Successful talent development in track and field: considering the role of environment

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This paper presents a study of a successful talent development environment in track and field. Because physical and physiological requirements for performance in track and field are evidently important, we might expect coaches, on the one hand, to look for prerequisites for athletic excellence, and on the other, to develop precise training plans. These two aspects match the international research trend in the area of athletic talent, comprising two basic lines of research, namely: (a) a talent detection/selection approach aimed at assessing innate prerequisites for athletic excellence (Gould et al., 2002; Hohmann & Seidel, 2003; Holt & Dunn, 2004) and (b) a talent development approach focusing on the quantity and content of training needed to reach top-level performance (Ericsson et al., 1993; Côté et al., 2007). Both of these approaches focus more on the individual athlete than on the context of their development. In contrast, Henriksen et al. (2010) suggested a holistic ecological perspective for athletic talent development research. This approach shifted the researchers’ focus from individual talent to the athletic talent development environment (ATDE), which not only has a sport club/team as a core but also looks beyond the athletes’ direct interactions within the club/team. This perspective is represented by two working models, which are the ATDE model and the environment success factors (ESF) model (Henriksen et al., 2010). In the ATDE working model (Fig. 1), the athlete’s environment is considered holistically, that is, as consisting of micro- and macro-levels, of athletic and non-athletic domains, of related cultural contexts and of a time frame.

The ESF working model (see Fig. 2) outlines a set of factors, such as the preconditions (human, material, financial), the process (e.g., practices, camps, competitions), the organizational culture (with artifacts and basic assumptions) and the individual/team development and achievements, which interact to create the ATDE’s effectiveness in raising prospects and helping them to make a transition to the senior elite level in their sports. The two working models complement each other in such a way that the former provides a framework to describe the environment and the latter helps to summarize factors influencing its effectiveness.

Henriksen et al. (2010) tested both the ATDE and ESF working models in a case study of the Danish national 49er sailing team, and their implementation resulted in two empirical models that were concretizations of the working models reflecting the specific environment under study. In brief, the description of
**Fig. 1.** The athletic talent development environment working model.

**Fig. 2.** The environment success factors working model.
the Danish national 49er sailing environment demonstrated the importance for talent development of three characteristics: firstly the relationship between prospect and elite athletes on the micro-level; secondly the key role of the Sailing Federation on the macro-level; and thirdly the impact of the sailing culture and the national Danish culture. Regarding the factors contributing to the environment’s success, it appeared that the Danish national 49er sailing environment had limited resources but a high level of effectiveness, mainly as a result of an organizational culture that saw the value for the athletes both of cooperating and openly sharing knowledge in a group and of nurturing the idea of individual responsibility for their own development and excellence.

The present study adopts the holistic ecological approach in order to study a talent development environment in track and field. As one of the oldest sports with the greatest Olympic tradition, track and field is very popular among the young, but does not offer aspiring talents an easy way to the international elite level. Track and field is a heterogeneous sport consisting of many disciplines performed on a variety of surfaces (indoor and outdoor, cross country and road) and demanding a variety of skills (Dosil, 2006). A number of track and field disciplines, such as 800 and 1500 m running, 3000 m steeplechase and “the mile,” fall into (or close to) the category of high-intensity sport as defined in this journal issue. Besides, for a number of other track and field disciplines, high-intensity intervals are the rule in training. Track and field comprises heavy training loads, repetitive training sessions and many tedious chores (such as weight-lifting) and is traditionally characterized by personalization of training plans to create an optimal fit for the individual athlete. From a psychological viewpoint, track and field disciplines require highly motivated athletes who are capable of practising within a group and of leading an appropriate lifestyle with optimal recovery and nutrition (Dosil, 2006). Objectives of the study include: (a) providing a holistic description of one track and field club, namely IFK Växjö in Sweden and (b) examining factors influencing its success in developing prospective elite track athletes.

Methods
The selection of IFK Växjö track and field club as a successful ATDE

IFK Växjö was selected for the study because it has a successful record of producing elite senior athletes. The club won its first individual European championship in the early 1960s, and every year since it has had athletes competing in the Swedish national team. The year before the study, 11 IFK Växjö athletes represented Sweden in international competitions, and the club’s athletes won a total of 11 medals at the Swedish Championships (indoor and outdoor) for senior athletes and 26 medals at Swedish championships for youth athletes. The club reports a steady flow of athletes from their junior to senior elite training squad.

Introduction to the environment and participants
Established in 1919, IFK Växjö is one of the oldest track and field clubs in Sweden. It is located in Växjö, a town in the southern part of Sweden with about 80 000 inhabitants. The club has a number of indoor and outdoor training facilities (e.g., several running tracks and a weight-training gym) as well as club offices. Currently the club has about 550 athletes and 90 coaches. The majority of coaches are also parents of athletes. We consider the overall environment to be the object of the study, including elite athletes, coaches, board members and more, but the target participants of the study are prospective elite athletes aged 15–17. This group of athletes is made up of about 50 athletes representing both genders and various track and field disciplines, and has a number of coaches attached.

Research methods and instruments
We collected data from interviews, participant observation and document analysis, as described more fully in Henriksen et al. (2010).

Interviews
We created semi-structured interview guides (Kvale, 1996) not only to allow reflection on the part of the interviewees but also to make sure that the interviewees commented on pre-selected issues derived from the ATDE and the ESF working models. To allow for a variety of perspectives, we developed four separate interview guides for prospective elite athletes, current elite athletes, coaches and managers, keeping a similar structure for all guides. Each interview guide was divided into four parts. In the introductory part, we asked the interviewees about their background and immediate impressions of the environment. In the descriptive part, we asked about the roles and functions of specific components of the environment and about the relationships between those components at the micro- and macro-levels. The explanatory part, examining the factors contributing to the environment’s success, comprised questions about preconditions, process, individual development and organizational culture. To place the current state of the environment in a broader time-frame, in the final part, we asked how the interviewees saw the past traditions and future challenges for the environment.

Participant observation
This method enabled in situ observation of the social practices under examination and gave the principal researcher a profound feel for the culture (Tanggaard, 2006). Furthermore, participant observation made it possible to study the athletes in diverse contexts, such as at training, in competition and at social events. We structured the observation guide loosely with predetermined areas of interest derived from the ATDE and the ESF working models. The observations included a number of informal conversations with parents, athletes and coaches.

Analysis of documents
We analyzed the club’s success statistics, web page, training programmes and official papers describing the mission and structure of the club.
Procedure
Preliminary acceptance from the athletes was gained through their coaches. We agreed with the management that the identity of the club could be disclosed, but that names of individuals would be kept confidential and that the findings would be shown to the environment before publication. We informed the participants about this agreement and about the objectives of the study, and that they had the right to drop out at any time.

Participant observation was carried out during three periods of training, one competition and one coach education seminar. Altogether these observations covered about 100 h of daily routines spread over 6 months. The observations included informal talks with >10 coaches from the club and schools, a number of athletes, five parents and several board members.

In-depth interviews were conducted with four prospective elite athletes, one current elite athlete, one elite coach, one developmental coach, one coach who trained elite and prospective elite athletes, the club’s manager and one board member. These interviews lasted between 60 and 90 min.

Data treatment and interpretation
All interviews and observation notes were transcribed and coded using a deductive-inductive approach. The deductive coding was based on a node tree built to reflect the working models and primarily involved high-order themes. The inductive coding expanded the node tree when new categories or ideas emerged, and primarily involved low-order themes and the content of the themes. Next, interviews and observations were subjected to meaning condensation (Kvale, 1996), whereby the informants’ statements were condensed into more precise formulations and a summary of each node was written. Altogether the results of the study served to create empirical versions of both working models reflecting unique qualities of the environment under study.

To establish trustworthiness, the interview guides were designed using open questions to allow the viewpoint of the interviewees to be clearly stated. The degree of specificity of the questions evolved from broad general questions to more specific ones. Data treatment was mainly performed by the principal researcher, but categories and interpretations were discussed among the authors until an agreement was reached. Communicative validity was provided through a stakeholder check (Patton, 1990), whereby the results of the case study were presented to the participants. Major ideas were approved, and discussions led to minor adjustments.

Results
In the following sections, we follow the two objectives of the study and present two empirical models summarizing results of the data analysis; the ATDE and ESF empirical models of the IFK Växjö track and field club. In presenting the results of the study, therefore, we proceed from a holistic description of this environment to an explanation for its success in developing athletes. For the sake of conciseness, the term “athletic talent development environment” will be replaced by “environment,” “prospective elite athletes” by “prospects,” “the club’s senior elite team athletes” by “elite athletes,” “member of the group of coaches for the

We cannot afford to put some coaches in a special position. We need to support each other and also make use of each other’s competencies, I guess it becomes sort of a competence culture where the knowledge about training grows, and we inspire each other. And it works really well.

Even between coaching teams, the borders are flexible. The coaches involved with the elite athletes take up the role of teaching the less experienced coaches, and sometimes also handle training sessions with the prospects.

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Figure 3 presents the ATDE empirical model of the IFK Växjö track and field club

The target participants are a group of approximately 50 prospects aged 15–17 representing both genders and various track and field disciplines. Most of them have practised track and field since the age of 8–10, but some are new to this sport. The prospects are organized in training groups that play an important role in their activities in the club. Athletes in such groups are also friends, which keeps their athletic motivation high and facilitates their avoidance of parties and drinking alcohol with peers outside the sport. Even injured athletes show up to meet with their group. The athletes have different skill levels, ranging from junior national team athletes to beginners.

At the center of the descriptive model is a relation between groups of prospects and teams of coaches. The coaches work voluntarily (unpaid) and are organized in teams around each group of athletes, which means that athletes are led by coaches with a variety of core competencies. While this also helps to overcome some practical problems (e.g., creating convenient schedules), it mainly allows the coaches to exchange their views and inspire each other. As one coach explained:

Micro-environment: athletic domain

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young prospect athletes” by “coach,” “member of the group of coaches for the senior elite athletes” with “elite coach” and “member of the clubs managing board” by “manager.”

The ATDE empirical model of the IFK Växjö track and field club

Figure 3 presents the ATDE empirical model of the IFK Växjö track and field club structured into a micro- and a macro-environment (athletic and non-athletic), and the participants’ perceptions of the environment’s development. Below, we briefly describe major components and relations in the environment.

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provide role models pointing out the routes toward elite performance. A prospect athlete commented:

I believe they remind us that it is possible to become best in the world when training in this club. We train besides them and see that they also get tired, but manage to stay focused. Sometimes they invite other world class athletes, and we see how they interact and benefit from training together.

The elite athletes have no formal obligations toward the club, yet never hesitate to support it. One athlete, in particular, Carolina Klüft, is “the face” of the club. She has been a part of the club from novice to “queen” of international heptathlon. The club arranges “Carro” training camps for kids and has her portrait visible in all the club materials. Her dedication to the club was observed one day by the principal researcher at a meeting for new club coaches:

Only four days prior to the meeting Carolina Klüft was married. A few of her friends and colleagues, other world class athletes, are still in Växjö visiting Carolina and training in the club. Nonetheless, Carolina is present at the meeting and gives a talk on the subject of the club feeling. The coaches are excited by her presence . . . I wonder what makes her spend her honeymoon talking to new coaches. As she talks, it all makes sense. The club feeling is the subject of the talk, but also her reason for standing there. Central themes in her talk are solidarity, responsibility for the common goals and everybody contributing. This is one of her contributions.

The prospects are sometimes asked to demonstrate technical drills to younger athletes and even occasionally assume the role of assistant coach. This role prompts the prospects to be responsible and aware of the knowledge and values they share. Accustoming the prospects to the coaching role, the club prepares future coaches on the assumption that not all athletes have the potential to reach the international elite level, but those who fail may still love the sport, identify with their club and want to become coaches. As explained by an elite coach:

We have a responsibility to produce not only skilled athletes, but also skilled coaches. I am convinced that in our training group we have five or six potentially top level coaches, if we nurture them well. They are important to us in the long run.

Both the club and particular athletes have relations to several other teams and clubs. Some prospects take part in national team training, club training and school training. At competitions, the prospects make friends within the wider track and field community. Some athletes regularly visit a neighboring
club for a week’s training with their friends. A prospect explained how friendship and rivalry can go hand-in-hand:

I never really think of them as rivals, but more as friends. At competitions I hope they do well. I want to beat them, of course, but there is a big difference between wanting to win and hoping they will break a leg.

Both athletes and coaches identify strongly with the club. The club management is a central organizing force in the environment with a board of elected members working voluntarily and passionately for the club. Most of these have been part of the club for a long time, assuming different roles such as athletes and coaches. They make strategic decisions, communicate core values to parents, coaches and athletes, draft coaches and manage the club’s finances.

Micro-environment: non-athletic domain

Although the prospects have a busy daily schedule, going to school is seen as a healthy addition to life as an athlete. Several schools offer skilled and ambitious athletes the opportunity to train during school hours. Several of the local high schools offer track and field as a main subject and the national track and field high school is sited in Växjö. A coach explained how the club cooperates with the schools in helping athletes to combine sport and studies:

We try to coordinate everything the best we can. I believe we have an open approach to the exchange of services between institutions that care about track and field. For example, some of our athletes who have time to train in the morning are allowed to take part in the training organized by the track and field high school in the daytime. In a similar manner, their athletes who need extra training are welcomed in our practices in the evening time.

Families provide emotional, practical and financial support to the prospects, of which emotional support is considered the most important. Athletes who moved to Växjö to train and attend the track and field high school were accommodated previously in student dormitories, which was a poor solution because there was too little supervision and too much temptation. Today, such athletes are accommodated with surrogate families associated with the club. It is an explicit value expectation that all families contribute to the club. Some parents are coaches, others handle practical tasks at competitions, such as timing, measuring and listing results. A board member commented:

This community is built on the idea that, if everybody does a little work, no one has to do a lot. Even a small effort can have great significance. Every time we arrange a competition, we need about 100 volunteers . . . We want parents to have fun in this work and to value being a part of the club.

Macro-environment

Local track and field, other sports and corporate communities are seen as resources for the club, and relations to these communities are nurtured by the club management.

The track and field community in Växjö includes the club, the regional track and field center, the newly established track and field performance center as well as the high schools and the university, where the club acts as a cohesive force. A board member commented: “We do not compete in creating best possible conditions for athletes. Rather we are dependent on each other and acknowledge each other’s strengths.” The club also collaborates with local clubs in different sports. For example, the prospects train in the local wrestling club once a week. Some club coaches take part in a local cross-sport knowledge exchange group, which is a forum for mutual inspiration and discussions among top-level coaches. Regarding the local corporate community, the club nurtures relations with companies that have an interest in supporting the track and field environment. This support goes beyond financial and tangible support and involves an informal forum, in which the club and the community work together to find housing or flexible jobs for talented athletes.

Related cultural contexts

Participants of the study provided comments on the track and field (sport-specific) culture, the Swedish national culture and youth culture as broader contexts influencing the club’s activities and values. The track and field culture was described as hierarchical in the sense that the athletes’ skill level can be measured in exact units, providing clear criteria for selection to national teams and in the sense that financial support is available only to the very best. At lower levels, the track and field culture is open and the custom is for athletes of both genders and of different skill levels to train together. At the elite level, however, it usually becomes more closed and governed by the principle: “Here is my athlete, my methods, and my trade secrets.” Reflecting on the Swedish national culture, the participants characterized it by citing demands for obedience and structure and the anxiety of failure. The prospects mentioned partying as a major part of youth culture among their non-sport peers that fits poorly with a life as an ambitious athlete. A coach commented on high expectations placed on youth in Sweden: “The young athletes, particularly girls, are expected to do well in sports and school, to
help around the house and even to look pretty and
dress right. These are tough demands.”

Traditions and future challenges

The participants’ perception of the environment’s
development presented a transition from the club-
as-a-family or a preferred assembly place for its
members toward the club-as-an-organization with
an increase in the number of skilled athletes and
coaches and a more structured organization.

The ESF empirical model of the IFK Växjö track and
field club

Figure 4 presents the empirical version of the ESF
model, summarizing the factors influencing the IFK
Växjö track and field club’s success as an ATDE.
Below, we present major factors related to pre-
conditions, process and organizational culture of
the club followed by their effects on the athletes’
individual development and achievements, as well as
the club’s effectiveness.

Preconditions

The club’s central resources in the talent develop-
ment process include the number of coaches and
their skills, the number of prospects, its good training
facilities, the size and infrastructure of the town and
the large number of helpful volunteers. Because
athletes, coaches, volunteers and facilities have al-
dready been described, here we briefly outline the role

that participants attributed the town’s size. Växjö is
small enough to provide a flexible daily life for the
athletes, but also large enough to offer them every-
thing they need during their careers, including educa-
tional institutions at all levels. A board member
commented:

We have all the foundation stones for developing track
and field right here, including facilities, high schools and
a University with sport profiles and regional resources.
And everything is still really close. Växjö has an ideal
town size for fostering world class athletes.

As to the barriers in the talent development process,
participants of the study mentioned a lack of
financial resources and the local climate causing a
short outdoor season. Because financial resources in
the club are limited, volunteer contributions are
important. Elite professional athletes have individual
sponsors, and a coach commented on how they
support the club using the example of Carolina
Klußt:

Carolina is a professional and receives money from
sponsors and the Swedish Olympic committee. Some of
this money goes to her coach allowing him to spend a
great deal of time making plans and handling training.
He is part of a coaching team and, thus, helps the other
coaches and athletes, in spite of the fact that Carolina
pays his salary. She also attracts new sponsors to
the club. You would expect her to be our biggest
expense, but in fact she is almost our biggest source of
income. She . . . repays the education she received in the
club.
The prospects’ daily routines revolve around training and also include camps and competitions. All athletes have a structured training plan that is followed throughout their athletic career. Such plans involve gradual increases in the amount of training and the degree of specialization in track and field disciplines as well as a gradual transition toward deliberate practice and working with new coaches on specific skills. Athletes’ specialization in the chosen track and field discipline is planned when they are about 16 and starts as specialization in an overall discipline (e.g., running) with later specialization within that discipline (e.g., sprint). The prospects typically practice six times per week. Focus in training is on perfecting technical aspects and getting the right “feel,” rather than on the athletes’ performance. During 3 weeks of observation, the principal researcher did not observe a stopwatch. A coach explained that the emphasis is on encouraging athletes to run as fast as they can with the right technique and to feel good about it and continued: “We slowly build up the athletes’ body strength, so they are able to handle increasing amounts of training. The young athletes perform the same basic exercises as the elite, only much fewer and with much less intensity.”

Organizational culture

First impressions of the principal researcher of the IFK Växjö club’s organizational culture were the family nature of the interactions, the high level of feedback and discussion among coaches and the difficulty of understanding which athletes belonged to which groups. Publications and posters explicitly state the club’s mission, and a special booklet presents core values of the club to new coaches, parents, athletes and business sponsors. A member of the board explained the role of the booklet: “Our blue book represents a mindset. Adopt this frame of mind and you will be able to answer almost any question . . . We have deliberately compiled a philosophy, rather than a manual.”

The club’s cultural paradigm is characterized by seven interrelated basic assumptions, derived by the researchers. The most central assumption is that excellence can be reached through cooperation and openness, which reflects a major principle of open knowledge-sharing in spite of a generally secretive track and field culture. This basic assumption is well illustrated in the story told by an elite coach:

I was called up by an American coach who asked me about some training issues in heptathlon. I told him it was difficult to describe over the phone, but I could just send him Carolina’s last seven years training plans. He was stunned and said: “You are crazy, man. You should make a fortune on those plans”. I told him it was just training, not secrets, just a lot of papers with numbers on them. What counts is what you make of it, how you make the athlete train with focus and intensity. He did not understand.

The second and the third basic assumptions relate to the club’s organization and include the statements: we are a family, in which everybody contributes and group and team organization is a precondition for the development and continued motivation of athletes and coaches. The voluntary work of coaches and parents, the elite athletes’ talks at seminars and the prospects’ willingness to help younger athletes are evidence of the second basic assumption. An elite athlete used the metaphor “a forest” to present her image of IFK Växjö: “We have many branches and twigs representing different ways one can go. But the roots are intertwined and grow in the same soil.” Some prospects directly refer to the club as their second home. In terms of the third basic assumption, it is important to emphasize the club’s efforts to maintain large groups of athletes offering friendship, a sense of belonging and fun. As explained by a coach, “. . . many of these athletes . . . will not become elite. Still, as friends of athletes who may reach elite level, they are important members of the group.”

The fourth and the fifth basic assumptions concern the athletes and include the statements: attitude beats class and an athlete is a whole person. Coaches expect the athletes to show focus, discipline and drive for excellence in training, and evaluate the athletes’ attitudes in training more often than their skill level. A coach also explained a whole-person approach as follows:

Sometimes an athlete has a trouble with his girlfriend or something else which belongs outside sport, and it prevents him from finding the right focus. We try to help the athletes handle this. The ability to train with focus and intensity is much more important than whether we do four or six sets of intervals. Sometimes I tell an athlete to take a week off to rediscover his or her harmony.

The sixth and the seventh basic assumptions relate to the club’s goals or priorities and include: Successful development is more important than early results and the club can always improve. These assumptions illustrate the fact that, in terms of the athletes, the club is ready to invest and be patient in waiting for the results, but in terms of the club’s reputation and constant improvement expectations are really high. An elite coach commented:

We have now been selected as the location for one out of the two track and field performance centres in Sweden. But we should not be content with being one out of the best two in Sweden. We want to be one out of the ten in the world. Since we have shown many times
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that we are able to lift an athlete into the world elite, we know we can lift the whole club into the world elite. We must be no less than the world’s best.

Altogether, the organizational culture of IFK Växjö is characterized by a high degree of coherence between its different levels. The values that are publicly displayed in mission statements are equally visible in the daily practices. Any athlete or coach is welcomed in the club, but there is a clear demand to abide by the club philosophy as reflected in a story told by an elite coach:

Ten years ago we rejected co-operation with a set of parents. They were very skilled coaches, but they wanted to turn a group of 13-year-old kids, including their own children, into an elite group. We told them: “You are more than welcome here, but in this club we will not break up a prospect group to create an elite group. If you want to do so, find another club”. They did. Three years later, all of their three sons, who were very skilled athletes, had left the sport. I talked to one of them later and he told me the experience just wasn’t any fun.

Process – culture – outcomes

As mentioned previously, within this environment the sporting results of prospects are seen as less important than their long-term development and the acquisition of psycho-social skills that underpin this development. Through their membership of the club and through learning its organizational culture, prospects develop responsibility, drive and commitment, social skills and a structured approach to life. A coach explained how the prospects are expected to show increasing responsibility for their training:

The athletes must learn to be responsible, which requires foremost knowledge of oneself. If they miss training, it is up to them to catch up and show me what they have been training on their own. Every day we work with their personal development finding a balance between helping and not helping too much.

The environment’s effectiveness

Coaches and managers reflecting on the club’s success as an ATDE used four main indicators: (1) the club successfully helps a large number of athletes to make a successful transition into elite sports; (2) the club is highly regarded by external partners; (3) the prospects show good results in national youth competitions; and (4) the club has a large group of highly committed and happy athletes with low drop-out.

Discussion

Prospective elite athletes experience a set of high demands during their transition from junior to senior level and there is a high drop-out rate during this transition, as shown in a study of Belgian track athletes (Vanden Auweele et al., 2004). Dosil (2006) emphasized the high motivational demands of track and field, due to a large number of repetitive training sessions, many tedious chores and potentially long periods without visible improvements in athletic results. Sources of strain among elite athletes tend to group into three main categories that are personal, competitive and organizational (Fletcher et al., 2006), and a recent study suggests that the dominant organizational strains among British elite track athletes included the following features: training alone; negative relationships with training partners, competitors and other sport people involved; and difficulties in maintaining personal relationships (McKay et al., 2008). Such strains might work as barriers to the athletes’ transition to the senior elite level.

In the IFK Växjö club, these potential barriers are reduced, which may explain why this ATDE is successful in the recruitment, retention and advancement of athletes. The club focuses on maintaining cohesive groups of athletes who are also friends. This strategy is supported by a recent finding in swimming (another high-intensity sport that represents a motivational challenge similar to track and field) that, compared with drop-outs, competitive swimmers were more often kept with peers of their own age group and more often reported to have their best friend within the sport (Frazer-Thomas et al., 2008). Coaches in the IFK Växjö track and field club encourage prospect athletes to occasionally train with groups at a higher level, which may ease their transition and prevent a kind of “cultural shock” (Green, 2005) when reaching the elite level. The coaches also focus on the athletes’ long-term development and evaluate their efforts and attitude more often than skill level or results, which might minimize stress and burnout.

The present study of the IFK Växjö track and field club complements the Henriksen et al. (2010) study of the Danish national 49er sailing team. Although each successful ATDE is unique, a number of characteristics of the two environments do have similarities. On a descriptive level, the two environments share the following characteristics: (a) they contain relations and interactions of the environments’ different components with a central component coordinating these relations (the Federation in the 49er sailing environment and the management group in the Växjö track and field club); (b) elite athletes play an important role in the development of prospects; (c) prospects have obligations toward younger
athletes, which accustoms them to a responsible position; and (d) the environments constantly evolve, adjusting to current tendencies and progress in the sports. The two environments also share a number of factors contributing to their success, among which the most important are: (a) strong organizational cultures pervading every aspect of the environments’ daily life; (b) basic assumptions of these organizational cultures revolving around groups of athletes and coaches openly sharing their knowledge in traditionally secretive cultures of both sailing and track and field; (c) focus on the athletes’ performance process and long-term development, rather than their early results; (d) a high degree of cohesion within the culture, where espoused values (what the members say they do) correspond with enacted values (what they actually do); (e) individual members develop psycho-social competencies, such as responsibility, drive for excellence and social skills, which underpin their athletic development.

This study supports several assumptions derived from the recent research on talent development in sport. First, it reinforces the Developmental Model of Sport Participation (Côté et al., 2007) by demonstrating that the track and field environment produces a large number of elite athletes by means of a trajectory that involves late specialization and a gradual move from playful toward structured training. Second, it confirms the suggestion that athletes should not be encouraged to invest in only one sport before they develop the necessary physical, cognitive, social and emotional skills in late adolescence (Wiersma, 2000; Frazer-Thomas et al., 2008). Third, the study supports an emphasis on appropriate development, rather than early success highlighted by several researchers (Martindale et al., 2007; Côté et al., 2009).

Applied issues
The holistic ecological approach may inspire practitioners to look beyond innate potential and quantity and quality of training and to think about the larger environment in their efforts to help talented junior athletes make a successful transition to the elite senior level. As a specific intervention strategy, a presentation of the research findings may provide the basis for a useful debate among the participants. A look at their own practices and cultural paradigm through the eyes of an outside observer analyzing the environment in a holistic way may help identify “blind spots” and optimize the environment.

Perspectives
This study provided support for recent research findings in the area of talent development in sport as well as for the applicability of the holistic ecological approach in studying a talent development environment in track and field. This study is also a part of the larger project examining three successful ATDE’s in Scandinavia based on the ATDE (descriptive) working model and the ESF (explanatory) working model. Future studies based on the holistic ecological approach might compare; (a) successful track and field environments in different countries; (b) track and field environments and ATDE’s in other high-intensity sports; (c) ATDE’s in high-intensity sports and ATDE’s in other types of sports (e.g., complex coordination sports or combat sports) to further develop our understanding of the complicated nature of talent development in sport and the environmental factors involved.

Key words: athletic talent development environment, organizational culture, sport psychology.

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