDT, extrinsic motivation is divided into four forms, which differ in terms of behavioural regulation and the amount of autonomy. The most autonomous form of extrinsic motivation is integrated regulation: a person acts because of his or her own values and aims. The next form is called identified regulation: activity is considered to be important to a person as an instrument to achieve an external goal. The other two forms of extrinsic motivation represent controlled, rather than autonomous forms of motivation. In the case of introjected regulation, a person feels that he or she should perform an activity because of internal control (e.g. feelings of guilt or anxiety). Achievements motivated by external regulation are sought because of external control (e.g. rewards or punishments). The last form on the self-determination continuum is known as amotivation. Amotivation is a condition that prevails when a person does not have any autonomous reason for activity and feels neither intrinsic nor extrinsic motivation.

Various studies support Deci and Ryan's SDT, showing support for the view that young athletes' forms of motivation are in direct correlation to their well-being in organized youth sport settings (Calvo et al. 2010, Chantal et al. 1996, Boiché et al. 2008). Research employing SDT suggests that individuals who tend to be more intrinsically motivated and possess identified regulation toward their sport display more persistent sport behaviour than do individuals who reveal controlled forms of motivation (i.e. introjected and external regulation) (Sarrazin, Boiché & Pelletier 2007, Pelletier et al. 2001). In addition, it has been shown that athletes' perceived competence plays an important role in understanding athletes' self-determined forms of motivation. Ntoumanis (2001) showed that athletes' perception of competence positively predicted intrinsic and extrinsic types of motivation. It has also been stated that highly competent individuals persist longer in certain activities compared with individuals of low perceived competence (Harter 1978)

Vallerand (1997, 2001, 2007) has extended the concept of self-determination by developing a four-stage causal sequence model in which the different motivational types are influenced by social environmental factors that either support motivation or interfere with it. In hierarchical model of intrinsic and extrinsic motivation (HMIEM), motivation was designed to demonstrate the variety of how individuals' motivation is represented. The postulates of the model state that intrinsic motivation, extrinsic motivation and amotivation occur at three levels of generality (i.e. global, contextual, and situational). Motivation at the global level is a general motivational orientation. Motivation at the contextual level describes a person's typical motivational orientation in specific contexts. Motivation at the situational level describes the motivational orientation at the specific moment. According to HMIEM, the consequences of motivation can be affective, cognitive and behavioural. Based on Vallerand's (1997) review, it appears that in the sport and exercise settings, the most frequently studied affective outcomes are enjoyment, satisfaction and emotions. With respect to cognitive outcomes, the most frequently studied aspects have been concentration, attention, and memory. Persistence at the task, intensity, behavioural intentions and performance have been studied as behavioural outcomes.

In HMIEM, the outcomes are considered as increasingly positive from amotivation to intrinsic motivation (Vallerand 2001, 2007). This view has been supported by numerous studies. Accordingly, self-determined or autonomous forms of motivation (i.e. intrinsic motivation and integrated and identified regulation of extrinsic motivation) have been found to be positively related to enjoyment (Ntoumanis 2002, Vlachopoulos & Karageorghis 2005), achievements (Boiché et al. 2008), persistence (Pelletier, Fortier, Vallerand, & Briere, 2001), and perceived competence (Chian & Wang 2008). Non-self-determined or controlled forms of motivation (i.e. introjected and extrinsic regulation of extrinsic motivation) and amotivation have been found to result in negative consequences, such as dropout from sports (Calvo et al. 2010, Pelletier et al. 2001, Jimenez & Pain 2008). However, in contrast to SDT and HMIEM, previous literature has shown that high self-determined motivation together with high non-self-determined motivation may in some cases also lead to positive outcomes (Gillet, Vallerand & Rosnet 2009, Ullrich-French & Smith 2009, Vlachopoulos, Karageorghis & Terry 2000, Yli-Piipari et al. 2012).

It should also be noted that within SDT some studies have applied cluster analysis to combine different types of motivation and create specific profiles (Ullrich-French & Smith 2009, Boiché et al. 2008, Vlachopoulos, Karageorghis & Terry 2000). According to Hodge and Petlichkoff (2000) cluster analyses added new dimensions to research, making it is possible to study the dynamics between motivation profiles and, for example, the self-determination of young athletes. In a specific combination of intrinsic and extrinsic motivation, one form of motivation might be high, and the other form low (Vlachopoulos, Karageorghis & Terry 2000). It has been suggested that cluster analysis allows researchers and sports practitioners to specify how different forms of motivation proposed by SDT combine with each other (Vlachopoulos, Karageorghis & Ter-

ry 2000). Boiché (2008) found that motivational profiles of high self-determination, moderate self-determination and non-self-determination showed a clear relationship with individuals' results in physical education. Based on their findings, they postulated that a high self-determined profile is related to the highest achievement in sporting contexts.

2.4.2 Achievement goal perspective

Achievement motivation is based on the idea that athletes engage in achievement contexts for the primary purpose of demonstrating ability and being successful. However, how athletes understand ability and success in sport can vary from one person to another. Nicholls' (1984) achievement goal theory (AGT) applies two achievement goals, termed task orientation and ego orientation, to evaluate how young athletes perceive ability and success within the context of sports. Task orientation reflects the tendency to define success and construe one's ability in a manner that is self-focused and targets improvement and mastery. A task-oriented athlete believes that subjective success is evidenced through developing skills and improving personal performance. In contrast, ego orientation is the propensity to judge one's ability with respect to performance and to tie subjective success to the demonstration of superior ability. An ego-oriented athlete believes that ability is demonstrated through favourable normative comparisons within group competitions.

Based on AGT, previous research suggests that a task-oriented goal perspective can lead to more positive and adaptive achievement behaviours (e.g. persistence in sport), whereas an ego-oriented goal perspective is associated with more maladaptive motivational patterns (e.g. withdrawal from sport, Duda 1989, Cervelló, Escarti & Guzman 2007, Whitehead, Andrée & Lee 2004). In addition, it has been shown that young athletes' perceived competence plays an important role in understanding young athletes' motivational orientations and participation behaviour in sport. Cervello, Escarti and Guzman (2007) found that high ego orientation coupled with low perception of competence positively predict withdrawal from organized youth sport. Their findings also highlighted that significant others can have an influence on young athletes' achievement goals. Accordingly, athletes who perceived that their coaches or teammates emphasised task-oriented goals were more likely to adopt a task-oriented goal orientation. A similar type of behaviour was found in the case of ego orientation.

There are several previous studies that have identified empirical links between AGT and SDT (Standage, Duda & Ntoumanis 2003, Ntoumanis 2001, Brunel 1999, Chin, Khoo & Low 2012). These reports suggest that task orientation facilitates autonomous forms of motivation, whereas ego orientation is associated with controlled forms of motivation. Sarrazin et al. (2002) demonstrated that the impact of a coach-created task-involved climate on self-determined forms of motivation was mediated by female handball players' perceptions of the three basic psychological needs (i.e. autonomy, competence and relatedness). The more autonomous, competent and related the players felt, the more self-

determined their motivation toward their sport was. Conversely, the lower their self-determined motivation was, the higher the withdrawal rate from handball was. Jõesaar et al. (2011) reported similar findings, demonstrating that youth team-sport athletes' task-involved peer motivational climate indirectly influenced their intrinsic motivation and sustained participation behaviour in sport via the basic psychological needs. Alvarez, Balaguer, Castillo and Duda (2012) reported that the coach-created task-involved climate positively predicted young players' future intention to play football through autonomy, competence, relatedness and intrinsic motivation.

3 AIMS OF THE STUDY

Based on four studies, the purpose of this dissertation was to add our understanding of young athletes' participation process in organized youth sport from a psychosocial perspective. The main aims were to identify reasons why young athletes persist in or withdraw from team sports, and how young athletes' interaction with the coach and motivational aspects influence young athletes' participation in organized sports. Cross-sectional study designs were utilized to enable the examination of sustained participation and the associations between the factors of interest. In detail, the specific aims of the study were as follows:

1. To identify the main reasons for withdrawal from team sports and to examine the influence of significant others (i.e. coaches, parents, peers, and siblings) in the decision making concerning withdrawal from youth sports. (Study I)

2. To examine the associations of the coach–athlete relationship and perceived motivational climate, as well as the related issues, such as sport persistence, competition level, amount of training, length of partnership with the coach, and years of involvement in sport. (Study II)

3. To examine the interplay of young athletes' autonomous and controlled motivation, and their relations to perceived physical competence, amount of practice, and enjoyment among youth athletes, as well as to combine the tenets of achievement goal theory and self-determination theory to examine motivational antecedents to sustained participation in youth sports. (Study III and Study IV)

4 MATERIAL AND METHODS

4.1 Design and procedure

The present dissertation represents two data sets which were obtained from young football, ice hockey and basketball players in 2010 and 2011. The three team sports were selected, because football, ice hockey and basketball represent the most popular youth team sports in Finland (Kansallinen liikuntatutkimus 2010). Participants were selected on the basis of two inclusion criteria. First, all participants were born in 1995. Second, all participants had to possess a valid playing licence from their respective sport federation one year prior to the initial data collection in 2010. The playing licence provided information on an athlete's participation status. The information concerning the participants playing licence was obtained with the help of the national football, ice hockey and basketball federations.

At the time of the first data collection, in spring 2010, the federations reported that 9,970 young athletes, born in 1995, held a valid playing licence for one of the three team sports. All these players received a multisection questionnaire at the end of their playing season. The overall response rate to the questionnaire during the first data collection was 20%. The final sample comprised 2014 participants, including 563 girls and 1,451 boys, who competed in football, ice hockey, and basketball.

At the time of the second data collection, in spring 2011, the federations reported that 5,585 out of 9,970 young athletes had continued their sport, while 4385 young athletes had withdrawn from organized football, ice hockey or basketball. In the second data collection, all players received a multi-section questionnaire at the end of their playing season, independent of their participation status (i.e. "continued" or "discontinued"). The overall response rate to the questionnaire during for second data collection period was 23%. The final sample was 2,243, and included 758 girls and 1,485 boys. The data from 2011 comprised 1,695 players who had sustained their participation, and 548 players who had withdrawn from football, ice hockey or basketball within the past year. The

multisection questionnaires were sent in paper format directly to the participants. The envelope included a cover letter that provided the purpose of the study, instructions for completing the questionnaire, contact information and a stamped envelope for returning the questionnaire. In addition, the cover letter included information and instructions for participants on how to fill in an online version of the questionnaire instead of the paper version.

To avoid receiving socially unacceptable or dishonest answers, confidentiality procedures were carefully explained and guaranteed through a written specification of the respondents' level of confidentiality. In addition, participants were told that there would be no direct benefit to them for their participation. Participation was fully voluntary, and the participants were offered an option to withdraw from the study at any time without providing any reasoning for their decision. A reminder letter with a copy of the survey was sent to players who had not responded to the questionnaire by three weeks after the initial mailing. Figure 3 represents in chronological order, the period of data collection, the number of contacted players and the response rate to the questionnaires.

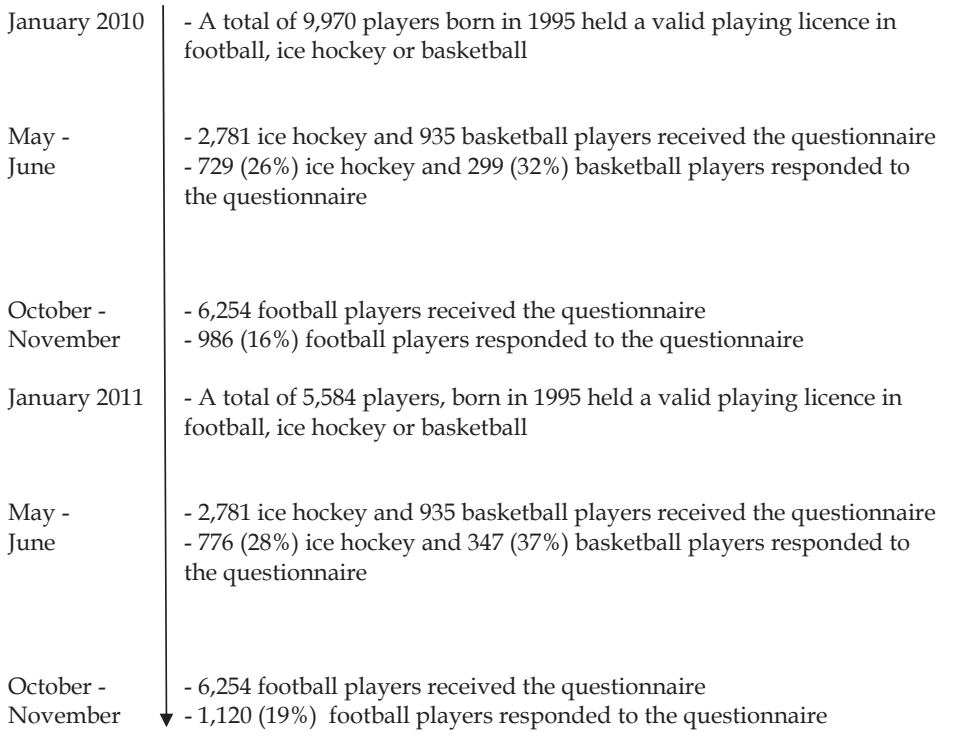

FIGURE 3 Time of data collection, number of contacted players and response rate to the questionnaires in chronological order.

4.2 Participant characteristics

Study I In the first study of this dissertation, the sample consisted of 535 youth athletes who had withdrawn from football (n = 397), ice hockey (n = 88) or basketball (n = 50). The players ranged in age from 15 to 16 years. They had been competing at elite (n = 105) or sub-elite levels (n =430) and they had been involved for more than seven years (M = 7.9, SD = 2.6) in organized sport. The withdrawal rate was highest at the end of season (40%) and in the preseason (30%). Basketball players (56%) and ice hockey players (62%) showed a high withdrawal rate at the end of the season. The highest withdrawal rate for football players was during the preseason (36%). However, the rate was also high (33%) at the end of the season. Furthermore, football and basketball players showed the lowest withdrawal rate in the offseason (14% and 6%, respectively). Ice hockey players showed the lowest withdrawal rate in the preseason (9%) and offseason (10%).

Study II The participants in the second study comprised a sample of 2,235 Finnish young athletes who were involved in football (n = 1,119), ice hockey (n = 771) or basketball (n = 345). The sample included 756 girls and 1,479 boys and they were between the ages of 15 and 16 years. The data contained 1,695 players who reported persistence in sport, and 548 players who had withdrawn from sport in the recent years. The participants competed at elite or sub- elite levels, and they received, on average, seven hours of guided training in football, ice hockey, or football per week (M = 6.9, SD = 4.1). They reported about 29 months of partnership with their coach (M = 29.0, SD = 26.0), and they had been, on average, involved in organized sports for more than eight years (M = 8.54, SD = 2.57). It should be noted that altogether eight cases were excluded due to missing data or outliers. Furthermore, 109 players did not report their amount of guided training per week, 51 players did not report on the length of partnership with the coach, and seven players did not reply to the question regarding their years of involvement in sports. These players were not included in the respective data analyses.

Study III The sample of the third study consisted of 1,936 young athletes who were involved in football (n = 945), ice hockey (n = 699) or basketball (n = 292), aged 14 to 15 years. The sample included 544 girls and 1,392 boys. Altogether, 78 cases were excluded due to missing data and outliers.

Study IV In the fourth study, the sample consisted of 1,962 young athletes that ranged in age from 14 to 15 years. The players had been involved in football (n = 958), ice hockey (n = 711) or basketball (n = 293). The sample included 553 girls and 1,409 boys. They competed at elite or sub-elite levels, and reported an average of seven-and-a-half years of participation in their sports (M= 7.4, SD = 2.5). Altogether, 52 cases were excluded due to missing data or outliers.

4.3 Instrumentation and variables

Table 1 shows the used scales and variables from the present thesis, as well as the studies in which the scales have been applied.

TABLE 1 Scales and variables applied in the Studies I–IV.

Scales	Variables	Study
• Questionnaire of Reasons for Attrition (QRA)	- 31 single items	Study I
• Coach-Athlete Relationship Questionnaire (CART-Q)	- Closeness - Commitment - Complementarity	Study II
• Perceived Motivational Climate in Sport Questionnaire (PMCSQ)	- Task Climate - Ego Climate	Study II
• Sport Motivation Scale (SMS)	- Intrinsic Motivation - Extrensic Motivation	Study III & Study IV
• Perceived Physical Competence Scale (PPCS)	- Perceived Fitness - Perceived Appearance	Study III& Study IV
• Enjoyment Scale (ES)	- 4 single items	Study III
• Perception of Success Questionnaire (POSQ)	- Task Orientation - Ego Orientation	Study IV

4.3.1 Assessment of descriptive variables

In 2010, the participants answered questions regarding their gender, sport and years of involvement (see Appendix 1). In addition, the participants filled in the number of weekly practice sessions as well as the duration of single practice session based on four types of training: (a) really training, (b) additional training, (c) practicing on their own, and (d) playing other sports.

In 2011, the participants completed questions concerning their gender, sport, years of involvement, competition level, practice amounts per week within the past competition season (i.e. type of practice, number of weekly practice sessions, and duration per session), length of partnership with the latest coach and years of involvement in organized sport (see Appendix 2). In order to examine differences in young athletes' competition level, participants reported the league in which they had mainly competed during the previous season. Based on this information, all participants were categorized into seven levels of com-

petition. The highest level of competition was coded with one and the lowest level with seven. It should be noted that the players who participated in the first, second and third league competed on international and national levels (i.e. elite level), players from the fourth and fifth league competed at regional levels, and players below the fifth league competed at local levels (i.e. sub-elite level).

To evaluate differences in young athletes' practice amounts per week, practice was classified into the following three categories: guided sport-specific practice, independent sport-specific play, and practice of other sports. Participants filled in the number of weekly practice sessions as well as the duration of a single practice session.

The withdrawn athletes completed a questionnaire assessing general background information, such as season of attrition, level of competition and years of involvement. Furthermore, a question with a 5-point Likert scale (where 1 = not at all and 5 = very much) was formulated to assess how strongly young athletes' significant others (i.e. coaches, mother, father, friends) have influenced or contributed to their decisions to withdraw from youth sport. The questionnaire (see Appendix 2) also allowed young withdrawn athletes to distinguish between peers in a more precise way (i.e. friends, teammates, girlfriend, boyfriend).

4.3.2 Assessment of personal reasons for withdrawal

The Questionnaire of Reasons for Attrition (QRA, Gould et al. 1982) was applied in Study I to obtain information on young athletes' personal reasons for withdrawal from organized football, ice hockey or basketball. The QRA included 31 items (e.g. "It was not exciting enough", "There was no team work", and "Skills did not improve"). The original 3 point Likert scale of the questionnaire was used to obtain the most accurate responses. Responses to each of the items were given by the withdrawn athletes ranging from "had been important", "somewhat important" or "not at all important". The items of the QRA are presented in Appendix 3.

The validity and reliability of the QRA has been shown in several studies in the last decade (Salguero et al. 2003, Molinero et al. 2009, Molinero et al. 2006). However, it should be noted that in all of these previous studies, a 5-point Likert scale was used. The study of Molinero et al. (2009), examining 309 withdrawn youth athletes revealed internal consistency assessed by the means of Cronbach alpha values ranging from .58 to .87. The questionnaire was translated into Finnish using the parallel back-translation procedure. A bilingual translator initially translated the English version of the questionnaire into Finnish, and then two independent translators translated the items back into English. The back-translated versions were then compared with the original English versions and possible incongruences and errors were identified. The back-translation comparison process was repeated until both versions were identical. The final version in Finnish exhibited no contradictions with the original English versions.

4.3.3 Assessment of coach–athlete relationship

In Study II, the direct perspective of the Coach–Athlete Relationship Questionnaire (CART-Q, Jowett & Ntoumanis 2004, Jowett 2009b) was used to assess the athletes' perceptions of the quality of the relationship with their coach. The questionnaire contains 11 items, and it measures the intensity of three positive dimensions of the coach–athlete relationship closeness, commitment and complementarity that are associated with the affective, cognitive, and behavioural aspects of the coach–athlete relationship. Closeness (4 items) is a subscale that assesses the level of trust, respect and appreciation (e.g. "I trust my coach"). Commitment (3 items) is a subscale that assesses the level of willingness and effort to maintain the sporting partnership over time (e.g. "I think that my sport career is promising with my coach"). Complementarity (4 items) is a subscale that assesses the level of players and coaches corresponding behaviours of dominance and submission (e.g. "When I am coached by my coach, I am ready to do my best"). The participants answered on a 7-point Likert scale ranging from 1 (i.e. "strongly disagree") to 7 (i.e. "strongly agree"). The items of the CART-Q are presented in Appendix 4.

The validity and reliability of the CART-Q has been shown by several studies (Jowett 2009b, Jowett & Ntoumanis 2004). Jowett's (2009b) study involving 221 students indicated high internal consistency of the CART-Q. In her study, the Cronbach alpha values for the different subscales of the CART-Q varied from 78. to .87, and confirmatory factor analysis revealed a high structural validity. Because no Finnish version of the direct perspective of the CART-Q was available, the standardized back translation procedure described earlier was applied to construct an identical Finnish version of the direct perspective of the CART-Q.

4.3.4 Assessment of coach-created motivational climate

The Finnish version of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ) was used in Study II to examine young athletes' perception of a coach-created task-involved and ego-involved climate in the three team sports (Seifriz, Duda & Chi 1992, Liukkonen 1998). It should be noted that there also exists a PMCSQ 2 (Newton, Duda & Yin 2000). However, the PMCSQ was preferred over the PMCSQ 2 for two reasons: First, the PMCSQ had already been translated into Finnish (Liukkonen 1998). Second, the PMCSQ was chosen to compare the current data with previous data, in which the PMCSQ had been also applied.

The measure employs the stem question "On this team / in this team I feel that..." and consists of 24 items capturing both task-involved features (14 items; e.g. "The coach cared about the players' development") and ego-involved features (10 items; e.g. "Teammates competed against each other") of the perceived motivational climate fostered by coaches. The players answered on a 5-point Likert Scale ranging from 1 (i.e. "strongly disagree") to 5 (i.e. "strongly agree").

The items of the PMCSQ and the response percentages are presented in Appendix 5.

Research has shown that the validity and reliability of the PMCSQ has been found to be adequate in both English and Finnish speaking countries (Liukkonen 1998, Walling, Duda & Chi 1993, Seifriz, Duda & Chi 1992). In Liukkonen's (1998) study, the Cronbach alpha values for the task climate scale was .86. For the ego climate scale it was .84. The conducted confirmatory factor analysis also revealed an acceptable level of statistical fit.

4.3.5 Assessment of intrinsic and extrinsic motivation

The Finnish version of the Sport Motivation Scale (SMS, Jaakkola 2002) was applied in Study III and in Study IV in order to explore young athletes' contextual motivation towards participation in organized sports. The SMS (Pelletier et al. 1995) is based on the self-determination theory and allows an independent assessment of self-determined forms of motivation. The questionnaire consists of 28 items and it includes seven subscales, comprising three types of intrinsic motivation ("to know", "to accomplish things" and "to experience stimulation"), three types of extrinsic motivation ("external introjected" and "identified regulation"), and amotivation. Each dimension consists of four items. It should be noted that in the present dissertation, young players' amotivation was not assessed, because the participants were engaged in organized teamsports. The athletes responded on a 5-point Likert scale ranging from 1 (i.e. "strongly disagree") to 5 (i.e. "strongly agree"). The stem question for the SMS in this study was as follows: "Why do you practice your sport?" The items of the SMS are presented in Appendix 6.

In Study III, the subscales of the SMS were combined into two sum scales, autonomous motivation (intrinsic motivation and identified regulation) and controlled motivation (introjected regulation and external regulation), in order to create young athletes' profiles of self-determined motivation (Vansteenkiste et al. 2009, Pelletier & Sarrazin 2007). In the subsequent statistical analyses, the means of both sum scales were then applied.

In Study IV, the 12 items measuring three types of intrinsic motivation were combined into a single subscale, in order to examine significant differences between persistent and withdrawn athletes. Additionally, an integrated single score called the relative autonomous index (RAI) was created to reduce the number of latent variables for the structural equation modelling analyses.

The RAI has been used in several previous studies to indicate the amount of self-determination in sport (Vallerand, Fortier & Guay 1997, Hein & Hagger 2007). This index was calculated by giving each subscale a specific weight based on the position on the self-determination continuum. This was done by weighting the intrinsic motivation dimensions (+2) and identified regulation (+1) positively, while weighting introjected regulation (-1) and external regulation (-2) negatively. Based on the weighted composite of these scores, the RAI indexes were computed. The evidence concerning the reliability and validity of

the RAI index has been revealed in previous investigations (Vallerand, Fortier & Guay 1997, Jaakkola 2002).

The SMS has demonstrated reliability and validity across many studies (Martens & Webber 2002, Jaakkola 2002, Pelletier et al. 1995). In Jaakkola's (2002) study, involving 461 students aged 15 years, high internal consistency of the SMS in the Finnish sport context was found. In his study, the Cronbach alpha values for the different subscales varied from .64 to .83, and the confirmatory factor analysis revealed a high structural validity. It should be noted that the SMS used did not include any subscale for measuring integrated regulation, because Brière, Vallerand, Blais, and Pelletier (1995) argued that integrated regulation does not emerge as a perceived reason for participating in sports activities.

4.3.6 Assessment of perceived competence

Perceived competence in the three team sports was measured in Study III and in Study IV by Lintunen's (1995) modified Finnish version of the Perceived Physical Competence Scale (PPCS). The scale is comprised of ten bipolar items which yield scores on two subscales, namely perceived physical performance capacity (7 items), and perceived appearance (3 items). Players were asked to rate themselves on specific components compared with those of other players of the same age and gender on a 5-point Osgood scale. The specific components were strength, speed, agility, flexibility, endurance, movement skills, and courage. Furthermore, the courage component (i.e. "I am timid-I am courageous") was substituted for perceived competence in football, ice hockey or basketball (e.g. "I am bad at football-I am good at football). Items considering perceived body image (i.e. height and weight) were graded 1-2-5-2-1. All other items were graded 1-2-3-4-5. In the present dissertation, the PPCS was applied in two ways. First, young athletes' perceived physical competence was examined as a sum of perceived fitness and perceived appearance. Second, for structural equation modelling analyses, the three appearance-related items were omitted, because their inter-correlations were low. The items of the PPCS are presented in Appendix 7.

The evidence for the reliability and validity of the PPCS has been provided in previous investigations to some extent (Lintunen 1995, Liukkonen 1998). For example, Liukkonen's (1998) study involving 557 Finnish 14-year-old football players indicated that Cronbach's alpha for the direct sum scale was .77 and confirmatory factor analysis revealed a moderate level of statistical fit for that sample. Items three and six had the lowest factor loadings and reliabilities, according to the analysis.

4.3.7 Assessment of enjoyment

Enjoyment in training sessions and games was investigated with the Finnish version of the Enjoyment Scale (ES, Liukkonen 1998). The original four items of the scale (Scanlan et al. 1993) were specified for certain sport activities, for

example: "I enjoy football training/games", "I am happy at football training/games", "I like football training/games", and "I have fun at football training/games". Participants were asked to answer on a 5-point Likert- scale ranging from 1 (i.e. "strongly disagree") to 5 (i.e. "strongly agree"). The items of the ES and the response percentages are presented in Appendix 8.

The validity and reliability of the ES has been found to be adequate in both English and Finnish speaking countries. Liukkonen (1998) surveyed 557 Finnish 14-year-old football players by examining young athletes' willingness to take up training and games by two single items. For example, "I enjoy football training" and "I enjoy football games". He reported high internal consistency of the scale. Cronbach's alpha value for the training ES was .90 and for the game ES .92. In Addition, the exploratory factor analysis with principal axis factorization reported a good level of statistical fit for both the training and game ES.

4.3.8 Assessment of goal orientation

In Study IV, young athletes' dispositional goal orientations were assessed through responses to the Finnish children version of the Perception of Success Questionnaire (POSQ, Liukkonen 1998). The original inventory (Roberts, Treasure & Balaque 1998) consists of two 6-item scales measuring individuals' dispositional task orientation (e.g. "I succeed at something I could not do before") and ego orientation (e.g. "I accomplish something others cannot do"). For each item participants were asked to indicate when they feel most successful in their sport. The stem question for the POSQ in the present study was: "When I am doing sports, I feel most successful when...". A 5-point Likert-scale was used, and the scale responses ranged from 1 (i.e. "strongly disagree") to 5 (i.e. "strongly agree"). Scores were computed for both subscales. The items of the POSQ are presented in Appendix 9.

Past research has reported high validity and reliability of the POSQ in English- and Finnish-speaking countries (Liukkonen & Leskinen 1999, Jaakkola 2002, Roberts, Treasure & Balaque 1998). Liukkonen and Leskinen (1999) surveyed 14-year-old football players from different sports clubs in Finland. They reported Cronbach alpha values of .85 and .87 for task and ego subscales. In addition, confirmatory factor analysis revealed a high structural validity for the POSQ.

4.4 Statistical methods

The validity and reliability of the CART-Q, PMCSQ, SMS, PPCS, ES and POSQ were examined by confirmatory factor analysis (CFA) and Cronbach's alpha values. The indices used for estimating goodness of fit were a chi- square test ($\chi 2$), comparative fit index (CFI), the Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square

residual (SRMR). Given that the chi-square statistics are sensitive to large sample sizes, particular attention was paid to the other fit indices. Values greater than .90 for CFI and TLI as well as values lower than .08 for RMSEA and SRMR, were considered as indicators of acceptable fit (Hu & Bentler 1999). Cronbach's alpha value > .70 was used as an adequate value for all the used subscales (Lance, Butts & Michels 2006).

Descriptive statistics were used to show the characteristics of the study samples and the distribution of the variables. The association between nominally scaled variables was examined using cross-tabulations, and their statistical significance was tested by Pearsons's chi-square test. Independent sample *t* tests were conducted to examine potential differences between persistent and withdrawn players in the coach–athlete relationship, and perceived motivational climate. Nonparametric two-sample Mann-Whitney U-tests were used to examine potential differences between persistent and withdrawn players in terms of competition level, amount of training, length of partnership with the coach, and years of involvement in sports. MANOVA was conducted to examine differences between persistent and withdrawn athletes on intrinsic and extrinsic motivation subscale means. Follow-up univariate analyses of variance (ANOVA) with Tukey's HSD test was conducted for each subscale to identify significant differences.

For Study I, a principal component analysis on the 31 items from the Questionnaire of Attrition was performed in order to classify withdrawal reasons into different components, as well as to compare derived withdrawal components in terms of gender, level of competition and years of involvement. The criteria for extraction included (a) eigenvalues greater than 1.0, (b) a minimum of 5% explained variance per component, (c) unique loadings of 0.50, and 0.10 cross loading differences, (d) acceptable Kaiser-Meyer-Olkin (KMO) measure of sampling, and Bartlett's test for sampling adequacy and sphericity. The number of items retained per component should be consistent with the recommendations from Fabrigar et al. (1999). They recommend that at least three to five items should represent each component. A 2x2x2 MANOVA was applied to examine differences in withdrawal components and gender, level of competition and years of involvement. An independent sample *t* test was used to examine potential differences in the influence of significant others and gender, level of competition and years of involvement.

For Study II, a hierarchical cluster analysis was used to examine combined profiles of the coach–athlete relationship and perceived motivational climate, and their relationship with sport persistence, competition level, amount of weekly guided training hours within the past competition season, length of partnership with the latest coach, and years of involvement in organized sports. Cluster analyses were performed on standardized *z* scores of the three dimensions of the coach–athlete relationship and the two dimensions of the perceived motivational climate. A *z* score of ± 0.5 was applied as a criterion for identifying distinguishing characteristics within each cluster. Agglomeration schedules and a dendrogram were generated to provide the basis for determining the numbers

of clusters. Ward's method with squared Euclidean distance was used to determine the number of cluster groups. K-mean cluster analysis was conducted for using the centroid values of hierarchical methods as initial seed points, after receiving information about the numbers of clusters from the agglomeration schedule. The cluster size in the k-mean analysis and the centroid values were then compared. Variables were labelled as low (z score ≤ -0.5) moderate ($-0.5 \leq z$ score ≤ 0.5) and high (z score ≤ 0.5). Pearson's chi-square test of independence was used to examine potential differences in clusters between persistent and withdrawn players. One-way ANOVA with Tukey's HSD tests was performed to examine differences between clusters and athletes' participation characteristics.

For Study III, a hierarchical cluster analysis was applied as the method for examining the quality and quantity of self-determined motivation among youth athletes. In the same way as in Study II, cluster analyses were performed on standardized z scores of variables of autonomous and controlled motivation. Differences in motivation between the clusters were investigated with multivariate analysis of variance (MANOVA) and followed up by an analysis of variance (ANOVA). To examine the differences between gender and motivational profiles in terms of perceived physical competence and practice hours, a two-way analysis of variance (2-ANOVA) was performed and post hoc results were adjusted according to Bonferroni. Differences in enjoyment between different motivational profiles as well as between genders were examined with a non-parametric Pearson chi-square test.

For Study IV, structural equation modelling (SEM) was used to test the adequacy of the proposed model. Maximum likelihood (MLR) estimation method was used. The indices used for estimating goodness of fit of the model were a chi-square test ($\chi 2$), comparative fit index (CFI), the Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). Given that the chi-square statistics are sensitive to large sample sizes, particular attention was paid to the other fit indices. Cut-off values close to .95 for CFI and TLI, and values less than .06 for RMSEA, and .08 for SRMR, respectively, were indicative of a representative model fit (Hu & Bentler 1999).

For all the above mentioned analyses, a p value of $\leq .05$ was considered as statistically significant. The confirmatory factor analysis (CFA) and structural equation modelling (SEM) were analysed by Mplus 7.11 (Muthén & Muthén 2012). All the other analyses were performed by the Predictive Analytics Software (PASW, formerly SPSS), version 18.0 and 20.0.

5 RESULTS

5.1 Validity and reliability of the instruments

The findings supported that the three-factor structure of the CART-Q, the two-factor structure of the PMCSQ, the seven-factor structure of the SMS, PPCS, ES, and the two-factor structure of the POSQ fitted the data well. The internal consistency of the CART-Q, PMCSQ, SMS, PPCS, ES, and POSQ were at a satisfactory level. The goodness of fit indices for each scale is shown in Table 2.

TABLE 2 Results of the goodness of fit test of the confirmatory factor models for the used scales.

	CART-Q	**PMCSQ**	**SMS**	**PPCS**	**ES**	**POSQ**
$\chi 2$	21806.00	18582.52	1795.15	134.34	60.62	638.09
df	55	276	238	13	6	50
p	.000	.000	.000	.000	.000	.000
CFI	.98	.91	.093	.96	.99	.95
TLI	.96	.90	.091	.94	.97	.93
RMSEA	.08	.057	.058	.069	.012	.07
SRMR	.03	.065	.046	.025	.01	.05

5.2 Differences between persistent and withdrawn athletes

Compared to the midpoints of the studied variables of the coach–athlete relationship and coach-created motivational climate, players reported high perceived closeness, commitment, complementarity, and task climate as well as moderate ego climate. Persistent players reported significantly higher scores in closeness, commitment, complementarity, and perceived the climate as more task-involved than the withdrawn players did. No significant difference was found between persistent and withdrawn players in the perception of ego-

involved climate. Discrepancies were found between persistent and withdrawn athletes in terms of competition level, amount of training, length of partnership with the coach and years of involvement in organized sport. Persistent players reported a higher competition level, more training hours, shorter length of partnership with the coach, and longer involvement in organized sport than the withdrawn athletes did (see Table 3).

TABLE 3 Differences between persistent and withdrawn in Study II.

	Total Sample (N = 2,235)		Persistent Players (n = 1,692)		Withdrawn Players (n = 543)			
	M	*SD*	*M*	*SD*	*M*	*SD*	*p**	*d*
Closeness	5.52	1.43	5.74	1.28	4.82	1.66	.000	.62
Commitment	4.98	1.40	5.23	1.24	4.19	1.56	.000	.74
Complementarity	5.81	1.21	6.01	0.96	5.20	1.36	.000	.69
Task climate	3.72	0.62	3.79	0.59	3.53	0.67	.000	.41
Ego climate	2.73	0.73	2.71	0.72	2.79	0.79	.28	.11
Competition level (1-7)	4.09	1.41	3.94	1.40	4.56	1.36	.000	.44
Amount of training (hours per week)	6.85	4.07	7.50	3.76	4.82	4.32	.000	.66
Length of partnership (with the coach in month)	28.99	25.97	27.44	24.99	34.18	28.43	.000	.25
Years of involvement	8.54	2.57	8.73	2.50	7.96	2.69	.000	.29

The competition level was ranked from 1= highest to 7 =lowest
*p** = difference between persistent and withdrawn players; *d* = Effect size Cohen's *d*.

MANOVA showed a significant main effect between persistent and withdrawn players, $F(7,1952) = 16.62$, $p < .001$, $\eta_p^2 = .06$. The subsequent univariate ANOVAs indicated that persistent players reported higher scores on task orientation, ego orientation, and perceived competence compared to withdrawn players, respectively, $F(1,1960) = 31.53$, $p < .001$, $\eta_p^2 = .02$; $F(1,1960) = 23.70$, $p < .001$, $\eta^2 = .01$; $F(1,1960) = 37.20$, $p < .001$, $\eta_p^2 = .02$. Moreover, persistent players displayed more intrinsic motivation $F(1,1960) = 72.47$, $p < .001$, $\eta_p^2 = .04$, and identified regulation than withdrawn players did, $F(1,1960) = 22.68$, $p < .001$, $\eta_p^2 = .01$, respectively. No significant differences were found between persistent and withdrawn players in introjected regulation or external regulation (see Table 4).

TABLE 4 Differences between persistent and withdrawn athletes in Study IV.

	Total Sample (N = 1,962)		Persistent Players (n = 1,517)		Withdrawn Players (n = 445)			
	M	*SD*	*M*	*SD*	*M*	*SD*	*p**	*d*
Task Orientation	4.13	.64	4.17	.61	3.97	.74	.000	.30
Ego Orientation	3.33	.91	3.38	.88	3.14	.99	.000	.26
Perceived Competence	3.83	.60	3.87	.57	3.68	.67	.000	.31
Intrinsic Motivation	3.42	.74	3.50	.71	3.16	.77	.000	.46
Identified Regulation	3.25	.85	3.30	.85	3.08	.83	.000	.26
Introjected Regulation	3.33	.83	3.34	.84	3.28	.80	n.s.	.07
External Regulation	2.94	.84	2.95	.85	2.88	.80	n.s.	.08

*p** = difference between persistent and withdrawn players; *d* = Effect size Cohen's *d*.

5.3 Personal reasons for sport withdrawal

Table 5 illustrates in rank order the means and standard deviations of 31 reasons for withdrawal from organized sport among the athletes. The most important reasons for the entire cohort were "had other things to do" (M = 2.03) and decline in enthusiasm (M = 2.09). Other major reasons for withdrawal from youth team sports included issues such as "not being able to be with friends" (M = 2.29), "lack of team spirit" (M = 2.30), and "interest in another sport" (M = 2.35). The least important reasons for withdrawal were related to the achievement of awards and the athlete's age.

In order to reduce the number of withdrawal items and to identify withdrawal components, a four-component structure was applied for the 31 items. The generation solution indicated that one item (6) had cross-loading smaller than 0.10, and 11 items (3, 5, 7, 12, 15, 16, 19, 22, 24, 28, 30) showed component loadings smaller than 0.50. The KMO and Bartlett's test were significant. When conducting the PCA on the remaining 19 items, again a four-component solution emerged. One item (20) failed to show a loading of 0.50 or above. Table 6 shows the components on which the items loaded, the item's loading communalities (h^2), the percentage of variance explained by each component, the eigenvalues, as well as the α coefficients.

TABLE 5 Ranking number means and standard deviation of the individual withdrawal reasons.

Rank no.	Items	*M*	*SD*
(1)	Had other things to do	2.03	0.74
(2)	Not exciting enough	2.09	0.76
(3)	Not able to be with my friends	2.29	0.75
(4)	Not enough team spirit	2.30	0.81
(5)	Wanted to play another sport	2.35	0.81
(6)	Did not have enough fun	2.39	0.72
(7)	Did not receive enough rewards	2.44	0.71
(8)	Not as good as I wanted to be	2.44	0.71
(9)	It was boring	2.46	0.69
(10)	No teamwork	2.48	0.70
(11)	Did not like being on the team	2.49	0.72
(12)	Injured	2.50	0.76
(13)	Did not feel important enough	2.53	0.69
(14)	My skills did not improve	2.57	0.63
(15)	Friends no longer played	2.59	0.64
(16)	Did not participate (compete) enough	2.63	0.63
(17)	Not in good enough shape	2.67	0.58
(18)	Did not learn new skills	2.68	0.57
(19)	The training was too hard	2.68	0.56
(20)	Did not like the pressure	2.69	0.57
(21)	Did not get enough recognition	2.71	0.54
(22)	Did not win (enough)	2.73	0.53
(23)	Not able to use the equipment or facilities enough	2.74	0.55
(24)	Did not like to compete	2.75	0.54
(25)	Did not meet new friends	2.76	0.53
(26)	Was not popular	2.79	0.50
(27)	Not enough challenge	2.82	0.45
(28)	Parents or friends no longer wanted me to play	2.90	0.35
(29)	Did not travel enough	2.93	0.29
(30)	Too old	2.94	0.28
(31)	Did not like the awards	2.94	0.26

TABLE 6 Principal component analysis of the questionnaire on reasons for attrition.

Item no.	Items	Components 1	2	3	4	h^2
Social issues/components						
(4)	Not enough team spirit	0.78				0.68
(10)	No teamwork	0.67				0.56
(11)	Did not like being on the team	0.81				0.69
(13)	Did not feel important enough	0.67				0.64
(21)	Did not get enough recognition	0.55				0.46
(25)	Did not meet new friends	0.65				0.49
(26)	Was not popular	0.66				0.56
Ability related						
(8)	Not as good as I wanted to be		0.75			0.61
(14)	My skills did not improve		0.78			0.67
(17)	Not in good enough shape		0.56			0.33
(18)	Did not learn new skills		0.70			0.64
Extrinsic Motivation						
(23)	Not able to use the equipment or facilities enough			0.61		0.40
(27)	Not enough challenge			0.74		0.57
(29)	Did not travel enough			0.71		0.51
(31)	Did not like the awards			0.64		0.42
Lack of interest						
(1)	Had other things to do				0.76	0.49
(2)	Not exciting enough				0.75	0.66
(9)	It was boring				0.69	0.62
	Percentage of Variance	21.3	7.1	6.5	5.7	
	Eigenvalues	6.6	2.2	2.0	1.8	
	Alpha coefficients	0.82	0.75	0.61	0.66	

The first component included seven items related to social issues such as teamwork and team spirit. The second component included five items which assessed ability-related reasons, such as skill improvement and physical condition. The third component comprised four items measuring extrinsic motivation such as opportunity to travel and awards. The fourth principal component included three items related to lack of interest.

In order to determine whether reasons for withdrawal could be differentiated by gender, level of competition and years of involvement, mean scores for all four components (i.e. social issues, ability related, extrinsic motivation and lack of interest) were used as dependent variables in a 2 (gender) x 2 (level of competition) x 2 (years of involvement) MANOVA. The results of the multivariate analyses are listed in Table 7. The reasons for withdrawal are identified with the same ranking number as in Table 5.

A significant main effect was obtained for gender, Wilks' λ .95, $F(4, 522)= 4.24$, $p< .01$. Two components related to social issues and ability differed between female and male athletes. The results indicated that social issues (e.g. "did not get enough recognition") and ability related components (e.g. "did not learn new skills") played a more important role in withdrawal for females than they did for males. Moreover a significant main effect was obtained for the years of involvement, Wilks' λ .97, $F(4, 522)= 2.76$, $p< .05$. MANOVA revealed that the component related to athletes' ability differed between early- and later-involved players. Early-involved players placed greater emphasis on reasons for withdrawal such as not being in good (enough) shape, or not being as good as they wanted to be than later-involved players. No significant differences were found between the elite or sub-elite athletes in the four withdrawal components. Moreover, no significant interactional effects were found between gender, level of competition and years of involvement in the four withdrawal components.

Table 8 illustrates the influence of significant others in the decision to withdraw from youth sports. The withdrawn athletes ranked the coach as the most influential person in making the decision to withdraw from youth sports. Other significant others rated as important were teammates and friends. Less important influence came from loved ones such as the father, mother, siblings, or girlfriends or boyfriends. Teachers did not influence young athletes' decision-making. Furthermore, an independent *t* test was used to determine the differences in role of significant others between gender, level of competition, and years of involvement. Significant differences were found in all three variables. Females rated their mother, siblings and teammates higher than males did. Elite-level players ranked their girlfriends or boyfriends higher than sub-elite players did. Later-involved players rated their mother and teammates higher than longer-involved players did.

TABLE 7 Comparisons of withdrawal components between gender, level of competition and years of involvement in youth sports

	Gender			Level			Involvement		
	Female	Male		Elite	Sub-elite		Early	Late	
Components	*M*(*SD*)	*M*(*SD*)	*F*	*M*(*SD*)	*M*(*SD*)	*F*	*M*(*SD*)	*M*(*SD*)	*F*
Social issues	2.50(0.50)	2.65(0.43)	6.68*	2.54 (0.49)	2.59 (0.46)	.56	2.63 (0.44)	2.52(0.49)	.20
Ability related	2.53(0.49)	2.64(0.45)	10.54**	2.60 (0.44)	2.58 (0.48)	.73	2.57(0.49)	2.61(0.45)	5.38*
Extrinsic motivation	2.85(0.26)	2.86(0.29)	.33	2.85 (0.32)	2.86 (0.26)	.51	2.86(0.25)	2.85(0.29)	.14
Lack of interests	2.19(0.54)	2.19(0.58)	.09	2.28 (0.51)	2.17 (0.57)	.24	2.15(0.57)	2.23(0.55)	1.75

*$p < .05$; **$p < .01$; ***$p < .001$

TABLE 8 Ranking and comparisons of significant others in making the decision to withdraw between gender, level of competition and years of involvement in youth sports

	Significant others		**Gender**			**Level**			**Involvement**		
Rank no.	*M*(*SD*)		**Female** *M*(*SD*)	**Male** M(SD)	*p* value	**Elite** *M*(*SD*)	**Sub-elite** *M*(*SD*)	*p* value	**Early** *M*(*SD*)	**Late** *M*(*SD*)	*p* value
(1)	Coach	2.17(1.44)	2.30(1.40)	2.06(1.46)	.908	2.34(1.44)	2.13(1.43)	.610	2.10(1.42)	2.24(1.44)	.531
(2)	Teammates	1.87(1.26)	2.16(1.34)	1.62(1.13)	.000***	1.97(1.30)	1.85(1.25)	.704	1.72(1.18)	2.02(1.32)	.010*
(3)	Friends	1.79(1.09)	1.18(1.11)	1.74(1.07)	.337	1.78(1.07)	1.79(1.10)	.660	1.77(1.07)	1.81(1.12)	.280
(4)	Father	1.34(0.77)	1.32(0.75)	1.35(0.78)	.485	1.32(0.73)	1.34(0.78)	.610	1.36(0.81)	1.31(0.74)	.205
(5)	Mother	1.32(0.72)	1.39(0.78)	1.28(0.67)	.008**	1.35(0.73)	1.31(0.72)	.491	1.28(0.67)	1.35(0.75)	.034*
(6)	Girl/boyfriend	1.17(0.58)	1.18(0.61)	1.16(0.57)	.344	1.24(0.61)	1.15(0.56)	.022*	1.19(0.61)	1.16(0.56)	.229
(7)	Siblings	1.14(0.48)	1.16(0.55)	1.11(0.41)	.021*	1.15(0.55)	1.13(0.46)	.447	1.14(0.51)	1.14(0.46)	.878
(8)	Teachers	1.05(0.31)	1.05(0.36)	1.05(0.25)	.973	1.06(0.27)	1.05(0.32)	.795	1.06(0.35)	1.05(0.27)	.235

*p < .05; **p < .01; ***p < .001

5.4 Coach–athlete relationship and coach-created motivational climate profiles

Based on the hierarchical cluster analyses, a three-profile solution was chosen for the three dimensions of the coach–athlete relationship and two dimensions of the coach-created motivational climate. The profile means, standard deviations and *z* scores of the three profile solutions of the CART-Q and the PMCSQ are shown in Table 9. Players in Profile 1 reported high (*z* score ≥ 0.5) closeness, commitment and complementarity with their coach, and they perceived a high task-involved climate and moderate (- 0.5 ≤ *z*-score ≤ 0.5) ego-involved climate (high 3Cs–mod TC-EC). Players in Profile 2 were characterized by moderate closeness, commitment, complementarity, task climate, and ego climate (mod 3Cs-TC-EC). Players in Profile 3 reported low (*z*-score ≤ 0.5) closeness, commitment, complementarity with their coach and they perceived the climate to be low task-involved and high ego-involved (low 3Cs-TC-high EC).

TABLE 9 Descriptive statistics for the three profile solutions.

	Profile 1 high 3Cs–mod TC-EC (*n* = 755)			Profile 2 mod 3Cs-TC-EC (*n* = 1,039)			Profile 3 low 3Cs-TC-high EC (*n* = 441)		
	M	*SD*	*z*	*M*	*SD*	*z*	*M*	*SD*	*z*
Closeness	6.65	.42	.79	5.59	.80	.05	3.38	1.33	-1.49
Commitment	6.14	.52	.82	5.00	.84	.01	2.94	1.10	-1.45
Complementarity	6.64	.40	.73	5.84	.66	.03	4.28	1.25	-1.35
Task climate	4.24	.35	.83	3.60	.43	-.18	3.10	.64	-.99
Ego climate	2.47	.76	-.33	2.65	.61	-.09	3.31	.65	.79

Multivariate analysis of variance with the cluster type (Profile 1, 2, 3) as the independent variable and the clustering variables as dependent variables showed a significant main effect, Wilks' λ .21, $F(10, 4456) = 517.78$, $p < .001$, $\eta_p^2 = .54$. Follow-up ANOVAs revealed differences between profiles on closeness ($p < .001$, $\eta_p^2 = .65$), commitment ($p < .001$, $\eta_p^2 = .65$), complementarity ($p < .001$, $\eta_p^2 = .55$), task climate ($p < .001$, $\eta_p^2 = .46$), and ego climate ($p < .001$, $\eta_p^2 = .12$). Players in Profile 1 (high 3Cs-mod TC-EC) had significantly higher *z*-scores in the 3Cs of the coach athlete relationship and in perceived task-involved climate, than the players in the other two profiles ($p < .001$). Players in Profile 2 (mod 3Cs-TC-EC) had higher *z* scores in all five variables than did the players in Profile 3 (low 3Cs-TC-high EC) ($p < .001$).

In order to examine the differences among the three profiles in terms of competition level, amount of training, length of partnership with the coach, and years of involvement in organized sports, a one-way ANOVA was conducted with the three profiles as the independent variables. The results indicated univariate effects for competition level and the amount of guided training hours

per week, $F(2, 2232) = 8.18$, $p < .001$, $\eta_p^2 = .01$; $F(2, 2232) = 14.15$, $p < .001$, $\eta_p^2 = .04$, respectively. Players in Profile 1 (high 3Cs-mod TC-EC) had competed statistically more often at higher levels ($p < .001$), and they had a higher amount of training hours ($p < .001$) than the players in Profile 3 did (high 3Cs-mod TC-EC). Players in Profile 2 (mod 3Cs-TC-EC) competed at a higher levels ($p < .05$) than did the players in Profile 3 did (low 3Cs-TC-high EC). The ANOVA showed no differences between profiles in terms of length of partnership with the coach and years of involvement in organized sports. The detailed results of this analysis are presented in Table 10.

TABLE 10 Comparison between the three profile solutions in level of competition, amount of training, length of partnership with the coach and years of involvement in organized sports.

	Competition level (1–7)	Amount of training (hr per week)	Length of partnership (months)	Years of involvement
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Profile 1 (high 3Cs-mod TC-EC)	3.69 (1.42)**	7.31 (3.67)**	30.39 (27.33)	8.45 (2.57)
Profile 2 (mod 3Cs-TC-EC)	4.10 (1.39)*	6.87 (4.19)	28.29 (24.57)	8.86 (2.53)
Profile 3 (low 3Cs-TC-high EC)	4.30 (1.41)**	6.02 (4.30)**	28.21 (26.70)	8.52 (2.64)

*$p < .05$, **$p < .001$

Differences among the profiles in terms of persistent and withdrawn players' were indicated, $\chi^2(2, N = 2{,}235) = 203.51$, $p < .001$, *phi* = .302. There were relatively more persistent players in Profile 1 (87%) and Profile 2 (78%) than withdrawn players. In Profile 3 (51%), fewer cases of persistent players were identified compared to Profile 1 and Profile 2.

5.5 Intrinsic and extrinsic motivation profile

Based on the analyses, a four-profile solution was chosen for autonomous and controlled forms of motivation. The profile means, standard deviations, and *z* scores of the four profile solutions of young athletes' motivation in organized team sports are shown in Table 11. Profile 1, high autonomous–high controlled (high AU–high C), represented 28% of the sample ($n = 545$). Players' motivation within this profile was generally high. Profile 2, moderate autonomous–low controlled (mod AU–low C), represented 18% of the sample ($n = 350$). This profile was characterized by moderate autonomous motivation and low controlled motivation. Profile 3, moderate autonomous–moderate controlled (mod AU–mod C), was the largest group representing 36% of the sample ($n = 689$). Both autonomous and controlled motivations of participants within this profile were at the moderate level. Profile 4, low autonomous–low controlled (low AU–low

C), represented 18% of the sample (n = 352). Athletes' motivation within this profile was generally low.

TABLE 11 Descriptive statistics for the four profile solutions of autonomous and controlled motivation

	Autonomous Motivation			Controlled Motivation		
	M	*SD*	*z*	*M*	*SD*	z
Profile 1 (high AU–high C)	2.46	.43	1.02	2.03	.46	1.02
Profile 2 (mod AU–low C)	3.65	.38	.03	2.20	.33	-.75
Profile 3 (mod AU–mod C)	3.19	.31	-.27	2.90	.34	.25
Profile 4 (low AU–low C)	4.09	.37	-1.31	3.18	.44	-1.25

In order to examine motivational differences between the four motivational profiles a 2 x 4 one-way multivariate analysis of variance was conducted. The four motivational profiles were the independent variables, and autonomous motivation and controlled motivation served as the dependent variables. Results showed significant differences among the four clusters, Pillai's Trace = 1.21, $F(6,3864) = 984.71$, $p < .001$, $\eta_p^2 = .61$. The four clusters differed significantly in terms of autonomous motivation and controlled motivation, $F(3,1932) = 1574.55$, $p < .001$, $\eta_p^2 = .71$; $F(3,1932) = 1673.61$, $p < .001$, $\eta_p^2 = .72$, respectively.

A two-way analysis of variance (ANOVA) was performed to examine the connection between motivational profiles and gender (independent variables), and perceived physical competence (dependent variable). The results revealed a significant main effect of profile $F(3,1928) = 19.41$, $p < .001$, $\eta_p^2 = .03$. Perceived physical competence was higher in Profile 1 (high AU–high C) and Profile 2 (mod AU-low C) than it was in Profile 3 (mod AU–mod C) and Profile 4 (low AU–low C, see Table 12). There was not any significant profile by gender interaction, but the one-way ANOVA revealed a significant main effect of gender, $F(1,1928) = 11.59$, $p < .01$, $\eta_p^2 = .10$. Boys had higher perceived physical competence than girls did ($M = 38.50$, $SD = 5.79$ vs. $M = 37.43$, $SD = 5.73$).

A two-way analysis of variance (ANOVA) was performed to examine the connection between motivational profiles and gender (independent variables) and practice hours (dependent variable). A significant main effect of motivational profile was found, $F(3,1928) = 12.26$, $p < .001$, $\eta_p^2 = .02$. Bonferroni post hoc tests showed that the participants in Profile 1 (high AU–high C) practiced more than participants within other profiles did ($p < .001$). There was also a statistically significant difference between Profile 2 and Profile 4 ($p < .001$), showing that the participants in Profile 2 practiced more than participants in Profile 4 (see Table 12). It should be noted that there was not any significant interaction between motivational profiles and gender. The ANOVA revealed a significant main effect of gender, $F(1,1928) = 101.21$, $p < .001$, $\eta_p^2 = .05$, indicating that boys practiced more than girls ($M = 10.88$, $SD = 5.09$ vs. $M = 8.39$, $SD = 3.68$).

The Chi-square test showed differences in the enjoyment level distribution between motivational profiles, $\chi^2(3)= 111.63$, $p < .001$. The adjusted residuals indicated that in Profile 1 (high AU–high C) and Profile 2 (mod AU–low C), participants with high enjoyment level were overrepresented, whereas in Profile 3 (mod AU–mod C) and Profile 4 (low AU–low C), participants with low enjoyment level were overrepresented (AR> +/-1.96). The proportion of enjoyment levels are presented in Table 12. Results from chi-square analyses revealed that there were no differences in enjoyment levels between genders.

TABLE 12 Significant differences between autonomous and controlled motivation profiles

	Profile 1 high AU–high C (n = 545)	Profile 2 mod AU–low C (n = 350)	Profile 3 mod A–mod C (n = 689)	Profile 4 low AU–low C (n = 352)	post hoc
Perceived physical competence (M/SD)	39.57/5.65	39.01/5.41	37.22/5.67	37.14/6.04	1 > 3, 4 2 > 3, 4 3 < 1, 2 4 < 3, 4
Practice hours/week (M/SD)	11.19/5.01	10.23/4.75	9.81/4.76	9.29/4.70	1 > 2, 3, 4 2 > 4 2 < 1 3 < 1 4 < 1, 2
Enjoyment level low/high (n = 212/1,724)	3%/97%	3%/97%	16%/84%	21%/79%	

5.5.1 Motivational path model

In order to examine the adequacy of the measurement model, a CFA model that assumes discriminant validity between items representing task orientation, ego orientation, perceived competence, and relative autonomous motivation was conducted. The latent factors were allowed to be correlated during the examination of the measurement model. The results of the CFA model met the criteria of good fit (χ^2 (219) = 1080.31; $p < .001$; RMSEA = .04; CFI = .95; TLI = .95; SRMR = .04). After assessing the adequacy of the measurement model, structural equation modelling was used to test relations among the four latent constructs and persistence in sports. Persistence in sport was assessed through a dichotomous variable. In the path model, task and ego orientation were set as predictors of relative autonomous motivation via the mediation of perceived competence, and persistence in sport was set as a single-indicator. Model modification indices accounted for 11% of the variance in perceived competence, 29% of the variance in relative autonomous motivation, and 10% of the variance in persistence

in sport. All estimated parameters were statistically significant, except the direct effect of task orientation on persistence in organized sport.

The model revealed that the more task-oriented and ego-oriented the players were, the more competent they felt. Players with higher perceived competence reported higher levels of relative autonomous motivation toward sport than did the players who perceived lower competence. Finally, higher relative autonomous motivation significantly predicted persistence in sport one year later (*OR* = 1.7). There was a significant positive direct effect of task orientation, and a negative direct effect of ego orientation, on relative autonomous motivation. Ego orientation also showed a significant direct effect on persistence in sport (*OR* = 1.3), whereas task-oriented direct effect on persistence was negative and not significant. The detailed results of the analysis are presented in Figure 4.

The significance of indirect effects of task orientation and ego orientation on relative autonomous motivation was tested by the bootstrapping method. Task orientation had a significant positive indirect effect on relative autonomous motivation via the mediation of perceived competence (β = .34; p < .001). Similarly, ego orientation also had significant positive indirect effects on relative autonomous motivation via the mediation of perceived competence (β = .19; p < .001).

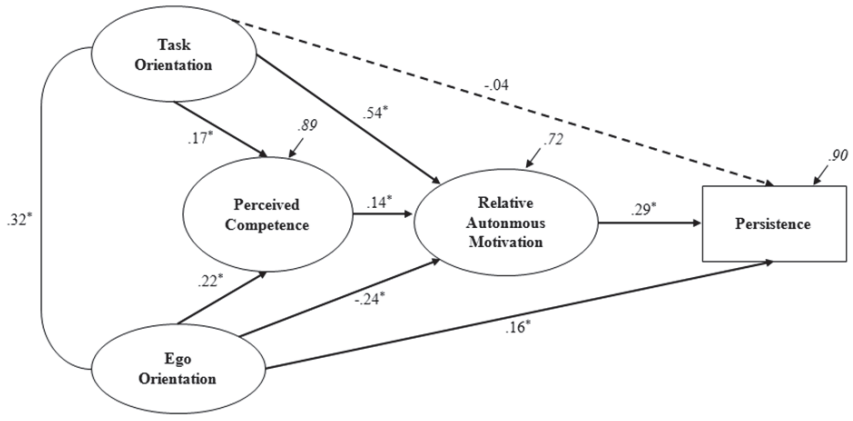

FIGURE 4 The association between players' goal orientation, perceived competence, relative autonomous motivation and persistence behaviour in team sports. The indicators of the latent variables were not included. * significant differences (p < .001). Residual variances are shown as italicized numbers.

6 DISCUSSION

The present study was designed to deepen our understanding of young athletes' participation process in organized youth sport from a psychosocial perspective. Self-determination theory (SDT) and achievement goal theory (AGT) were applied as theoretical frameworks for investigating the underlying process related to young athletes' participation behaviour. Reasons for persisting in or withdraw from team sports as well as different psychosocial determinants such as the coach–athlete relationship and motivation were examined with various validated scales from a representative sample of young Finnish football, ice hockey and basketball players.

6.1 Reasons for persisting in or withdraw from youth sports

The main reasons for young Finnish athletes to withdraw from football, ice hockey or basketball were "other things to do" and a decline in excitement. These are also the most frequently reported reasons for withdrawal described in literature from the last three decades (Lindner, Johns & Butcher 1991, Gould et al. 1982, Salguero et al. 2003, Klint & Weiss 1986, Burton & Martens 1986). It appears that it is particularly during adolescence when young athletes encounter life situations related to work, education, and interpersonal relationships which require their attention in addition to their sports. The second and third common reasons were related to lack of excitement and time. These findings coincide with Weiss's (2008) suggestion that excitement is one of the three crucial reasons for participation in sport. Similar to these findings, Fraser-Thomas et al. (2008b), along with Johns et al. (1990), showed that young athletes withdrew from sports due to the large time commitment as well as to not having enough time for extracurricular activities beside sport.

To examine the differences in reasons for withdrawal from organized sports in terms of gender, level of competition and years of involvement, a principal component analysis was performed. The analysis revealed four com-

ponents regarding withdrawal from youth sport. The four components were as follows: (a) social issues, (b) ability related, (c) extrinsic motivation, and (d) lack of interest. It was found that the reported withdrawal components seem to differ to some extent between genders. Females reported withdrawal reasons that were related to social issues, such as lack of teamwork or affiliation with the team, more often than males did. Moreover, females rated the ability-related withdrawal reasons higher than males did. These findings are in line with Martin (1997) who showed that females perceived lack of ability as a reason for withdrawal more often than males did. In Addition, an earlier study by Leite and Sampaio (2012) showed that the development programmes and the commitment to sport differ between genders. They found gender differences in the perception of fun, training and competition. Based on these finding, it is recommended that particularly sport programmes directed at youth female athletes should be designed to increase skill development and incorporate team-building exercises as ways to enable females to feel a sense of competence and affiliation, thereby making them more likely to persist in sport.

The athletes representing different competitive levels of competition of the present sample did not differ in withdrawal components. However, it should be noted that in the study by Butcher, Lindner and Johns (2002) study, significant differences in reasons for withdrawal were found between withdrawn athletes from the elite and lower levels. Withdrawn athletes from elite level ranked reasons such as, to much pressure to perform well, injury, and needing time for studying higher than withdrawn athletes from lower levels. It should be noted that the difference in the classification of withdrawal reasons into interrelated components and the conducted analysis may explain that inconsistency. The ability-related reasons for withdrawal differed significantly between early- and later-involved athletes. It seems that early-involved players more frequently had problems with skill and physical development than later-involved players did. Designing (for individuals and the team) new training sessions that optimally challenge young athletes' skills and abilities on a regular basis could be useful to keep young athletes' interest in skill development (Amorose 2007). Training sessions should support creativity, while simultaneously providing young athletes with multiple opportunities to experience success and develop personal skills (Fraser-Thomas, Côté & Deakin 2005). The evaluation of the training and monitoring progress may help athletes in improving skills throughout training and competitive seasons.

In contrast to earlier findings from Fraser-Thomas et al. (2009), it was notable that in the present study, parents and siblings did not play crucial roles in withdrawal from youth sports. However, it should be noted that Fraser- Thomas and colleagues conducted a qualitative research design as well as examined young swimmers from different age groups. Especially, the nature of the sports (i.e., individual or team sport) may explain these discrepancies. Nevertheless, based on the current findings, it can be assumed that at the age of 16 years, adolescents are more independent than children are and they may no longer link their parents to their withdrawal from football, ice hockey or basketball. How-

ever, the present findings indicated that coaches and teammates can influence a young athlete's decision to withdraw. Several earlier studies have also reported that the coach and peer behaviour has an important influence on young athletes' participation in sports (Molinero et al. 2006, Salguero et al. 2003, Keegan et al. 2010). Particularly in this context, the coach can play a crucial role in the development of young athletes. Coaches are in a position where they can provide opportunities for young athletes to network and socialize as well as encourage cooperation among teammates. Bartholomew et al. (2009) suggested that athletes tend to experience greater psychological need satisfaction when coaches display a more autonomy-supporting coaching style than when they exhibit more controlling types of behaviour.

The discrepancies in the current data regarding the influence of significant others between genders, level of competition and years of involvement, underscore how useful it would be if the organizers of sport programmes tried to understand young athletes' behaviour outside the context of sport as well. Significant others can reinforce and support young athletes' participation and, in a way, heighten the value of athletes' experience (Smoll, Cumming & Smith 2011).

With respect to the coach–athlete relationship and young athletes'' perceived coach-created motivational climate, the present findings showed that the players who had persisted in their participation in football, ice hockey or basketball reported higher scores on the 3Cs (i.e. closeness, commitment and complementarity) of the coach–athlete relationship questionnaire (CART-Q), and the perceived coach-created task-involved climate than withdrawn players did. Given that, as far as is known, no earlier studies have investigated the 3Cs of the coach–athlete relationship and persistence in youth sport, these examination provide us with additional insights into the youth sport participation process. Furthermore, the findings support previous studies suggesting that the coach–athlete relationship can have an important influence on young athletes' participation behaviours in organized sports (Jowett & Nezlek 2012, Boiché & Sarrazin 2009). Based upon the present results, it can be stated that athletes' perceptions of feeling close, being committed and interacting in a complementary fashion with their coaches can be positively associated with the commitment to intensive and persistent practicing, and these two factors together can lead to sustained participation in sport.

Our findings concerning perceived motivational climate were in line with the previous investigations, supporting the view that persistent players perceive the coach-created motivational climate to be more task-involved (e.g. coaches foster cooperative learning) than withdrawn players do (Boiché & Sarrazin 2009, Sarrazin et al. 2002). However, the findings in this study did not show any significant difference between persistent and withdrawn players in the perception of the coach-created ego-involved climate (e.g. coaches give the most attention to skilled players while ignoring others). Taking into account that the players of the current study had been engaged in competitive team sports for many years and had accepted the nature of their sports, these find-

ings demonstrated that persistent and withdrawn players were exposed to similar levels of the coach-created ego-involved climate.

With respect to young athletes' achievement goal perspective, and intrinsic and extrinsic motivation, it was found that the athletes who sustained their participation in football, ice hockey or basketball reported slightly higher scores in task-orientation, perceived competence, intrinsic motivation, and identified regulation than withdrawn athletes did. These findings are in line with previous studies, suggesting that persistent athletes emphasize more self-referenced criteria for success, feel that their level of competence are satisfied and tend to be more autonomously motivated towards their sport than withdrawn athletes do (Cervelló, Escarti & Guzman 2007, Konttinen et al. 2013, Jõesaar, Hein & Hagger 2011, Jõesaar & Hein 2011). In contrast to previous studies, however, the data showed, that young athletes' ego orientation was higher for persistent athletes than it was for withdrawn athletes. This finding raises an interesting issue related to the nature of competitive youth sports, suggesting that ego goals, such as beating others, may also serve as motives for young athletes to maintain participation in sport.

The present data are in line with previous reports suggesting that persistent players appear to show higher competition levels and longer involvement in sport and with more frequent practice sessions per week, than withdrawn players (Boiché & Sarrazin 2009, Figueiredo et al. 2009, Guillet et al. 2002). Taken together, the current findings confirm that greater personal investment and commitment in sport may positively facilitate young athletes' participation process in organized sports. For these reasons, it is important to provide young athletes with an environment, in which they can improve their physical and psychosocial skills on a daily basis. Previous studies have shown that the more skilful athletes are more likely to maintain their participation in organized youth sport settings (Boiché & Sarrazin 2009, Cervelló, Escarti & Guzman 2007).

The finding that withdrawn players reported longer lengths of partnership with their coaches than persistent players did raises some interesting questions related to the nature of the relationship between a coach and an athlete. For example, it could be asked if youth athletes get tired of practicing with the same coach session after session, meaning it would be beneficial to change coaches after a certain period in order to help young athletes move up in competitive levels, and maintain motivation to practice their sport. Heuer, Müller, Rubner, Hagemann and Strauss (2011), examined coach changes from the perspective of team success. They found that dismissing or changing the coach during the season had no effect on the subsequent team performance. However, from the perspective of sustained sport participation, the current findings show that a shorter duration of the coach–athlete relationship can be related to young athletes' participation behaviour in a positive way. Taking these issues into a consideration, it is argued that future studies should explore the effects of changing coaches on young athletes' sport participation process.

6.2 The coach–athlete relationship and perceived coach-created motivational climate in sport

Based on the dimensions of the coach–athlete relationship and the coach-created motivational climate, the following three profiles emerged from the cluster analysis in the present study: (a) high coach–athlete relationship, high task climate, and moderate ego climate (high 3Cs–mod TC-EC); (b) moderate coach–athlete relationship, moderate task climate, and moderate ego climate (mod 3Cs-TC-EC); and (c) Low coach–athlete relationship, low task climate, and high ego climate (low 3Cs-TC-high EC). From the perspective of sustained participation in youth sport, Profile 1 appeared to be the most beneficial one. The relative proportion of continuing players in football, ice hockey and basketball was markedly higher in Profile 1 (87%) compared than it was in Profile 2 and Profile 3, and Profile 2 was found to be more beneficial than Profile 3 (78% versus 51%). There were also differences between the three profiles in terms of the level of competition and amount of training hours. Players of Profile 1 and 2 had more often competed at higher levels, and the players of Profile 1 reported a higher amount of guided practice hours than the players of Profile 3 did. The present study did not show any differences between the three profiles with regard to the length of partnership with the coach and years of involvement in sports. It seems that the coach–athlete relationship and perceived motivational climate do not necessarily depend on how long the coach and athlete have been working together or on the time young athletes have been engaged in organized sport.

The present findings on the coach–athlete dyad and coach-created motivational climate profiles support earlier investigations, showing that a positive coach–athlete relationship together with perceptions of a task-involved climate is related to positive participation behaviour in youth sports (Olympiou, Jowett & Duda 2008, Balaguer et al. 2002). Balaguer et al. (2002) reported that handball players who perceived the motivational climate on a team to be more task-involved than ego-involved were more likely to view their current coach as closer to their ideal coach. Furthermore, they felt that the coach had been important to the training process. In the present study, however, the players of the most beneficial Profile 1 also reported moderate levels of a perceived ego-involved climate, suggesting that a coach-created ego climate may not be harmful, providing that it is associated with a positive coach–athlete relationship and a task climate. Our data support the findings of Horn, Byrd, Martin and Young (2012), who showed that the coaches of adolescent athletes can utilize some dimensions of an ego-oriented climate, providing that they combine these strategies with elements of a task-oriented one. Our results concerning Profile 3 are in line with the previous studies, suggesting that perception of a high ego-involved climate can lead to negative experiences in organized sports (Smith, Cumming & Smoll 2008, Cumming et al. 2007, Vazou, Ntoumanis & Duda 2006).

6.3 Young athletes' motivation in sports

With respect to young athletes autonomous and controlled motivation, the following four motivational profiles emerged from the cluster analysis: (1) high autonomous–high controlled profile (high AU–high C group), (2) moderate autonomous–low controlled profile (mod AU–low C group), (3) moderate autonomous–moderate controlled profile (mod AU–mod C group), and (4) low autonomous–low controlled profile (low AU–low C group). In contrast to the assumptions of self-determination theory (SDT), the present data did not reveal any traditional highly autonomous (high AU–low C) or highly controlled motivational profile (low AU–high C). Similar results have been reported in earlier studies on motivation in the field of sport and exercise psychology (Gillet, Vallerand & Rosnet 2009, Ullrich-French & Smith 2009, Vlachopoulos, Karageorghis & Terry 2000), lending support to Vallerand's (1997) argument that in real life-settings, theoretical self-determined or controlled profiles may not always exist, and motivational profiles may be manifold. It should also be noted that the previous studies have applied varied motivational profile measurements, clustering variables and ways of labelling groups. Because of the large variation in the applied methodical solutions, caution needs to be exercised in comparing the results reported in different studies.

The present data did not show any differences between genders in the amount of autonomous and controlled motivation, or uneven gender distributions in the motivational profiles. These findings are in contrast to studies of Pelletier et al. (1995) and Chantal et al. (1996), who reported that female athletes achieved higher scores in intrinsic motivation than male athletes did. On the other hand, there are also studies on motivational profiles which have not found any differences between genders (Ullrich-French & Smith 2009, Vlachopoulos, Karageorghis & Terry 2000, Yli-Piipari et al. 2009), or in which gender has not been included in the experimental design (Chian & Wang 2008, Gillet, Vallerand & Rosnet 2009, Ntoumanis 2002, Yli-Piipari et al. 2012). Based upon the recent empirical findings, there seem to be good grounds to propose that adolescent female and male team sport athletes tend to exhibit autonomous and controlled motivation in a similar way.

An attempt was made to investigate the roles of contextual autonomous and controlled motivation in relation to perceived physical competence, amount of practice and enjoyment. The data of the present study showed that perceived physical competence was significantly higher among the participants in Profile 1 (high AU–high C) and Profile 2 (mod AU–low C) than it was among the participants in Profile 3 (mod AU–mod C) and Profile 4 (low AU–low C). In line with SDT and hierarchical model of intrinsic and extrinsic motivation (HMIEM, Ryan & Deci 2002, Vallerand 2007, Vallerand & Losier 1999), high levels of autonomous motivation appeared to be connected to greater feelings of competence (Profile 1), and low autonomous motivation to low perceived competence (Profile 4). It should be noted, however, that enhanced perceived

competence was actually connected with certain combinations of autonomous motivation and controlled motivation (Profile 1), lending support to the previous studies by Biddle and Wang (2003) and Chian and Wang (2008). Given that Profile 2 (mod AU–low C) also displayed higher levels of perceived competence than Profile 3 (mod AU–mod C), it seems that moderate levels of autonomous motivation may as well be associated with higher perceived competence, providing that the level of controlled motivation is low. As a whole, the present findings offer additional insights into the interplay between autonomous and controlled motivation, as well as of the relationship between adaptive motivational profiles and perceived physical competence.

With respect to the amount of practice, the participants in Profile 1 (high AU–high C) practiced their sport more than the participants in the other three profiles. Our finding is in accordance with a study by Yli-Piipari et al. (2012), which showed that the combination of high autonomous and high controlled motivation was positively connected with self-reported physical activity among physical education students. Based upon these findings, it is argued that in addition to high levels of autonomous motivation, in some groups of students or youth athletes, controlled motivation may have a special role in physical activity or sport training. Given that training is not always enjoyable or intrinsically motivating, controlled motivation may sometimes be needed in order to sustain intensive practice periods. In the present study, a statistically significant difference was also found between Profile 2 (mod AU–low C) and Profile 4 (low AU–low C), indicating that the lack of both autonomous and controlled motivation can be related to diminished amounts of practice.

The participants in Profile 1 (high AU–high C) and Profile 2 (mod AU–low C) reported high levels of enjoyment more often than they reported low levels of enjoyment, whereas in Profile 3 (mod AU–mod C) and Profile 4 (low AU–low C), participants reporting low levels of enjoyment were overrepresented in the data. The results lend support to SDT and HMIEM concerning the relationship between autonomous motivation and positive affective influences (Deci & Ryan 1980, Pelletier et al. 1995, Ryan & Deci 2002, Vallerand 2001, Vallerand 2007). The present data (see Profile 1 versus Profile 4) are also in line with previous empirical studies, suggesting that high intrinsic and autonomous motivation can be related to higher levels of enjoyment compared to low intrinsic motivation (Chian & Wang 2008, Ntoumanis 2002, Vlachopoulos & Karageorghis 2005). The present study, however, provides additional information concerning this relationship, showing that moderate levels of autonomous motivation can also result in higher levels of enjoyment, providing that the level of an athlete's controlled motivation is low (see Profile 2 versus Profile 3).

Collectively, the present findings appear to support both SDT and HMIEM when it comes to the positive and adaptive effects of autonomous motivation. It is not just intrinsic motivation, but also the autonomous forms of extrinsic motivation that can have a positive influence on an athletes' cognition, behavioural patterns and emotions. In contrast to SDT and HMIEM, however, a high level of controlled motivation was associated with enhanced perceived

physical competence, a higher amount of practice, and higher levels of enjoyment, but only when the level of autonomous motivation was also high. These findings are in line with some earlier empirical reports suggesting that high levels of autonomous and controlled motivation may be positively connected to factors such as enjoyment and satisfaction (Vlachopoulos et al., 2000), performance (Gillet et al., 2009), enjoyment and activity in physical education lessons (Yli-Piipari et al., 2012), and perceptions of autonomy, competence and relatedness as well as effort, value, and enjoyment (Ullrich-French & Cox, 2009). Based upon the recent findings, there are good grounds to propose that motivation should be examined with a focus on different motivational profiles rather than by considering autonomous and controlled motivation as opposite ends of the self-determination continuum.

As the current data showed, the most beneficial motivational profile, in terms of perceived physical competence, amount of practice and enjoyment was the one with high autonomous and high controlled motivation. This finding is of interest because, on the basis of STD, high controlled motivation should have not resulted, for example, in perceived competence. Earlier studies by, Vlachopoulos et al. (2000) and Gillet et al. (2009) proposed that a high level of autonomous motivation may have a protective function against the negative effects of controlled motivation. Vlachopoulos et al. (2000) and Ullrich-French and Cox (2009) stated that high autonomous motivation may lead to positive consequences regardless of the level of controlled motivation. Their view is in accordance with our findings, showing that the less adaptive influences were associated with the combinations of (a) moderate autonomous motivation and moderate controlled motivation, and (b) low autonomous motivation and low controlled motivation. An alternative interpretation is that Profile 1 (high AU–high C) was more adaptive in terms of perceived physical competence, amount of practice and enjoyment because high controlled motivation may have operated in an additive fashion, resulting in a more beneficial way than only having high autonomous motivation (Lepper & Henderlong 2000).

The present results of the structural equation model suggested that there seems to be an overall effect of task and ego orientations on persistence in sport via the mediation of perceived competence and relative autonomous motivation. The findings revealed that young players' task and ego orientations positively predicted perceived competence in football, ice hockey and basketball. This finding is in accordance with previous research, suggesting that high achievement goals positively interact with young athletes' perception of their athletic competence (Nicholls 1989, Cervelló, Escarti & Guzman 2007, Ntoumanis 2001). The present finding also implies that perceived competence moderates the impact of young athletes' relative autonomous motivation towards football, ice hockey and basketball. While the direct path from ego orientation to relative autonomous motivation showed a negative effect, our results showed that ego orientation became a positive predictor for relative autonomous motivation via perceived competence. Based on this finding and previous studies, it can be argued that the more competent young athletes perceive themselves to be at an

activity, the more autonomously motivated they feel themselves (Ntoumanis 2001, Pelletier et al. 1995).

The final path of the present model showed that young athletes' relative autonomous motivation positively predicted persistence in organized football, ice hockey and basketball one competitive season later. This is in line with previous studies (Sarrazin et al. 2002, Pelletier et al. 2001, Jõesaar, Hein & Hagger 2011), suggesting that young athletes who sustain participation in organized activities, show high self-determined motivation towards their sports. The direct effect of ego orientation on persistence in the current study extends the literature on dropout from youth sports. It can be argued that participation motives such as skill assessment, competition or comparison with others can be positively related to young athletes' persistence in organized sport settings. However, it should also be noted that the present findings do not show what other consequences may stem from ego orientation. It may be that ego orientations are good motivators of behaviour until the external stimuli are removed. If young athletes' behaviours are driven by ego-involvement, the outcomes achieved, such as persistence in sport, might be contingent upon the external force.

6.4 Methodological considerations

6.4.1 Validity and reliability

The validity and reliability of the Finnish version of the used scales were examined in order to standardize them in organized sport settings. It should be noted that psychometric properties of the Finnish versions of the scales have been reported for the Perceived Motivational Climate Sport Questionnaire (PMCSQ), Perceived Physical Competence Scale (PPCS), Enjoyment Scale (ES) and Perception of Success Questionnaire (POSQ) in the context of youth football players (Liukkonen 1998), and for the Sport Motivation Scale (SMS) in the context of Finnish school physical education (Jaakkola 2002). The analyses of the Finnish version of the Questionnaire for Sport Attrition and the direct Coach–Athlete Relationship Questionnaire were undertaken for the first time in this study. To the best of our knowledge, no validated Finnish scales that measure personal reasons for withdrawal from youth sport or the interaction from athletes and coaches have been applied previous to this. The analyses of all scales used in the present study revealed satisfactory psychometric properties. The internal consistency of scales was similar to that of the existing Finnish PMCSQ, PPCS, ES, POSQ and SMS.

6.4.2 Limitations of the study

The data of the current study were collected with a comprehensive selection of scales and the data were robustly tested using a latent variable approach with

validated measures. However, there are some limitations that should be acknowledged and taken into a consideration when interpreting the data. First, the cross-sectional nature of the present data does not allow drawing inferences about causation. Only the presented motivational path model of young athletes' sport participation provides sophisticated statistical methods for assessing the causalities of variables in cross-sectional research.

Second, there are also some limitations related to the scales used in the present study. For instance, although the Questionnaire of Reasons for Attrition (QRA) provides the first comprehensive assessment of personal reasons for withdrawal in the Finnish contexts, the items did not allow us to evaluate reasons for withdrawal outside of the sport context. For example, the utilization of the original 3-point Likert scale may have limited the statistical analyses. It should be noted that the use of more recently developed scales such as the PMCSQ-2 (Newton, Duda & Yin 2000), the Motivation Climate Scale for Youth Sport (Smith, et al. 2008), or the Sport Motivation Scale II (Pelletier et al. 2013) could have been an advantage for the present study. The PMCSQ-2, for example, has more subscales and so offers additional insights. The Motivation Climate Scale for Youth Sport contains only 12 items, which may have had a positive effect on the response rate. The Sport Motivation Scale II now also has integrated regulation subscale, which could have provided additional insights of young athletes' self-determined motivation in organized youth sports.

Third, one limitation to consider is that despite the relatively large number of respondents, the overall response rate was rather low. It is assumed that shorter and easier questionnaires as well as the use of more modern technologies (e.g. Android apps or SMS tracking) could have achieved a higher response rate among young participants. The critical question is whether the athletes who did not respond to the questionnaire differed from the athletes who did respond to it. Fourth, even tough the sample of youth Finnish football, ice hockey and basketball players, represented teams from across Finland, the investigation was limited to male-dominated team sports, and to players of the same age and culture. Caution should therefore be taken when drawing conclusions concerning the whole age category, culture and nature of sport.

6.5 Practical implications

From a practical point of view, the present findings provide a complementary perspective into organized youth sport focusing on reasons for persistence in or withdraw from sport, the coach–athlete relationship and motivation. Based on our findings, coaches may benefit from developing a positive coach–athlete relationship (e.g. stability, trustworthiness and appropriateness) and creating a climate in which cooperative learning is encouraged and success is measured through effort and improvement. In addition, the present findings also imply that within the contexts of adolescents' competitive team sports, coaches can encourage young athletes to focus on comparative ability and ego-involved

goals (e.g. mistakes are followed by punitive feedback due to task failure and lack of ability), provided that at the same time they combine these with positive interpersonal relationships and components of a task-involved climate (e.g. performance mistakes are considered as potential learning experiences). Coaches working with youth athletes should consider these factors when planning daily practices and building up an environment that young athletes find motivational. It is then recommended that sports practitioners invest regularly in coaching education programmes and share ideas with contemporary sport experts to create positive coach–athlete relationships and an optimal motivational atmosphere on teams (Langan, Blake & Lonsdale 2013). For instance, Barnett, Smoll and Smith (1992) found that baseball players who played on teams whose coaches had participated in a preseason workshop designed to facilitate the coach–athlete interactions, enjoyed their sport more and exhibited lower withdrawal rates than the players who played on teams whose coaches had not participated in the workshop. They also emphasized that inadequate coaching education could limit the content of training sessions, and coaches my end up using similar drills and exercises from session to session. It is important that coaches in youth sport are provided with extensive pedagogical and psychological knowledge to satisfy young athletes' needs and support athletes' expectations and goals.

With respect to young athletes' self-determined motivation, the present results highlight the importance of supporting young athletes' autonomous motivation towards their sport participation. As the data show, autonomous motivation appeared to be positively connected to perceived physical competence, amount of practice and enjoyment, which in turn are essential factors concerning success and persistence in sport. According to SDT and HMIEM, competence, feeling of autonomy and relatedness are needed for developing autonomous motivation (Ryan & Deci 2002, Vallerand 1997). Sports practitioners could invest more in offering encouraging praise and feedback, in supporting an adolescent's role as a causal agent of his or her own career in sport, and in building up a socially secure and stable environment for participating in sport. Interestingly, however, in the present study even high levels of controlled motivation did not seem to be entirely harmful. It turned out that high or moderate levels of controlled motivation had adaptive consequences, provided that it coincided with high levels of autonomous motivation. In the present study, the participants with less adaptive motivational profiles (mod AU–mod C) and (low AU–low C) represented more than one half (54%) of the total sample. Given that these athletes can be assumed to be at greater risk to terminate their participation in organized sport, stronger investment of both controlled and autonomous motivation might increase the number of athletes who are willing to invest persistent effort in their career in organized sports.

Sports clubs and sports practitioners aiming to fulfil young athletes' dreams of reaching elite status should foster young athletes' achievement goals, and provide an environment that supports young athletes' relative autonomous motivation. The challenge for clubs and coaches is to invent or select develop-

mental tasks, exercises and training as well as and learning contexts which facilitate and satisfy young athletes' needs related to sporting activities. It becomes essential that coaches involve young athletes in decision-making and goal-setting processes, and incorporate their ideas and needs into activities that are relevant to the athletes' participation. According to previous studies, it is recommended that sport practitioners should emphasize the adoption of a task-oriented motivational climate which fosters task orientation and autonomous motivation, but which is not harmful to young athletes' ego orientation (Biddle et al. 2003).

It appears necessary that coaches understand their athletes also outside of the sport context and show a true interest in their lifestyle. In the model of coaching behaviour, Mageau and Vallerand (2003) illustrated that coaches who support their athletes' autonomy provide a better structure, communicate accurately about expectations and demonstrate a true interest in the athletes' lives, can provide a supportive environment for young people. Young athletes require individual support and a constant feeling of being needed in the team. However, the present findings showed that the highest withdrawal rate was at the end and the beginning of the season. It could be speculated that maybe not enough attainable goals for the individual or the team were presented at the beginning of the season by the coach to the withdrawn athletes. Furthermore, given that in youth sport only the best athletes are suggested to continue after a certain age, it can be asked whether there are enough alternatives for young athletes to continue at lower levels and return at a later time to the higher ones.

Withdrawal from youth sport cannot be completely avoided. Sometimes unavoidable problems arise that are out beyond the control of significant others. Coaches may do an excellent job and support young athletes in all matters, and young athletes still withdraw. Withdrawal may be a normal occurrence for young people as they experiment with various roles and activities during their adolescence. Young athletes may simply withdraw because their interests have turned to new endeavours, and not because of negative experiences with sport. They can perceive themselves as highly competent, successful, able and skilful, yet still withdraw from sport (Johns, Lindner & Wolko 1990). A young athlete's decision to withdraw from sport must also accepted by significant others so that she or he does not need to leave with a feeling of failure.

6.6 Recommendations for future research

Future studies should look for alternative environmental and personal characteristics that determine young athletes' persistence behaviour in organized sports. For example, the withdrawal reason "had other things to do" should be further clarified in future studies in order to determine the other priorities that athletes deal with outside of sports. The examination of the influences and interactions of other social agents, such as peers or parents, could enrich the youth sport literature. There are, it seems, only a few studies

which have reported that peers or parents can play important roles in building up the motivational atmosphere within a team, as well as contribute to young athletes' sport persistence (Stuntz & Weiss 2003, Kanters, Bocarro & Casper 2008). It would be also interesting to examine withdrawn athletes for their recommendations in terms of what changes need to be made so that young athletes would return to organized sports.

In order to further understand young athletes' participation behaviour in organized sport, it might be useful to classify coaches on the basis of their coaching style and educational backgrounds by including the aspect of volunteer and employee coaches. Especially in Finland this kind of study design could be fruitful, since almost all Finnish sports clubs depend on volunteer coaches (Kokko 2010). One recommendation is that future studies focus on coach–athlete interaction, in order to integrate more scientifically derived knowledge into intervention-based programmes as well as into everyday coaching practice. It is important to examine how different configurations of motives can have implications for everyday coaching in youth sport, particularly with respect to issues such as effort and commitment to practice. Future research needs to accept the challenge of identifying quality coaching in youth sport and offer coaches more information about motivational and communicative aspects of coaching in order to better understand themselves and their behaviour in daily practices.

Consideration should be given to alternative methodological approaches. The current study was a cross-sectional design and therefore the data do not address the extent to which psychosocial determinants are amenable to change along an athlete's developmental path. In future studies, longitudinal designs should be applied to assess youth athlete samples over an extended period of time in order to determine the development and stability of motivational behaviour in youth sport. Such study designs would allow researchers to better infer the causal nature of young athletes' motivation for continuing participation in organized sport. In addition, the application of video observation, ability tests or interviews could provide youth sport literature with additional insights for understanding athletes' participation behaviour (Vierimaa et al. 2012, Theeboom, De Knop & Weiss 1995). Qualitative methods and observations might provide sports practitioners with limited depth and breadth relevant to the subjective experience of young athletes as well as show in more detail what happens in young athletes' training sessions.

From the theoretical perspective, it would be of importance to investigate the interplay between youth athletes' internalized and external reasons for engaging and persisting in their participation in competitive sports. Such information would provide researchers and policymakers with not only valuable insights into identifying those young athletes whose behaviour may have maladaptive consequences, but it would also assist in developing interventions designed to strengthen athletes' participation motives. Moreover, more research is needed to determine and understand the most effective motivational profiles in sport contexts. Based upon the present findings, it is of importance to examine

the circumstances under which controlled motivation leads to negative outcomes and when its effect can be positive. Focusing on athletes' situational motivation instead of on their global or contextual motivation could help future research to learn more about the dynamic nature of motivation in youth sports.

Future research should not forget to explore cultural and gender variations in young athletes' participation behaviour as well. This is of particular importance since it has been reported that that the organization and sport participation behaviour in Finland differ from other countries (Mäkinen 2011). For example, in Molinero et al. (2006, 2009), Spanish withdrawn athletes ranked their withdrawal reasons differently in the perception of excitement and social issues than did the participants from the present study. It has been also found that Finnish youth find more opportunities for spontaneous physical activities in a safe environment than youth from other countries, and that gender differences in leisure time physical activity are smaller in Finland than in most other countries (Telama et al. 2002). Finally, although the present study has focused on male-dominated sports (i.e. football, ice hockey and basketball), which represent the most popular team sports among Finnish youth (Kansallinen liikuntatutkimus 2010), in future studies it is of importance to examine young athletes' psychosocial determinants in sports also within the contexts of individual sports among male and female athletes as well as among different age groups. The current results could be used as a framework for further research in organized youth sport, because the present dissertation represents a large amount of data, and a careful categorisation of the participants.

7 CONCLUSIONS

The main findings and conclusion of the present dissertation are as follows:

1. The results showed that lack of interests and social issues were the most important components for withdrawal among young Finnish football, ice hockey and basketball players. Coaches and teammates appeared to be the two main groups of significant others who influenced young athletes' decision making related to their withdrawal. The classification of withdrawal reasons into interrelated components seemed to be a beneficial way to receive a broader perspective regarding the withdrawal phenomena.

2. Coaches should foster closeness, commitment and complementarity with their athletes, and should focus on building up a task-involved climate to maintain sport participation among youth athletes. With respect to an ego-involved climate, it seems that coaches of adolescent athletes can utilize certain aspects of an ego-involved climate, providing that they are accompanied with a positive coach–athlete relationship and components of a task-involved climate. Sports clubs could also consider the costs and benefits of periodic coach replacements, and try to engage youth at an early age by sampling a range of activities.

3. The examination of coach–athlete relationship and coach-created motivational climate profiles, as well as autonomous and controlled motivation profiles, appeared to be useful in the study of different subgroups of young team athletes, and their associations with various sport-related issues, such as sport persistence, perceived physical competence, the amount of practice, and enjoyment. In contrast to self-determination theory and hierarchical model of intrinsic and extrinsic motivation, enhanced controlled motivation could result in positive and adaptive consequences, providing that autonomous motivation was also at a high level.

4. Based on the present motivational path model, the present findings reinforce the necessity for sports practitioners to support young athletes' achievement goals, as well as to enhance young athletes' perception of competence in order to keep them motivated and thus create the foundation for persistence in organized youth sport. In other words, fostering both task orientation and ego orientation is an essential prerequisite for the development of young athletes' skills, which in turn may have positive effects on young athletes' relative autonomous motivation for continued participation in organized sport.

YHTEENVETO (FINNISH SUMMARY)

Ohjattuun urheiluseuratoimintaan osallistuminen tarjoaa lapsille ja nuorille monipuolisia mahdollisuuksia viettää vapaa-aikaansa, ja siksi se on noussut merkittävään asemaan suomalaisessa yhteiskunnassa. Urheiluun osallistutaan monenlaisista syistä. Joillekin nautinto, hauskanpito, joukkueeseen kuuluminen tai kavereiden kanssa ajan viettäminen ovat tärkeitä syitä, kun taas toiselle syynä osallistumiseen voi olla enemmänkin jokin ulkoinen tekijä kuten sosiaalinen hyväksyntä tai vanhempien toiveet. Suomessa ohjattuun urheiluseuratoimintaan osallistuminen on kasvanut merkittävästi sekä tyttöjen että poikien keskuudessa viimeisen kolmen vuosikymmenen aikana. Tällä hetkellä yli 400,000 3-18 -vuotiasta lasta ja nuorta kuuluu johonkin urheiluseuraan. Useissa tutkimuksissa on kuvattu erityisesti juuri ohjattuun urheiluharrastukseen osallistumisen fyysisiä ja psyykkisiä vaikutuksia. Huolimatta kaikista hyödyistä mitä urheiluharrastukseen osallistuminen voi tarjota, monet lopettavat urheilun jo nuoruusvuosina. Siksi tarvitaankin lisää tutkimustietoa siitä, mitkä ovat niitä tekijöitä, jotka vaikuttavat nuorten ohjattuun urheiluseuratoimintaan osallistumiseen tai sen lopettamiseen.

Tämän väitöskirjatutkimuksen päämääränä oli tarkastella nuorten joukkueurheilijoiden osallistumista ohjattuun urheiluseuratoimintaan psykososiaalisesta näkökulmasta. Päätarkoituksena oli tunnistaa syitä, miksi nuoret urheilijat joko jatkavat tai lopettavat joukkueurheilun, sekä selvittää kuinka valmentaja-urheilija -suhde ja motivaatiotekijät vaikuttavat urheiluun osallistumiseen. Väitöskirjatutkimuksen teoreettisena perustana olivat tavoiteorientaatioteoria ja itseohjautuvuusteoria. Tavoiteorientaatioteorian mukaan pätevyyttä osoitetaan joko tehtäväsuuntautuneesti (tehtäväorientaatio) itsevertailuun perustuen, kuten omissa taidoissa kehittymällä, uuden oppimisella ja yrittämällä, tai minäsuuntautuneesti (minäorientaatio) normatiiviseen vertailuun perustuen, kuten voittamalla tai suoriutumalla paremmin kuin muut. Itseohjautuvuusteoriassa motivaatio voidaan jakaa pääasiassa sisäiseen ja ulkoiseen motivaatioon. Sisäisessä motivaatiossa toimintaan osallistutaan toiminnan itsensä ja siitä saatavan mielihyvän vuoksi, kun taas ulkoisessa motivaatiossa ulkoiset tekijät kuten palkinnot ja rangaistukset ohjaavat käyttäytymistä. Nämä motivaation osatekijät asettuvat motivaation jatkumolle, jossa autonomian eli itsemääräämisen aste kasvaa siirryttäessä kontrolloidusta ulkoisesta motivaatiosta kohti sisäistä motivaatiota.

Väitöskirjatutkimuksen aineisto kerättiin kyselytutkimuksena kahtena ajankohtana. Tutkimukseen osallistujat valittiin kahden kriteerin perusteella; he olivat syntyneet vuonna 1995, ja heillä tuli olla voimassa oleva lajiliiton lisenssi jalkapallossa, jääkiekossa tai koripallossa ensimmäistä aineistonkeruuta edeltävänä vuonna. Ensimmäisessä aineistonkeruuvaiheessa tutkimukseen osallistui 2,014 (pojat 1,451 ja tytöt 563) nuorta suomalaista jalkapallon, jääkiekon ja koripallon pelaajaa. Kyselytutkimus lähettiin samalle kohdejoukolle toisen kerran vuoden kuluttua ensimmäisestä aineistonkeruusta. Tällöin 2,243 (pojat 1,485 ja tytöt 758) 15-16 –vuotiasta nuorta osallistui tutkimukseen. Heistä 1,695 oli jat-

kanut urheiluharrastusta, ja 548 oli lopettanut pelaamisen urheiluseurassa edellisen vuoden aikana. Aineistonkeruussa käytettiin moniosaista kyselylomaketta, joka lähetettiin jokaiselle tutkittavalle postitse. Kyselylomake sisälsi taustatietojen lisäksi suomenkieliset versiot seuraavista kyselyistä: Questionnaire of Reasons for Attrition, the Coach–Athlete Relationship Questionnaire, the Perceived Motivational Climate in Sport Questionnaire, the Sport Motivation Scale, the Perceived Physical Competence Scale, Enjoyment Scale, ja the Perception of Success Questionnaire.

Tutkimustulokset osoittivat, että merkittävimpiä syitä nuorten urheiluharrastuksen lopettamiselle olivat se, että nuorella oli jotain muuta tekemistä ja urheilu ei ollut tarpeeksi innostavaa. Muita tärkeitä syitä kilpaurheilun lopettamiseen olivat muun muassa se, että ei ollut aikaa olla kavereiden kanssa, ei ollut tarpeeksi joukkuehenkeä tai urheilu ei ollut tarpeeksi hauskaa. Joukkueurheilun lopettaneet nuoret kokivat, että lähipiiristä valmentajilla ja joukkuetovereilla oli ollut eniten vaikutusta lopettamispäätökseen. Urheilua jatkaneisiin nuoriin verrattuna, urheilun lopettaneet nuoret olivat kilpailleet alemmalla tasolla, heidän harjoitusmääränsä olivat pienempiä, heillä oli ollut pidempi valmennussuhde valmentajan kanssa ja he olivat osallistuneet vähemmän aikaa ohjattuun urheiluseuratoimintaan. Urheilun lopettaneet nuoret saavuttivat matalampia arvoja tarkasteltaessa valmentaja-urheilija -suhdetta, tehtäväsuuntautunutta motivaatioilmastoa, sisäistä motivaatiota, tehtäväorientaatiota, minäorientaatiota ja koettua pätevyyttä verrattaessa urheilua jatkaneisiin nuoriin. Joukkueurheilun jatkamisen näkökulmasta hyödylliseltä vaikutti sellainen urheilijaprofiili, jossa korostui hyvä valmentaja-urheilija –suhde, korkea tehtäväsuuntautunut motivaatioilmasto sekä kohtalainen minäsuuntautunut motivaatioilmasto. Lisäksi korkean autonomisen ja korkean kontrolloidun motivaatioprofiilin omaavat pelaajat raportoivat korkeaa koettua pätevyyttä, harjoittelun määrää, sekä urheilusta nauttimista. Nuorten urheilijoiden tavoiteorientaatio ja koettu pätevyys näyttivät ennustavan autonomisen motivaation eri asteita sekä urheiluharrastuksen jatkamista.

Jotta nuoret urheilijat pysyisivät urheiluharrastuksen parissa, valmentajien tulisi edistää valmentaja-urheilija -suhteessa läheisyyttä, sitoutumista ja vastavuoroisuutta, sekä keskittyä tehtäväorientoituneen motivaatioilmaston luomiseen. Tarkasteltaessa erilaisia urheilijaprofiileja, näyttäisi siltä, että valmentajat voivat korostaa myös tiettyjä minäsuuntautuneen motivaatioilmaston puolia, mikäli ne esiintyvät yhdessä positiivisen valmentaja-urheilija -suhteen ja tehtäväsuuntautuneen motivaatioilmaston osatekijöiden kanssa. Myös kontrolloidun motivaation edistäminen voi johtaa positiivisiin tuloksiin, mikäli autonominen motivaatio on myös korkealla tasolla. Tulosten mukaan tavoiteorientaation (sekä tehtävä- että minäorientaation) edistäminen voi olla edellytyksenä nuoren urheilijan taitojen kehittymiselle, mikä toisaalta voi vaikuttaa positiivisesti nuoren urheilijan autonomiseen motivaatioon jatkaa kilpaurheilun parissa.

Yhteenvetona voidaan todeta, että tämän väitöskirjatutkimuksen tulosten perusteella urheilutoimijoiden tulisi tukea nuorten urheilijoiden tavoiteorientaatioita, edistää valmentaja-urheilija -suhdetta, autonomista ja kontrolloitua

motivaatiota, sekä parantaa urheilijan koettua pätevyyttä, jotta nuoret joukkueurheilijat pysyisivät motivoituneena jatkamaan ohjatussa urheiluseuratoiminnassa.

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Appendix 1. English translation of the background information items used in this study from the questionnaire 2010.

1. Gender

1 Male
2 Female

2. What is your sport?

1 Football
2 Ice hockey
3 Basketball

3. At what age did you start playing in a club/organization? _____years

4. Evaluate your practicing during the last season:

1 Really training = training with your team	n.___ times per week
	n.___ hours per session
2 Additional training = done with the team,	n.___ times per week
other things than game training such as running	n.___ hours per session
3 Practicing on one's own = in addition to practical training	n.___ times per week n.___ hours per session
4 Doing other sports =training connected to the other sports	n.___ times per week n.___ hours per session

Appendix 2. English translation of the background information items used in this study from the questionnaire 2011.

1. Gender
1 Male
2 Female

2. What is your sport?
1 Football
2 Ice hockey
3 Basketball

3. At what age did you start playing in a club/organization? _____years

4. The league, in which you mainly will play on this upcoming season?
_____league

5. How many practice hours you had per week in the previous season?

1 Guided training in my sport	n.___h
2 Self training in my sport	n.___h
3 Other specific exercise	n.___h

7. Are you still competing in your sport?
1 Yes
2 No

8. When did you make your decision to quite completely with your sport?

1 Spring	2010
2 Summer	2010
3 Autumn	2010
4 Winter	2010/2011
5 Spring	2011
6 Summer	2011
7 Autumn	2011

10. Which of those following persons had an influence or contributed in

1.	Dad	1	2	3	4	5
2.	Mom	1	2	3	4	5
3.	Brother/Sister	1	2	3	4	5
4.	Friends/ best buddy	1	2	3	4	5
5.	Coach	1	2	3	4	5
6.	Teacher	1	2	3	4	5
7.	Girl/ Boyfriend	1	2	3	4	5
8.	Club members/ board member	1	2	3	4	5
9.	Someone else, who? _____	1	2	3	4	5

11. How many years/months was your working partnership with your last head coach?

n. _____years

n. _____months

Appendix 3. The Finnish version of the Questionnaire of Reason for Attrition

Missä määrin seuraavat asiat vaikuttivat lopettamispäätökseesi?
1 = erittäin tärkeä 2 = jokseenkin tärkeä 3 = ei ollenkaan tärkeä

1.	Taitoni eivät kehittyneet	1	2	3
2.	En ehtinyt olemaan kavereideni kanssa	1	2	3
3.	Kaverini olivat lopettaneet	1	2	3
4.	Joukkueeni ei voittanut tarpeeksi usein	1	2	3
5.	En saanut matkustaa tarpeeksi	1	2	3
6.	Harjoittelu oli liian rankkaa	1	2	3
7.	Oli tylsää	1	2	3
8.	Joukkue ei tehnyt asioita yhdessä	1	2	3
9.	Vanhempani tai ystäväni ei halunneet minun enää pelaavan	1	2	3
10.	En enää oppinut uusia taitoja	1	2	3
11.	En saanut uusia ystäviä	1	2	3
12.	En ollut niin hyvä kuin halusin olla	1	2	3
13.	En pitänyt palkinnoista	1	2	3
14.	Harrastaminen ei ollut tarpeeksi palkitsevaa	1	2	3
15.	Minulla oli muuta tekemistä	1	2	3
16.	Harrastaminen ei ollut tarpeeksi innostavaa	1	2	3
17.	Joukkuehenkeä ei ollut tarpeeksi	1	2	3
18.	En pitänyt kilpailemisesta	1	2	3
19.	En tuntenut olevani tarpeeksi tärkeä	1	2	3
20.	En viihtynyt joukkueessani	1	2	3
21.	En ollut tarpeeksi hyvässä kunnossa	1	2	3
22.	En ollut suosittu	1	2	3
23.	Harrastaminen ei ollut tarpeeksi haastavaa	1	2	3
24.	Koin paineet epämiellyttäviksi	1	2	3
25.	En saanut tarpeeksi tunnustusta	1	2	3
26.	Minulla ei ollut tarpeeksi hauskaa	1	2	3
27.	Harjoitteluolosuhteet olivat puutteelliset	1	2	3
28.	En pystynyt osallistumaan toimintaan tarpeeksi	1	2	3
29.	Olin liian vanha	1	2	3
30.	Kärsin loukkaantumisista	1	2	3
31.	Halusin harrastaa toista urheilulajia	1	2	3

Edellisen kysymyksen vastausvaihtoehdoista kaikkein tärkein syy oli
_____.

Appendix 4. The Finnish version of the Coach-Athlete Relationship Questionnaire

Millainen suhde sinulla on nykyiseen päävalmentajaasi?

1.	Pidän valmentajastani	1	2	3	4	5	6	7
2.	Luotan valmentajaani	1	2	3	4	5	6	7
3.	Kunnioitan valmentajaani	1	2	3	4	5	6	7
4.	Arvostan työtä, jota valmentajani tekee kehittääkseen suoritustani	1	2	3	4	5	6	7
5.	Olen sitoutunut työskentelemään valmentajani ohjauksessa	1	2	3	4	5	6	7
6.	Suhteeni valmentajaani on läheinen	1	2	3	4	5	6	7
7.	Valmentajani vaikutus urheilu-uraani on positiivinen	1	2	3	4	5	6	7
8.	Olen rento valmentajani seurassa	1	2	3	4	5	6	7
9.	Otan vastaanottavainen valmentajani ohjeille ja neuvoille	1	2	3	4	5	6	7
10.	Olen valmis tekemään parhaani	1	2	3	4	5	6	7
11.	Asenteeni valmentajaani kohtaan on ystävällinen	1	2	3	4	5	6	7

Appendix 5. The Finnish version of the Perceived Motivational Climate Questionnaire

Käytä vertailukohtana sitä joukkuetta, jossa viimeksi pelasit

1.	Pelaajia kannustetaan, kun he ovat yrittäneet kovasti	1	2	3	4	5
2.	Pelaajat saivat peliaikaa vain lahjakkuuden perusteella	1	2	3	4	5
3.	Pelaajia rohkaistiin tekemään työtä heikkouksiensa eteen	1	2	3	4	5
4.	Valmentaja jakoi eniten huomiota joukkueen ”tähdille”	1	2	3	4	5
5.	Valmentaja suosi joitakin pelaajia toisten kustannuksella	1	2	3	4	5
6.	Jokainen joukkueessamme halusi tehdä eniten maaleja	1	2	3	4	5
7.	Oli tärkeää osoittaa valmentajalle, että on parempi kuin muut	1	2	3	4	5
8.	Valmentaja huomioi vain parhaita pelaajia	1	2	3	4	5
9.	Pelaajat tekivät usein ylimääräistä harjoittelua, koska halusivat kehittää pelitaitojaan	1	2	3	4	5
10.	Joukkueemme pelaajille oli tärkeää onnistua muita joukkuekavereita paremmin	1	2	3	4	5
11.	Kova yrittäminen palkittiin	1	2	3	4	5
12.	Valmentaja huolehti, että pelaajat kehittyivät taidoissa, joissa nämä eivät olleet hyviä	1	2	3	4	5
13.	Valmentaja oli tyytyväinen niin kauan kun yritimme kovasti	1	2	3	4	5
14.	Pääasia oli, että kehityimme jokaisessa ottelussa	1	2	3	4	5
15.	Ainoa asia, joka oli tärkeää joukkueemme pelaajille, oli voittaminen	1	2	3	4	5
16.	Pelaajia moitittiin epäonnistuneista suorituksista	1	2	3	4	5
17.	Oli tärkeää jatkaa yrittämistä, vaikka olisi tehnyt virheitä	1	2	3	4	5
18.	Joukkuetoverit kilpailivat toisiaan vastaan	1	2	3	4	5
19.	Vaikka hävisimme, valmentaja oli tyytyväinen, jos olimme pelanneet taitojemme mukaisesti	1	2	3	4	5
20.	Valmentajallemme oli tärkeintä, että kehityimme jatkuvasti jalkapallotaidoissa	1	2	3	4	5
21.	Pelaajat harjoittelivat kovasti, koska he halusivat oppia uusia asioita jalkapallosta	1	2	3	4	5
22.	Jokainen tunsi, että hänellä oli tärkeä rooli joukkueen jäsenenä	1	2	3	4	5
23.	Valmentaja halusi meidän yrittävän uusia taitoja	1	2	3	4	5
24.	Joukkueessamme nähtiin virheet osana oppimista	1	2	3	4	5

Appendix 6. The Finnish version of the Sport Motivation Scale

Syy miksi harrastan päälajiani…

1.	Mielihyvän takia jota sain jännittävistä kokemuksista	1	2	3	4	5
2.	Mielihyvän takia jota tunsin kun opin uusia asioita urheilusta	1	2	3	4	5
3.	Minulla oli aikaisemmin hyviä syitä harrastaa, mutta mietin pitäisikö minun enää jatkaa	1	2	3	4	5
4.	Mielihyvästä jota tunsin kun löysin uusia harjoittelutapoja	1	2	3	4	5
5.	En tiedä enää: minulla oli käsitys, etten pysty menestymään urheilussa	1	2	3	4	5
6.	Koska se sai minulle tutut ihmiset arvostamaan minua	1	2	3	4	5
7.	Koska se oli mielestäni yksi parhaista tavoista tavata ihmisiä	1	2	3	4	5
8.	Koska olin tyytyväinen kun opin jonkun vaikean harjoittelutekniikan	1	2	3	4	5
9.	Koska oli todella tarpeellista harrastaa urheilua jos halusi pysyä kunnossa	1	2	3	4	5
10.	Etuoikeudesta olla urheilija	1	2	3	4	5
11.	Koska se oli yksi parhaista valitsemistani tavoista kehittää elämäni muita osa-alueita	1	2	3	4	5
12.	Mielihyvästä jota sain kun paransin heikkoja kohtiani	1	2	3	4	5
13.	Jännityksestä jota tunsin kun osallistuin toimintaan	1	2	3	4	5
14.	Koska minun täytyi harrastaa urheilua, jotta voin olla tyytyväinen itseeni	1	2	3	4	5
15.	Tyytyväisyydestä, jota koin kun paransin kykyjäni	1	2	3	4	5
16.	Koska ihmiset ympärilläni ajattelivat, että oli tärkeää pysyä kunnossa	1	2	3	4	5
17.	Koska se oli hyvä tapa oppia paljon asioita, jotka voivat olla hyödyllisiä elämän muillakin osa-alueilla	1	2	3	4	5
18.	Voimakkaiden tunteiden takia joita tunsin, kun harrastin jotakin mistä pidin	1	2	3	4	5
19.	Se ei ole minulle enää selvää: En tuntenut, että paikkani oli urheilussa	1	2	3	4	5
20.	Mielihyvästä jota tunsin vaikean tehtävän suorittamisen jälkeen	1	2	3	4	5
21.	Koska tuntui pahalta, jos minulla ei olisi ollut aikaa harrastaa	1	2	3	4	5
22.	Näyttääkseni muille kuinka hyvä olin urheilussa	1	2	3	4	5
23.	Mielihyvästä jota tunsin kun opin harjoittelutekniikan, jota en ollut aikaisemmin yrittänyt	1	2	3	4	5
24.	Koska se on yksi parhaista tavoista pitää suhteita yllä ystävieni kanssa	1	2	3	4	5
25.	Koska pidin tunteesta olla täysin syventynyt toimintaan	1	2	3	4	5
26.	Koska minun täytyi harrastaa urheilua säännöllisesti	1	2	3	4	5
27.	Mielihyvän tunteesta, jota uusien suoritusmenetelmien löytäminen aikaansai	1	2	3	4	5
28.	Mietin usein itsekseni: En pysty saavuttamaan tavoitteitani, joita olin asettanut itselleni	1	2	3	4	5

Appendix 7. The Finnish version of the Perceived Physical Competence Scale

Millainen olet verrattuna ikäisiisi poikkin, jos olet poika tai ikäisiisi tyttöihin, jos olet tyttö. Valitse se numero, joka kuvaa sinua parhaiten reunoissa olevien väitteuden välisellä asteikolla.

1.	Osaan vähän liikunnassa	1	2	3	4	5	Olen taitava liikunnassa
2.	Olen kömpelö	1	2	3	4	5	Olen ketterä
3.	Olen jäykkä	1	2	3	4	5	Olen notkea
4.	Väsyn helposti liikunnassa	1	2	3	4	5	Olen kestävä
5.	Olen hidas	1	2	3	4	5	Olen nopea
6.	Olen heikko	1	2	3	4	5	Olen voimakas
7.	Olen tyytymätön ulkonäköön	1	2	3	4	5	Olen tyytyväinen ulkonäköön
8	Olen liian lyhyt	1	2	3	4	5	Olen liian pitkä
9.	Olen liian laiha	1	2	3	4	5	Olen liian lihava
10.	Olen huono päälajissani	1	2	3	4	5	Olen hyvä päälajissani

Appendix 8. The Finnish version of the Enjoyment Scale

1.	Pidän jalkapallosta	1	2	3	4	5
2.	Jalkapallo on hauskaa	1	2	3	4	5
3.	Jalkapalloharjoitukset tuovat minulle iloa	1	2	3	4	5
4.	Nautin jalkapallosta	1	2	3	4	5

Appendix 9. The Finnish version of the Perception of Success Questionnaire

Kun urheilin, tunsin itseni onnistuneimmaksi silloin kun…..

1.	Voitin toiset	1	2	3	4	5
2.	Olin paras	1	2	3	4	5
3.	Yritin kovasti	1	2	3	4	5
4.	Huomasin todella kehittyväni	1	2	3	4	5
5.	Pärjäsin paremmin kuin toiset	1	2	3	4	5
6.	Näytin toisille olevani paras	1	2	3	4	5
7.	Voitin vaikeudet	1	2	3	4	5
8.	Onnistuin sellaisessa, mitä en ollut aikaisemmin osannut	1	2	3	4	5
9.	Pärjäsin sellaisessa asiassa, mitä toiset eivät osanneet	1	2	3	4	5
10.	Tein kaiken parhaan kykyni mukaan	1	2	3	4	5
11.	Saavutin itselleni asettamani tavoitteen	1	2	3	4	5
12.	Olin selvästi toisia parempi	1	2	3	4	5

ORIGINAL PAPERS

I

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Personal Reasons for Withdrawal from Team Sports and the Influence of Significant Others among Youth Athletes

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ABSTRACT

The aim of this study was to identify the main reasons for withdrawal from team sports and to examine the influence of significant others (i.e., coaches, parents, peers, and siblings) in the decision making concerning withdrawal from youth sports. An attempt was also made to compare withdrawal components and the influence of significant others in terms of gender, level of competition and years of involvement in youth sports. The participants in this study were young football (American soccer) (n=397), ice hockey (n=88) and basketball (n=50) players who had terminated their participation in their sports. Principal component analysis was used to reduce the number of withdrawal items and identify principal withdrawal components. The results indicated that having other things to do and a decline in excitement were the most important reasons for withdrawal. Coaches and teammates appeared to be the two main groups of significant others who influenced young player's decision making related to their withdrawal. Statistically significant differences in withdrawal components related to ability and social issues were found between gender and years of involvement. The present findings highlight the factors that are related to the incidence of withdrawal, and at the same time, underline the role of significant others within the contexts of sport participation. Recommendations and practical implications for coaches and policy makers to reduce the withdrawal rate among young athletes are provided.

Key words: Dropout, Gender, Parents, Peers, Siblings, Sport Coaches, Youth Sport

Reviewers: Thelma Horn (Miami University, OH, USA)
Tiffanye Vargas (California State University, Long Beach, USA)

INTRODUCTION

Enthusiasm towards participation in youth team sports such as football, basketball or ice hockey is a widely known phenomenon. The participation provides the youths with many opportunities to spend their leisure time in productive ways. Youths can increase their physical activity, develop physical and social skills [1], and learn important life skills such as cooperation, discipline, fair play, leadership and self-control [2]. Moreover, it appears that joining organized sports at an early age and continuing sporting activities through adolescence increase the likelihood for a physically active lifestyle later in adulthood [3].

In Finland, the participation in organized sport has significantly increased over the last three decades in both genders [4]. Currently, there are more than 400,000 children between the age of 3 and 18 who are members in organized sports [5]. Despite all the benefits that organized sport can offer, every year more than one-third of young athletes withdraw from youth sport [6]. This being the case, empirical research has shown an increasing interest in understanding withdrawal from youth sport in the last decades. Most often it has been argued that reasons for withdrawal included issues such as conflict of interest and interest in other activities. Other common reasons for withdrawal were related to boredom, negative experience with the coach, lack of fun and skill [7-9]. In addition to the general withdrawal reasons mentioned in the literature, Eystein [10] found, that the frequency of injuries and the stagnation in performance were the main withdrawal reasons among young promising track and field athletes.

Augustini and Trabal [11] divided the withdrawal reasons among boxers into interrelated factors, namely the difference between the participant's expectations and the reality of the sport, the quality of the relationship between training partners, the coaching standards and the organizational quality of clubs. While this classification of withdrawal reasons can be a useful tool to identify patterns or trends within the withdrawal phenomenon, it may also limit scientists and policy makers in their investigations concerning withdrawal from sports. There may exist withdrawal reasons reported by young athletes that do not fit into any of those four factors. Therefore, it seems to be more beneficial to focus more on the athletes by classifying the withdrawn athletes and then pay more attention to the individual approach of withdrawal reasons. Athletes who have competed at a higher level or have had more years of participation may have other reasons for withdrawal than athletes who competed at a lower level or had fewer years of participation in youth sports.

Lindner et al. [7] have developed a model for the description of withdrawal types on the basis of earlier studies. In their classification, withdrawn athletes are categorized into four types based on their involvement in sports, the amount of time spent in training, and their level of competitions. The first type consisted of sampler athletes who go from sport to sport without ever being seriously involved into sports. The second comprised of low-level athletes who have participated at recreational level. The third type consisted of high-level athletes who have terminated their participation in sports. The fourth type comprised of elite-level participants. Butcher et al. [8] have reported in their investigation significant differences in withdrawal reasons among these four withdrawn types. They showed also that the majority of withdrawn athletes did not permanently withdraw from sports. Some were competing in another sport at the time of withdrawal or started with a new sport, and some of the withdrawn athletes later rejoined the same sport. However, this may not always be the case, for instance in Armentrout and Kamphoff's [12] perspective young athletes who had withdrawn from youth sport were not very likely to return to sports.

Armentrout and Kamphoff [12] consider also that approximately one-third of all youth athletes who withdraw from youth sports are influenced by the coach. This may be due to the

negative aspects of coaching behaviour and standards, including issues like excessive control, negative feedback, and the creation of negative self-images related to the negative reinforcement from the coach [13]. Nevertheless, past research has focused strongly on the influence of coaching behaviours and styles on an athlete's performance outcomes, and less on the influences of coaching behaviour in withdrawal from youth sports. A recent study by Fraser-Thomas et al. [14] noted differences in the perception of coaching between withdrawn and engaged athletes. Withdrawn athletes viewed their coaches as less motivating and supportive, and more controlling and autocratic compared to those athletes who continued their participation in organized sports. Fröhlich and Würth [15] and Pelletier et al. [16] reported similar results, showing that the withdrawn athletes did not receive constructive instructions, democratic behaviour, positive feedback and social support as often as those athletes who continued. However, it may not be only the quality of the coach-athlete dyad that seems to have an impact in young athlete's termination. Weinberg and Gould [17] argue that the scheduling of the season, which is normally planned by coaches or policy-makers, can be also one reason why young athletes terminate their participation. It may be that some coaches believe that the best way to produce superior young athletes is to have them play only one sport and to play virtually year round, but previous studies have reported many costs of year-round training including social isolation, overdependence, withdrawal/burnout and higher risk of overuse injury [18, 19].

In addition to coaches, parents or peers may also negatively influence young athlete's sports experience [20]. Parental over-involvement, pressure, criticism, false expectations and low amount of physical and social support have been associated with sport withdrawal [21]. Ulrich-French and Smith [22] revealed that football players who indicated a higher peer acceptance and a higher parental relationship displayed lower stress levels, higher enjoyment and higher perceived competence in youth sports than others did. It seems that the way in which parents or peers engage in sport settings may have important implications for sustained participation in youth sports. To achieve a better insight into the matter of withdrawal from youth sport, it might be useful to subdivide parents into mother and father. Also the definition of peers appears within the context of sport withdrawal too general, because particularly in adolescence, youths may start to divide peers more in real friends, teammates or acquaintances.

To date, the majority of research regarding withdrawal from sport has used two theoretical approaches; i.e., achievement goal theory [23] and the self-determination theory [24]. These two theories offer an insight into the motivation of children and adolescents to engage, sustain or withdraw from sport. Relatively less research has been done on personal reasons for withdrawal from organized sport among youth athletes. Most notably, no studies have classified withdrawal reasons into interrelated components and compared those with different withdrawal types. This type of classification could be informative and useful for coaches and policy makers to better understand sport termination among youth athletes.

Thus, to establish a better understanding about sport termination, and to plan actions that could be carried out to maintain participation in youth sports, the primary aims of the present study were: 1) to identify the main reasons for withdrawal, 2) to assess the influence of significant others in the decision to withdraw from youth sports, and 3) to compare withdrawal reasons and the influence of significant others among gender, level of competition and years of involvement.

METHOD

PARTICIPANTS

The participants in this study were Finnish junior-level athletes who had withdrawn from football (American soccer) (n = 397) ice hockey (n = 88) and basketball (n = 50). Withdrawn athletes were defined as someone who had competed in football, ice hockey or basketball during the previous year and had voluntarily or mandatorily (e.g., injuries) terminated their participation in youth sport. Participants ranged in age from 15 to 16 years (M = 15.79, SD = 0.33). This age group was chosen because previous studies have reported that the withdrawal rate is particularly high in adolescents [10, 25]. The participants were selected on the basis of four criteria. First, all participants were born in 1995. Secondly they held a valid playing licence of his or her sport federation, providing information about each athlete's membership in the club. Thirdly, they were enrolled in youth football, ice hockey and basketball for a minimum of two years. Finally, they competed at an elite (international and national) or sub-elite (regional, local) level. The present study attempted to compare several withdrawal types in a similar manner to Lindner et al. [7]. However, the two withdrawal types called sampler and low-level athletes were not included, because they did not meet our criteria. In contrast with previous studies, all participants were also classified into two categories based on the years of involvement in youth sports. These two categories were athletes with earlier (under 7 years old) and later (7 years upwards) entrances into the primary sport. The rationale for identifying seven years as the cut-off is based up on the Finnish school system and earlier studies conducted in Finland. However, also in the Development Model of Sport Participation or DMSP from Côté et al. [26] the median age for children to join organized sport clubs is seven years old.

INSTRUMENT

The data were collected using the Questionnaire of Reasons for Attrition (QRA) to identify the main reasons for withdrawal from youth sports [27]. The QRA has been used in several studies over the last decades [9, 28, 29]. The QRA included 31 items (e.g., 'it was not exciting enough', 'there was no team work' and 'skills did not improve'. To obtain the most accurate responses, the original three-point Likert scale in the questionnaire was used. Responses to each of the items were given from the withdrawn athletes ranging from had been *important, somewhat important* or *not at all important*. The questionnaire was translated into Finnish using the parallel back-translation procedure by bilingual persons. The withdrawn athletes were also asked to complete a questionnaire assessing general background information such as season of attrition, level of competition and years of involvement. In addition, a question with a five-point Likert scale (where *1= not at all* and *5= very much*) was created to assess how strongly their significant others (i.e., coaches, mother, father, friends) have influenced or contributed to young athletes' decisions to withdrawal from youth sport. The questionnaire also allowed young withdrawn athletes to distinguish between peers in a more precise way (i.e., friends, teammates, girl-/boyfriend).

PROCEDURES

Participants' selection was a multi-stage process. Initially, in spring 2010, the data collection was carried out to assess the participants and their playing licence. The information concerning the participants in three team sports was obtained with the help of the national football, ice hockey and basketball federations. The playing license was used to indicate persistence in youth team sport. One year after the initial data collection was carried out, the questionnaire and a cover letter were mailed to the athletes who had withdrawn from youth sport within the

past year. The data were collected at the end of the 2011 playing season of the three team sports. The athletes had the option to choose a paper or online version of the questionnaire. A cover letter was included, providing instructions for completing the questionnaire and returning it. To avoid receiving socially acceptable or dishonest answers, confidentiality procedures were carefully explained and guaranteed through a written specification of the respondent's level of confidentiality. The cover letter also included pre-addressed postage-paid envelopes to make it easy for the respondent. A reminder e-mail message with an additional copy of the survey was sent to players who had not responded to the questionnaire three weeks after the first initial mailing. Participants were told that there would be no direct benefit to them for their participation. Participation was completely voluntary, and the participants were offered the option to withdraw from the study at any time without any negative repercussions. A total of 548 withdrawn athletes responded to the questionnaire. The overall response rate to the survey was 13%. The response rate was 13% for football, 10% for ice hockey and 14% for basketball players. Incomplete and not adequate data reduced the final participant's pool to 535 withdrawn athletes.

DATA ANALYSIS

The data analyses proceeded as follows. Firstly, descriptive statistics were performed to assess the characteristic of the participants, and the most important reasons for withdrawal. Secondly, a principal component analysis on the 31 items from the ORA was performed in order to classify withdrawal reasons into different components, and to compare derived withdrawal components in terms of gender level of competition and years of involvement. Thirdly, we examined whether there were differences among withdrawal components and gender, level of competition and years of involvement through a 2x2x2 MANOVA. Finally we completed the examination with a t-test to examine potential differences among the influence of significant others and gender, level of competition and years of involvement. The data were analyzed using SPSS version 18.0 (SPSS Inc. Chicago IL).

RESULTS

Table 1. Characteristics of Young Finnish Withdrawn Athletes

	Total n	**Football n=397**	**Ice hockey n=88**	**Basketball n=50**
Gender				
Female	249	206	10	33
Male	286	191	78	17
Level of competition				
Elite	105	82	9	14
Sub-elite	430	315	79	36
Season of withdrawal				
Pre-season	161	142	8	11
Start-season	79	55	16	8
End-season	212	130	54	28
Off-season	67	55	9	3

The characteristics of the participants and the seasons of withdrawal are presented in Table 1. The withdrawal rate was highest in the end of seasons (40%) and in the pre-season (30%).

Basketball players (56%) and ice hockey players (62%) showed in the end of the season a high withdrawal rate. The highest withdrawal rate for football players was in the pre-season (36%), but the rate was also quite high (33%) at the end of the season. Furthermore, football (14%) and basketball (6%) players indicated in the off season the lowest withdrawal rate. Ice hockey players indicated the lowest withdrawal rate in the pre-season (9%) and off-season (10%).

Table 2 illustrates in rank order the means and standard deviations of the 31 withdrawal reasons among the athletes. The most important reason for withdrawal for the entire participants were "had other things to do" (*M*=2.03) and decline in enthusiasm (*M*=2.09). Other major reasons for withdrawal from youth team sports included issues such as not being able to be with friends (*M*=2.29), lack of team spirit (*M*=2.30), and interest in another sport (*M*=2.35). The least reasons for the withdrawn athletes were related to the achievement of awards and athlete's age.

Table 2. Ranking Number Means (*M*) and Standard Deviation (*SD*) of the Individual Withdrawal Reasons among Young Finnish Football (*n*=397), Ice Hockey (*n*=88) and Basketball (*n*=50) Players

Rank no.	**Items**	**M**	**SD**
(1)	Had other things to do	2.03	0.74
(2)	Not exciting enough	2.09	0.76
(3)	Not able to be with my friends	2.29	0.75
(4)	Not enough team spirit	2.30	0.81
(5)	Wanted to play another sport	2.35	0.81
(6)	Did not have enough fun	2.39	0.72
(7)	Did not receive enough rewards	2.44	0.71
(8)	Not as good as I wanted to be	2.44	0.71
(9)	It was boring	2.46	0.69
(10)	No teamwork	2.48	0.70
(11)	Did not like being on the team	2.49	0.72
(12)	Injured	2.50	0.76
(13)	Did not feel important enough	2.53	0.69
(14)	My skills did not improve	2.57	0.63
(15)	Friends no longer played	2.59	0.64
(16)	Did not participate (compete) enough	2.63	0.63
(17)	Not in good enough shape	2.67	0.58
(18)	Did not learn new skills	2.68	0.57
(19)	The training was too hard	2.68	0.56
(20)	Did not like the pressure	2.69	0.57
(21)	Did not get enough recognition	2.71	0.54
(22)	Did not win (enough)	2.73	0.53
(23)	Not able to use the equipment or facilities enough	2.74	0.55
(24)	Did not like to compete	2.75	0.54
(25)	Did not meet new friends	2.76	0.53
(26)	Was not popular	2.79	0.50
(27)	Not enough challenge	2.82	0.45
(28)	Parents or friends no longer wanted me to play	2.90	0.35
(29)	Did not travel enough	2.93	0.29
(30)	Too old	2.94	0.28
(31)	Did not like the awards	2.94	0.26

In order to reduce the number of withdrawal items and identify withdrawal components, a principal component analyses (PCA) was conducted for the 31 items of the QRA. The criteria for extraction included: a) eigen values greater than 1.0; b) a minimum of 5% explained variance per component; c) unique loadings of 0.50, and 0.10 cross loading differences; and d) acceptable KMO (Kaiser-Meyer-Olkin) measure of sampling and Bartlett's test for sampling adequacy and sphericity. A four-component structure was revealed for the 31 items. The generation solution indicated that 1 item (6) had cross-loading smaller than 0.10, and 11 items (3, 5, 7, 12, 15, 16, 19, 22, 24, 28, 30) recorded component loadings smaller than 0.50. The KMO and Bartlett's test were significant. When conducting PCA once again on the remaining 19 items, again a four-component solution emerged. The item (20) failed to record a loading of 0.50 or above. Table 3 shows the components on which the items loaded, the item's loading communalities (h^2), the percentage of variance explained by each component, the eigenvalues, and the α coefficients.

Table 3. Principal Component Analysis of the Questionnaire of Reasons for Attrition

Item no.	Items	Component 1	Component 2	Component 3	Component 4	h^2
Social issues/components						
(4)	Not enough team spirit	0.78				0.68
(10)	No teamwork	0.67				0.56
(11)	Did not like being on the team	0.81				0.69
(13)	Did not feel important enough	0.67				0.64
(21)	Did not get enough recognition	0.55				0.46
(25)	Did not meet new friends	0.65				0.49
(26)	Was not popular	0.66				0.56
Ability related						
(8)	Not as good as I wanted to be		0.75			0.61
(14)	My skills did not improve		0.78			0.67
(17)	Not in good enough shape		0.56			0.33
(18)	Did not learn new skills		0.70			0.64
Extrinsic Motivation						
(23)	Not able to use the equipment or facilities enough			0.61		0.40
(27)	Not enough challenge			0.74		0.57
(29)	Did not travel enough			0.71		0.51
(31)	Did not like the awards			0.64		0.42
Lack of interests						
(1)	Had other things to do				0.76	0.49
(2)	Not exciting enough				0.75	0.66
(9)	It was boring				0.69	0.62
	Percentage of Variance	21.3	7.1	6.5	5.7	
	Eigenvalues	6.6	2.2	2.0	1.8	
	Alpha coefficients	0.82	0.75	0.61	0.66	

The number of items retained per component was consistent with the recommendations from methodologists [30].They recommend that at least three to five items should represent each component. Component one included seven items related to social issues such as teamwork or and team spirit. The second component included five items which assessed ability-related reasons, such as skill improvement and physical condition. The third component comprised four items measuring extrinsic motivation such as opportunity to travel and awards. The fourth principal component included three items related to lack of interests.

In order to determine whether withdrawal reasons could be differentiated by gender, level of competition, and years of involvement, scores for all four components (social issues, ability related, extrinsic motivation and lack of interests) were used as dependent variables in a 2 (gender) x 2 (level of Competition) x 2 (years of involvement) MANOVA. The results of the multivariate analyses are listed in Table 4. The withdrawal reasons are identified with the same ranking number as in Table 1.

A significant multivariate effect was obtained for gender, Wilks' λ .95, $F(4, 522)= 4.24$, $p< .01$. Two components related to social issues and ability differed between female and male athletes. The results indicated that social issues (e.g., "did not get enough recognition") and ability related components (e.g., "did not learn new skills were") played a more important role in withdrawal for females than for males. Moreover a significant main effect was obtained for the years of involvement, Wilks' λ .97, $F(4, 522)= 2.76$, $p< .05$. MANOVA revealed that the component related to athletes' ability differed between early and later involved players. Early involved players placed greater emphasis on withdrawal reasons such as not being in good (enough) shape, or not being as good as they wanted to be than later involved players. No significant differences were found between the elite or sub-elite athletes in the four withdrawal components. As well, no significant interactional effects were found between gender, level of competition and years of involvement in the four withdrawal components.

Table 5 illustrates the influence of significant others in the decision to withdraw from youth sports. The withdrawn athletes ranked the coach as the most influential person in making the decision to withdraw from youth sports. Other significant others rated important were teammates and friends. Less important influence came from loved ones such as the father, mother, siblings or girl- or boy-friend. Teachers did not influence young athlete's decision-making. Furthermore, an independent t-test was used to determine the differences in role of significant others between gender, level of competition, and years of involvement. Significant differences were found in all three variables. Females rated their mother, siblings and teammates higher than males. Elite-level players ranked their girl or boyfriends higher than sub-elite players. Later involved players rated their mother and teammates higher than longer involved players.

DISCUSSION

This study was designed to extend the earlier literature regarding withdrawal from youth sport. The purpose was to gain a better understanding of current personal reasons for withdrawal and the role of significant others (i.e., coaches, parents, peers and siblings) by examining the influence these persons may have had in young athletes' withdrawal. Based on the present results, suggestions for future investigation and implications for daily coaching and practicing in youth sports are provided.

The results showed that "other things to do" were the main reasons for young athletes to withdraw from youth sports. These are also the most frequently reported withdrawal reasons in the literature over the last three decades [7, 9, 27, 28, 31, 32]. This appears to hold true

Table 4. Comparisons of Withdrawal Components between Gender, Level of Competition and Years of Involvement in Youth Sports

	Gender			Level			Involvement		
	Female	Male		Elite	Sub-elite		Early	Late	
Components	*Mean(SD)*	*Mean(SD)*	*F*	*Mean(SD)*	*Mean(SD)*	*F*	*Mean(SD)*	*Mean(SD)*	*F*
Social issues	2.50(0.50)	2.65(0.43)	6.68*	2.54(0.49)	2.59(0.46)	.56	2.63(0.44)	2.52(0.49)	.20
Ability related	2.53(0.49)	2.64(0.45)	10.54**	2.60(0.44)	2.58(0.48)	.73	2.57(0.49)	2.61(0.45)	5.38*
Extrinsic motivation	2.85(0.26)	2.86(0.29)	.33	2.85(0.32)	2.86(0.26)	.51	2.86(0.25)	2.85(0.29)	.14
Lack of interests	2.19(0.54)	2.19(0.58)	.09	2.28(0.51)	2.17(0.57)	.24	2.15(0.57)	2.23(0.55)	1.75

Notes. *p< .05, **p< .01, ***p< .001

Table 5. Ranking and Comparisons of Significant Others in Making the Decision to Withdraw between Gender, Level of Competition and Years of Involvement in Youth Sports

	Significant others		Gender			Level			Involvement		
Rank no.			Female	Male		Elite	Sub-elite		Early	Late	
		Mean(SD)	*Mean(SD)*	*Mean(SD)*	*P value*	*Mean(SD)*	*Mean(SD)*	*P value*	*Mean(SD)*	*Mean(SD)*	*P value*
(1)	Coach	2.17(1.44)	2.30(1.40)	2.06(1.46)	.908	2.34(1.44)	2.13(1.43)	.610	2.10(1.42)	2.24(1.44)	.531
(2)	Teammates	1.87(1.26)	2.16(1.34)	1.62(1.13)	.000***	1.97(1.30)	1.85(1.25)	.704	1.72(1.18)	2.02(1.32)	.010*
(3)	Friends	1.79(1.09)	1.18(1.11)	1.74(1.07)	.337	1.78(1.07)	1.79(1.10)	.660	1.77(1.07)	1.81(1.12)	.280
(4)	Father	1.34(0.77)	1.32(0.75)	1.35(0.78)	.485	1.32(0.73)	1.34(0.78)	.610	1.36(0.81)	1.31(0.74)	.205
(5)	Mother	1.32(0.72)	1.39(0.78)	1.28(0.67)	.008**	1.35(0.73)	1.31(0.72)	.491	1.28(0.67)	1.35(0.75)	.034*
(6)	Girl/boyfriend	1.17(0.58)	1.18(0.61)	1.16(0.57)	.344	1.24(0.61)	1.15(0.56)	.022*	1.19(0.61)	1.16(0.56)	.229
(7)	Siblings	1.14(0.48)	1.16(0.55)	1.11(0.41)	.021*	1.15(0.55)	1.13(0.46)	.447	1.14(0.51)	1.14(0.46)	.878
(8)	Teachers	1.05(0.31)	1.05(0.36)	1.05(0.25)	.973	1.06(0.27)	1.05(0.32)	.795	1.06(0.35)	1.05(0.27)	.235

Notes. *p< .05, **p< .01, ***p< .001

particularly during adolescence, when athletes face life situations related to work, education and interpersonal relationships which require their attention in addition to sports. However, the withdrawal reason "had other things to do" should be more clarified in future studies in order to determine the other priorities that athletes need to deal with instead of sports. The second and third common reasons were related to lack of excitement and time. These findings coincide with Weiss' [33] suggestion that excitement is one of the three crucial reasons for participation in sports. Similar to these findings, Fraser-Thomas et al. [34] and Johns et al. [35] showed that young athletes withdrew from sports because of the large time commitment and not enough time for extracurricular activities beside sports. The present findings confirm that research on sport career termination should not neglect influential reasons outside the direct sport sphere.

To examine the differences in withdrawal reasons in terms of gender, level of competition and years of involvement a principal component analysis was performed. The analysis revealed four components regarding withdrawal from youth sport. The four components were identified as: a) social issues, b) ability related, c) extrinsic motivation and d) lack of interest component.

The reported withdrawal components seem to differ to some extent between genders. Females reported withdrawal reasons that were related to social issues such as lack of teamwork or affiliation in the team more often than males. Moreover, females rated the ability related withdrawal reasons higher than males. These findings are in line with Martin [36] who showed that females perceived lack of ability as a reason for withdrawal more often than males. As well, earlier study by Leite and Sampaio [37] showed that the development programs and the commitment to sport differ between genders. From the practical viewpoint, these findings suggest that sport programs directed to youth female athletes should be designed to increase skill development and team building exercises to enable females to feel a sense of competence and affiliation, and making them more likely to remain in sport.

The athletes representing different levels of competition did not differ in withdrawal components although that could have been expected according to Butcher et al. [8]. The difference in the classification of withdrawal reasons into interrelated components and the conducted analysis may explain that inconsistency. However, the ability-related reasons for withdrawal differed significantly between early- and later-involved athletes. It seems that early-involved players more frequently had problems with skill and physical development than later-involved players. To design regularly modified training sessions for individuals and the team that optimally challenge young athlete's skills and abilities could be a useful training tool [38]. Training sessions should support creativity, while simultaneously providing young athletes with multiple opportunities to experience success. The evaluation of training and monitoring progress may help athletes in improving skills throughout training and competitive seasons.

In contrast to earlier findings from Fraser-Thomas and colleagues [2, 20], it was noticeable that in the present study, parents and siblings did not play crucial roles in withdrawal from youth sports. It is argued that at the age of sixteen adolescents are more independent than children and they may no longer link their parents to their withdrawal. However, the present findings indicated that coaches and teammates can influence a young athlete's decision to withdraw. Several earlier studies have also reported that the coach and peer behaviour has an important influence on young athletes participation in sport [28, 29, 39]. Particularly in this context, the coach can play a crucial role in the development of young athletes. Coaches are in the position where they can provide opportunities for young athletes to network and socialize as well as to encourage cooperation among teammates.

Bartholomew et al. [40] suggest that athletes tend to experience greater psychological need satisfaction when coaches display more autonomy supportive coaching style than controlling behaviours.

The small discrepancies in the current data regarding the influence of significant others between genders, level of competition and years of involvement, show that how useful it would be if the organizers of sport programs tried to integrate parents or peers into young athlete's careers. Significant others can reinforce and support young athlete's participation and in a way heightens the value of athlete's experience [41].

In all, the present findings reinforce the necessity for coaches to actively promote team-building, group dynamic exercises and to create a motivating and exciting environment for youth athletes. Sometimes inadequate coaching education may limit the content of practice sessions of a coach, and similar exercises session by session may be applied. Withdrawal rate for young athletes has been found to be significantly higher for non-trained coaches than for trained coaches [42]. From the withdrawal point of view, it would then be useful to invest regularly in coaching education programs or share ideas and training methods with contemporary sport experts to develop their personal skills.

It is necessary that coaches understand their athletes outside the sport context and show a true interest in their life. This may help coaches to address athletes' needs better and to communicate about skill development and realistic goals. Mageau and Vallerand [43] illustrated in their model of coaching behaviour that coaches who support their athletes' autonomy, provide structure, communicate accurately about expectations, and demonstrate a true interest in the athletes' lives can provide a supportive environment for youths. Young athletes need individual support and a constant feeling of being needed in the team. However, the present findings showed that the highest withdrawal rate was at the end and the beginning of the season. Thus, it could be inferred that not enough attainable goals for the individual or the team were presented from the coach to the withdrawn athletes. It seems to be essential that young athletes are involved in decision-making and goal-setting process and incorporate their ideas, interests and needs into activities that are relevant to their participation. Furthermore, in youth sport, only the best athletes are allowed to continue after a certain age. It can be asked whether there are not enough alternatives for young athletes, who have not yet reached high level, to continue at lower level and return back to higher level. In general, only a few studies have evaluated withdrawn athletes for their recommendations in terms of what changes need to be made that young athletes return to organized sports.

Withdrawal in youth sport cannot be completely avoided. Sometimes unavoidable problems arise that are out of the control of significant others. Coaches may do an excellent job and support young athletes in all matters, and young athletes still withdraw. Therefore it is also essential to remember that withdrawal may be a normal occurrence for young people as they experiment various roles and activities during adolescence. It is also important to keep in mind that young athletes may simply withdraw because their interests have turned to new endeavours, and not because of negative experiences in sports. They can perceive themselves as highly competent, successful, able and skillful, yet still withdraw from sports [35]. Thus, it is essential that a young athlete's decision to withdraw from sports is also accepted by significant others so that she or he does not need to leave sports with a feeling of failure.

Our study has some limitations that need to be considered in interpreting the data. For instance, the questionnaire about the reasons of attrition did not allow us to evaluate withdrawal reasons outside the sport context. Furthermore, only withdrawn athletes were surveyed to gain information about why they terminated their participation. In order to gain

a better understanding of the withdrawal phenomenon, we recommended, firstly to examine also coaches and persistent athletes. Secondly, it might be useful to classify coaches on the basis of their coaching style and coaching education backgrounds by including the aspect of volunteer and employee coaches. Thirdly, it might be beneficial that young athletes assess the impact of a variety of coaching behaviours upon outcomes such as motivation, enjoyment, satisfaction, self-esteem and perceived competence [44]. Fourthly, future research should not forget to explore cultural variations in withdrawal reasons and coaching behaviour as well. For instance, Molinero and colleagues [9, 29] have shown in their studies that Spanish withdrawn athletes ranked their withdrawal reasons differently in the perception of excitement and social issues than the participants from the present study. This might be related to the fact that, in Finland, youth find more opportunities for spontaneous physical activities in a safe environment than youth from other countries [45]. The long tradition of outdoor life and the natural environment for leisure activities may explain also some factors why young athletes terminated their participation in organized sport [4].

CONCLUSION

Our data provide information about factors that are related to the incidence of withdrawal, and at the same time, underline the role of coaches and teammates in the context of sport withdrawal. The classification of withdrawal reasons into interrelated components seems to be a beneficial way to receive a broader perspective regarding the withdrawal phenomena. The quality and quantity of coaching appear to be more crucial determinants for young athletes to participate in youth sports than in previous generations. More studies are needed to understand the impacts of psychosocial factors of coaching behaviour on the decision-making processes to continue or withdraw from youth sport. Future studies on the current topics are therefore recommended to examine the coach-athlete relationship in order to integrate scientifically derived knowledge into intervention-based programmes and every-day coaching practice.

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II

SUSTAINED PARTICIPATION IN YOUTH SPORTS RELATED TO COACH-ATHLETE RELATIONSHIP AND COACH-CREATED MOTIVATIONAL CLIMATE

by

Christoph Rottensteiner, Lauri Laakso & Niilo Konttinen 2015

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III

THE INTERPLAY OF AUTONOMOUS AND CONTROLLED MOTIVATION IN YOUTH TEAM SPORTS

by

Christoph Rottensteiner, Laura Happonen & Niilo Konttinen 2015

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IV

YOUTH ATHLETES' MOTIVATION, PERCEIVED COMPETENCE, AND PERSISTENCE IN ORGANIZED TEAM SPORTS

by

Christoph Rottensteiner, Asko Tolvanen, Lauri Laakso & Niilo Konttinen 2015

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