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KEY FACTORS IN CAREER DEVELOPMENT & TRANSITIONS IN GERMAN ELITE COMBAT SPORT ATHLETES

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ABSTRACT

The purpose of this study was to systematically identify key factors that facilitate and constrain career development and career transitions. Semi-structured in-depth interviews were conducted and analysed using both deductive and inductive analysis. The sample was purposefully composed of 14 active (n=7) and retired (n=7) male (n=8) and female (n=6) international level athletes, including Olympic gold medallists and World and European champions with 120 medals won between them. Findings relate to difficulties and critical events in athletes' attitudes toward their career development. Six key factors were identified: second pillar, higher-level competition experience at a young age, coach, federation, setbacks, and way of coping with career termination, out of which three factors (second pillar, higher-level competition experience at young age, way of coping with career termination) were theory-based and the other three factors (coach, federation, setbacks) were collected from the transcript material. We concluded that an athletic career is a highly complex, multi-layered, and individual process. Significant differences were found between statements of student-athletes and sports soldiers concerning the second pillar and financial support. Participation at senior competitions at an early age is required for a smooth transition to a world-class level. Other aspects, such as improved communication in federations and career assistance programmes, adaption of foreign coaches to the German sport system, and supporting activities of universities have to be investigated in further research.

1. CONTEXT

Development, progression, and transitions of athletic careers have fascinated researchers in sports psychology since the 1960s and have increasingly been the focus of research since the 1980s [Stambulova et al. 2009]. Looking at the investigations of the last fifty years, the horizon of the object under investigation has developed over time. At the beginning of research on athletes' careers, the transition from active competition to retirement was the main subject, which was presented as a purely negative and traumatic experience [Sinclair and Orlick 1993; Alfermann 2000]. In a first shift, career retirement was no longer examined as the only change in an athletic career. Consequently, the twists and turns during the career are considered named as a 'whole career' approach [Stambulova et al. 2009: 396]. The second shift was that not only the transitions in athletes' athletic careers, but also their lives besides sport was examined. It was important to understand the athlete as a 'big whole' to be able to draw conclusions about their careers [Wylleman and Lavallee 2004].

Finally, the context of the research has been widened. While – in previous studies – only coaches, parents and friends have been considered to be external factors [Côté 1999; Wylleman et al. 2000], macro-social factors, such as sport systems and culture, get more attention now [Stambulova, Stephan, and Jäphag 2007].

This led to the development of descriptive and explanatory models. Athletic career development is understood as proceeding through different stages, sections and transitions of a career [Stambulova et al. 2009]. While descriptive models focus on the stages – such as initiation/ sampling, development/ specialization, perfection/ mastery/ investment, final/ maintenance, and discontinuation stage [ibid.] – explanatory models also emphasize transitions.

Athletic Career Explanatory Models

Schlossberg defined career transition as an 'event or non-event [which] results in a change in assumptions about oneself and the world and thus requires a corresponding change in one's behaviour and relationships' [1981: 5]. The understanding of a transition changed in 1999, when Wylleman et al. [2004] viewed the transition as an ongoing process instead of a single event or non-event. According to Alfermann and Stambulova [2007: 713], 'transitions come with a set of specific demands related to practice, competitions, communication, and lifestyle that athletes have to cope with to continue successfully in sport or to adjust to the post-sport career'. They differentiate career transitions into normative and non-normative turning points/ phases in the course of a sporting career. Three drastic transitions have been identified and

investigated: junior-to-senior transition, transition of student-athletes, and career termination [Vanden Auweele 2004; Vanden Auweele et al. 2004; Barker et al. 2014; Tokuyama 2015; Pehrson, Stambulova and Olsson 2017; Stambulova, Pehrson and Olsson 2017; Li et al. 2018].

Looking at an athlete's entire career, the transition from junior to senior level is an unavoidable and often critical phase of athletes' careers. In this phase athletes are divided into two groups. One part makes the leap to the top of the world and ally to the international senior level, and the other and larger part, fail and either drop out completely or pursue their sports only as an extracurricular activity. Recent studies give evidence that most athletes confirm that they have failed at this point in their careers [Stambulova et al. 2009]. Consequently, the transition from junior to senior level is associated with considerable demands on young athletes. Additionally, athletes perceived this transition as a big step related to a much higher training intensity and performance [Stambulova and Wylleman 2014]. According to Stambulova et al. [2009: 405] there are five overarching demands for a successful transition: '(1) to balance sport goals with other life goals and to reorganize lifestyle, (2) to search for one's individual path in sport, (3) to cope with pressure of selections, (4) to win prestige among peers, judges, etc., and (5) to cope with possible relationship problems'.

Wylleman and Lavallee [2004] found that the transition in sport coincides with transitions in other life situations, such as the transition from school to university, and makes it more difficult to cope with both transition situations. According to them, the following skills are necessary to successfully master the transition to the elite level: '(1) interest in sport science knowledge, (2) summarizing and drawing upon their own sport experience, (3) implementation of psychological strategies in competitions, (4) learning from mistakes of others, and (5) family and federation support' [Stambulova et al. 2009: 405].

Research also confirmed that successful coping with junior-to-senior transition is associated with a high athletic identity and personal maturation [Stambulova and Wylleman 2014]. Athletes' ambitions to cope with this transition successfully and to meet the expectations of others together with the uncertain outcome of the coping process, result in high stress and increased sensitivity to social influences [ibid.]. Therefore, support from outside, in terms of coaches e.g. plays a vital role during the transition process. Bennie and O'Connor [2004] point out that a supportive environment regarding the psychological, social, and economic situation is essential for a successful transition process. Such adjustments are particularly difficult for young talents who received early social recognition for their achievements. In addition, they grow up with an exclusive focus on sport, which makes the transition to senior level even more difficult.

Athletes practicing their competitive sports while studying at the same time are another research topic. Especially in fringe sports it is usually unthinkable for athletes to concentrate solely on sports if they want to be vocationally successful in life after their sport careers [Debois et al. 2012]. Student-athletes try hard on combining professional sport and studying at university. However, the combination of top-class sport and professional education, especially at university level, represents a particular challenge and puts a set of demands [Stambulova and Wylleman 2014]. Students are confronted with new academic requirements, face the challenge of living away from home, create new relationships and manage their time and resources. Especially in Europe, the 'Dual Career' approach is widespread meaning that the career has two major foci: sport and university or work. Many benefits, such as balanced lifestyle, reduced stress, good conditions for developing life skills and higher employability after sports are reported by this approach, but it is also accompanied by several problems and demands, especially when new levels in sport or education are to be achieved [Elbe and Beckmann 2006; Stambulova and Ryba 2013]. Studies show that students perceive difficulties not only in sport but also in their student life [Stambulova et al. 2012]. They reveal that they can adopt much better to changes in sport than in the educational life as their athletic identity is much greater than their student identity. However, due to the double load of professional sport and university, student-athletes are more likely for chronic fatigue or even burnout [Stambulova and Wylleman 2014]. To avoid such consequences special arrangements between sport and educational systems have been established, that should assist talented athletes to manage both athletic and academic-vocational development successfully, and, in addition, assure their readiness for the post-sport career. Therefore, current literature recommends developing strategies to help athletes to complete areas, such as career management in and outside sport, development and use of transferable skills or preparation for post-sport careers [Carr and Bauman 2002].

The transition of athletes into post-sport career and their athletic retirement is the most studied research topic of career transitions worldwide [Stambulova and Wylleman 2014]. Alfermann and Stambulova [2007] found that the support of any organization decreases abruptly as athletes approach the end of their careers and thus no longer perform. In contrast, support of family and friends is felt to be particularly strong at this time. Topics of interest are the reasons for career termination, retirement demands, barriers and resources, coping strategies, and quality of adaption. All those factors are weighted in the athletes' decisions to terminate and are not necessarily related to sport (e.g. stagnation, injuries, lack of financial support) but also to future life opportunities (e.g. job offer, wish to start a family). Career termination has several causes and is often the result of a long decision

process [Fernandez, Stephan, and Fouquereau 2006]. It is the clearest example of a normative and inevitable transition, and sport-related as well as non-sport-related contexts influence the process of decision-making [Alfermann and Stambulova 2007]. Four main causes of career termination have been identified by Taylor and Ogilvie [2001]: age, deselection, injury, and free choice. The main difference between these causes is, that the first three are forced and unplanned whereas the fourth cause is free of choice and – more or less – planned. Studies show that the more athletes terminate due to future plan reasons the easier athletes adapt to the new situation. Additionally, the athlete's impression of controllability of career termination is a decisive factor [Alfermann and Stambulova 2007]. Several authors [Lavallee and Wylleman 2000; Taylor and Ogilvie 2001; Alfermann and Stambulova 2007] identified five different demands facilitating the adaption to the post-sport career and smoothens the transition: '(a) starting a new professional career in or outside sports; (b) solving an "identity problem" [i.e. reducing their athletic identity and developing new identities relevant to their new careers]; (c) reorganizing their lifestyle [with sport/exercise included only for recreational purposes]; (d) renewing their social network [i.e. finding friends outside sport]; (e) dealing with family issues [e.g. own family, parenthood, house-holding duties]' [Stambulova and Wylleman 2014: 613].

Research of career termination is abounding, although in terms of absolute numbers only 20% perceive their athletic retirement as crisis. Reasons for this crisis can be a high athletic identity causing an 'identity crisis' as well as the missing support from coaches, sport peers, and sport organizations. Especially the lack of support from sport organizations have been reported by retired athletes [Stambulova and Wylleman 2014]. The other 80% of successfully transitioned athletes need between 8 and 18 months for the adaption [ibid.]. Authors agree that necessary resources for an unproblematically transition are: (a) 'retirement planning in advance ...; (b) voluntary termination; (c) multiple personal identity and positive experiences in roles other than the athlete role; (d) effective social support from family, coach, peers, and sport organizations' [613].

If athletes have these factors at their disposal, they tend towards the right coping strategies and thus towards a successful transition to their post-sport careers. Studies show that more positive and less negative emotional reactions lead to more active (i.e. problem solving) and less defensive (i.e. emotion-focused) coping strategies [Stambulova and Wylleman 2014]. Summing up, quality of adaption to post-sport career depends on the causes of career termination, its circumstances, and the individual athlete's personal and social resources [Alfermann and Stambulova 2007].

Career transition explanatory models focus on reasons and demands, coping processes, factors influencing coping, outcomes, and later consequences of a transition. The central and decisive element of those models is the coping process. To develop successful coping strategies, the requirements and demands of the situation must match the athlete's ability to deal with the situation including his/ her existing experience and motivation to manage the transition, as well as financial and social support. Three different explanatory models are prevalent in existing literature: the human adaptation to transition model [Schlossberg 1981], the athletic career termination model [Taylor and Ogilvie 1994], and the athletic career transition model [Stambulova 2003]. Compared to the previous models, Stambulova's athletic career transition model focuses not only on normative but also on all other transitions that can happen during an athlete's career [Fig. 1]. It explains career transition as a process of coping with a set of specific demands [Battochio, Stambulova, and Schinke 2016]. In this process coping strategies (planning, practicing more than opponent, searching for professional support, etc.) are key elements to handle the new situation. The success depends on the dynamic balance between transition resources and barriers [Alfermann and Stambulova 2007]. Resources include all internal and external factors facilitating the coping process (e.g. athlete's knowledge, skills, personality traits, motivation and availability of social and financial support), while barriers refer to all internal and external factors interfering with successful coping (e.g. lack of necessary knowledge or skills, low self-efficacy, lack of financial or social support, difficulties in combining sport and education, etc.) [Stambulova 2003]. Summarizing, athletes have to deal with certain demands and with factors (resources and barriers) influencing these demands to reach either a successful or a crisis-transition outcome. If the transition is successful coping was effective and the athlete was able to apply coping resources and strategies. Crisis transition is the outcome of an athlete's inability to cope with the new situation due to low resources, high barriers and/ or ineffective coping strategies. Reasons for ineffective coping can be an athlete's low awareness of transition demands, lack of resources or barriers, and inability to analyse the transitional situation and to make a decision [Alfermann and Stambulova 2007]. If athletes are not able to cope with the situation on their own, outside interventions are needed resulting in either a successful delayed transition or in negative consequences due to ineffective or no interventions [Stambulova 2003].

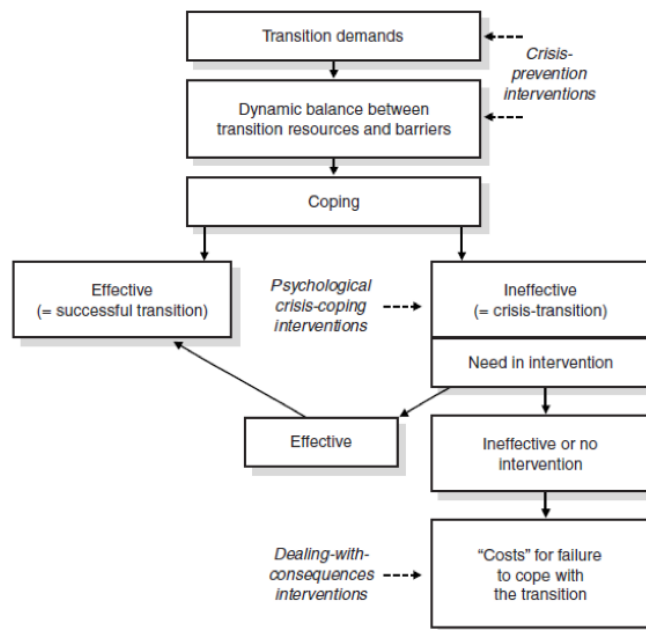


Figure 1:
The Athletic Career Transition Model
[Stambulova 2003: 100]

Why Specifically Investigate Athletes in Combat Sports?

Combat sports is an umbrella term for many different types of single combat including boxing, wrestling, fencing, karate, judo, taekwondo, which are Olympic types of combat sports. Combat sports' athletes are an interesting subject of research in the field of career development and transitions for two specific circumstances.

First, there is an uncounted and highly diversified number of martial arts that are more or less competitive. A group of scientists in the German Society of Sport Science states that this field consists of domestic and foreign cultural, organized and non-organized, commercial and non-commercial, amateur and professional as well as Olympic and non-Olympic forms, styles, and sports, and, thus, represents – similar to dancing – a specific thematic context of movement, which can be distinguished from the other sport as a whole [Bayreuther Autorengruppe 2011]. Within this field athletes can both change between styles or types of martial arts and combat sports and decide to stay amateurs or become professionals in the same sport, e.g. boxing or wrestling, or in a different sport, e.g. from judo to mixed martial arts.¹

Second, it is the role combat sports play within national sports systems in which Olympic sports rival with other sports for financial support from the governments. In Germany e.g. for every Olympic Games a medal goal is formulated, which was just touched in Rio de Janeiro and resulted in heated discussions and new reforms in the sports system (such as the performance sports reform of the German Olympic Committee). Due to their diversity in terms of various individual sports and their different characteristics (weight class, discipline, etc.), combat sports have a great influence on the medals to be achieved. While many studies about career development and transitions have been conducted with sport-specific groups (ice-hockey, football, handball, etc.), no overarching investigations about combat sports athletes exist down to the present day.

Third, we have just episodic research and almost no specific knowledge about how careers and fighters' lives in martial arts and combat sports develop, proceed, end, and what comes afterwards. The research programme 'A Fighter's Life'² which frames this study aims at identifying aspects that are crucial or at least important for the performance development of an athlete and to analyse interaction processes between the people involved in the athletic career in order to derive, implement and evaluate interventions for quality improvement on this basis.

1 As Ronda Rousey, Max Schirnhofer, and Yoshihiro Akiyama did.

2 See <https://www.researchgate.net/project/A-Fighters-Life>

Comparable Studies

Stronach and Adair [2010] focused on the socio-economic circumstances of Australia's Indigenous and non-Indigenous boxers. Therefore, retirement experiences of fourteen elite athletes have been collected by interviews to understand their decision-making process.

Debois et al. interviewed an elite female fencer with Olympic goals to explore how she dealt with key events and transitions in her sports career as well as with other domains of her life. The study shows 'an illustration of the ups and downs that elite athletes may face in their pursuit of excellence and invites questions about the conditions which would best contribute to the effectiveness of psychological intervention for enhancing both performance and personal growth' [2012: 660].

Battochio et al. [2016] investigated the demands of 23 retired Canadian National Hockey League (NHL) players and identified stages in their careers by interviews. Based on their results they proposed an empirical career model.

In the qualitative study of Stambulova et al. [2017] a conceptual four-phase (preparation, orientation, adaption and stabilization) junior-to-senior transition framework was established. Based on this information an interview guide was constructed. Seven Swedish ice hockey players were interviewed concerning their experience during junior-to-senior transition and asked for their feedback on the established framework. In their discussion, the authors transformed their framework with respect to their new data collected.

Coakley [2006] interviewed seven former National Football League athletes regarding their well-being during sport-career transition experiences.

2. AIM, QUESTION, AND METHODS

Within this context, our study aimed at investigating elite combat sports athletes concerning their career development, proceeding and transitions, and, on this way identifying crucial influencing elements. Our research question was: 'Which key factors are crucial in terms of influencing combat sport athletes' career development and transitions?'

As the aim of the study was to explore what's new in a known field, a qualitative approach was deemed appropriate, and, thus, data were collected via semi-structured in-depth expert interviews [Niermann 2014]. The interview guide was constructed based on guides of Gläser

and Laudel [2010] and Huang [2002]. The guide included questions to all periods in life starting with questions about the athletes' first experiences in sport and ending with their current states.

Purposive sampling in qualitative research [Patton 2009] allows for the selection of information-rich cases that have deep understanding of the phenomena of interest. The participants of the study (n=14) constituted a sample of eight male and six female professional athletes between 21 and 56 years, half of which are still in their active career whereas the others have already retired. The athletes compete/d in five different combat sports (fencing, judo, karate, boxing, wrestling, and kick-boxing) and are or have been part of the German national A-/B-squad for several years. All athletes have taken part in Olympic Games, Senior World and/or European Championships or at least at Junior World or European Championships. 120 medals have been won by the interviewees, including three gold and two silver Olympic Medals. Anonymization requirements do not allow displaying combinations of gender, age, and achievements.

The participants were found through one of the author's network as a former professional combat sports athlete. First, they were contacted via phone and informed about the background and the aim of the study. Five interviews were conducted by phone and nine of the interviews were face-to-face conversations. The interviews had an average length of 84 minutes and were conducted by one of us. Participants were told that they could withdraw from the study at any time and that all information are kept confidential. All athletes gave permission to recording the interviews digitally.

The interviews have been transcribed literally [Dresing and Pehl 2017]. Afterwards, deductive and inductive categories were developed to get an analytic and structured fragmentation of the surveyed data [Mayring 2015]. Through the theory-based deductive approach categories were derived by extracting them from current literature, from the interview guideline, and personal experience [Dubois and Gadde 2014]. To complement the categories and discover something new, the collected data material was examined for new categories by inductive analysis using MAXQDA software [Gläser and Laudel 2010]. Subsequently, the category system was checked and underwent a consensual validation process.

3. RESULTS

Six categories were identified as crucial factors: second pillar, higher-level competition experience at young age, coach, federation, setbacks, and way of coping with career termination. The subcategories are presented in subsections.

Second Pillar

In Germany elite athletes are offered support by the German Olympic Sports Confederation ('Deutscher Olympischer Sportbund', DOSB), which is the non-governmental umbrella organization of German sport, in order to combine sport and vocational education. This so called 'Dual Career'³ refers to competitive athletes who are pursuing studies or apprenticeships in parallel to their top-class sport and try to combine both in the best possible way.

While the DOSB describes the Dual Career as a success story, the attempt to master a Dual Career was positively evaluated only by a few athletes while the difficulty of combining sport and education was shown by problems as follows.

- The choice of studies is limited to universities in the surrounding area of the training environment.
- Attendance and exam phases force athletes to lower their training extent.
- The combination of elite sport and studying is becoming increasingly difficult in higher semesters, and it is not possible to pursue both, sport and study, at a high level.
- The combination of elite sport and studying is perceived as extremely strenuous due to the frequent commute.
- The studies could not be completed in standard period of study time.

Four athletes dropped out of their studies because they wanted to fully concentrate on their sport. Another four athletes stated that they would always choose their studies when they were faced the decision between sports and studies. Our findings show that a Dual Career can only be realized through specially initiated organizational measures, such as personal agreements with professors and lecturers regarding leave of absence.

3 See <https://www.duale-karriere.de/home/>.

As the time required for training increases with advancing age, the demands placed on students in their studies also increase. Due to outstanding achievements, professional athletes are often out on competitions around the world and therefore rely on athlete-friendly universities or training companies. The interviews revealed that competitive sport is acknowledged differently as a social commitment from university to university. At some universities – often due to the initiative of the nearby Olympic Centre – professional sports representatives are available who try to support the athletes in organizing and combining top-class sport and studies/ training. In addition, personal/ private contacts with professors and lecturers played a decisive role. At other universities, some athletes were completely on their own, organizing their studies and trying to coordinate things in the best possible way. These athletes described their universities as uncooperative and mostly had to solve problems themselves. The compatibility of elite combat sport and studies also depends on the subject of study. The combination works better if the university has few compulsory courses or offers material via e-learning and the athlete is not tied to a specific location. Especially in the natural sciences such as medicine or dentistry, this was a considerable obstacle due to laboratory times and practical courses. Considering training companies, all – with one exception – supported the Dual Career of the athletes during their apprenticeship. But as soon as the athletes became trained professionals, the companies no longer felt sympathetic to absences. Resulting, the double burden of a Dual Career left little or no room for further activities.

Those athletes, who do not study or pursue a Dual Career, are usually for several years in the sports promotion section of the German Armed Forces – so called sports soldiers.⁴ Seven athletes of the sample did so. Five of these athletes in joined the sports promotion section immediately after school. This step marked a noticeable turning point in their careers. All athletes perceived the support positively, as they could fully concentrate on their training and considered a change to the student or training status as negative. The sports promotion sections of the German Armed Forces therefore represent the only possibility for the athletes to pursue their sport to 100% and to earn money at the same time.

Three of the seven athletes left the army at some point to study. However, they confirmed the previous assumption that the training frequency suffered as a consequence. Only one athlete described that the beginning of the apprenticeship led to a surprisingly increased performance but explained this by the fact that his mind was not only focused on sport and he enjoyed training much more than before.

4 Sports soldiers are athletes serving their country as military personnel while being financed by the state mainly for the practice of their sport.

Higher-Level Competition Experience at Young Age

As described, it is a critical transition when athletes switch from junior to senior level. Consequently, athletes do not only face opponents who are at the same age within a three years margin but everyone from a certain age upwards. This implies that athletes are confronted with opponents of every age with some of them having much more experience at this level at the time of the switch. Many athletes are struck by the highly different level of the seniors. They report that they needed about two years to adapt to that level. It is even harder as the number of competitions decreases compared to the dense schedule of the juniors.

For some it is mentally hard to cope with the aspect that it is difficult to get in with the senior level as the results are not comparable with the junior level at all. An athlete who struggled at the beginning of the senior level but made it to the national team after a few years explained the effective transition due to her own motivation. This motivation came from rays of hope, e.g. when the athlete could compete in the team and got positive feedback from the outside.

Contrary, some athletes had a quite smooth transition into the senior level and had no difficulties in their adaption process. The athletes justified this with the fact that they have already competed at the senior level when they were still junior or even in the age range below. One athlete was even looking forward to competing against his senior idols and had therefore a highly positive point of view.

Coach

Coaches are the daily companions of athletes and thus exert a significant influence on them. Athletes have relations to their club coaches as well as to national head coaches, which implicates the task to adjust themselves to different characters and coaching styles. Since the relations are often close and also coaches have to show results conflicts seem to be inevitable.

Nine athletes described their relationships with their personal/club coaches as very confidential and expressed a strong attachment to their coaches. Five athletes even saw their coach like a father or grandpa figure. This intensive relationship was established by the athletes' time spent with their coaches and by long competition trips, but also by team-building measures demanded by the coaches themselves.

Another five athletes emphasized an attachment to their coaches but said that they were not reference persons for personal problems, as this was something to talk about with their friends and not their coaches. One athlete justified the impersonal relationship to her coach by the fact

that the coach's interest was mainly in the performance of his athletes. In cases where the relationship was considered rather impersonal, it was usually described as professional.

The relationship between the athlete and the national head coach was described in a range from good and confidential to superficial and critical. It turned out that the national head coaches trust in their athletes is extremely important. As soon as the national head coach gave their squad members the feeling that the athletes' development of the athlete was important to them, increased motivation and fun were the result. However, this was extremely problematic for athletes who did not train at the Olympic Centre. Consequently, the lack of recognition on the part of the national head coach led to a diminished athletes' motivation.

Some athletes described frequent change of coaches as a negative influence on the relationship between coach and athlete. The majority of the athletes have experienced several coach changes so far. On the one hand these were forced changes, triggered by the passing through of different age groups, club changes or the federation, but on the other hand some were also desired changes. Men perceived the change of coaches as more neutral than women. Female athletes emphasized that it was difficult for them to get involved with a coach again every three years and that adjusting to the new philosophy of the new coach would take a long time and therefore meant a setback.

With regard to the question of conflicts only minor disputes were reported, but these were not considered in the coach's overall assessment. As an example, incomprehensible nominations or minor discussions about the training effort were mentioned. These small setbacks were responded to by harder training on the part of the athlete in order to become even better. Furthermore, some athletes reported that you have to be above such things.

Barely any of the athletes confirmed that they felt pressure from their coach. However, there was a slight tendency among the sexes, as women felt pressured rather than men and reacted anxiously.

The acceptance of the Dual Career by the coaches was perceived very differently. Thus, some coaches were willing to exempt the athlete from training for university measures while others saw no need for it. Especially foreign coaches reacted with low understanding to the requirements of vocational training. The reason was the lack of knowledge of the German sport system and federal structures. In many other countries, the conditions for competitive athletes are not comparable to those in Germany.

Federation

The support provided by the federation⁵ was perceived quite differently. Some athletes felt that their federation took care of them and paid for their competition travels, training camps and equipment. The higher the squad status, the more was taken care of by the federation. However, there were also critical comments from a large number of athletes who perceived the support of the federation as poor. Several athletes stated that they felt really deserted and disappointed by the federation. Some athletes criticized the poor communication between federation and athletes, which athletes interpret as disinterest on the part of the federation. No talks about the future of the athlete have been conducted in this way.

In addition, the level of support was classified according to the relationship with the national head coach and the performance.

The category federation includes the financing of competitions, travels and equipment of the athletes. Here, no consistent picture could be drawn either. However, it became evident that the federation finances the squad athletes who are nominated for a European or World Championship and thus belong to the national team. The limitation of funding to selected athletes poses a problem for the remaining athletes, who are members of the national team but do not attend international highlights such as European and World Championships. The lack of transparency of such criteria lead to the fact that athletes are often unable to understand or even influence these criteria.

Furthermore, it became obvious that a (temporary) drop in performance had a direct influence on the financial support of the athlete by the federation, so that the funding of competitions etc. turned out to be problematic. In such cases many athletes would only be able to continue professional sports due to the support of their parents who would bear a large part of the financial burden and high costs.

In addition to the assistance of the parents, some athletes also rely on the support of the Stiftung Deutsche Sporthilfe, regional foundations

5 The DOSB has 101 member organizations including 16 regional sports confederations, 65 national (sport-governing) federations, and 20 sport associations with particular tasks. The term 'federation' refers to these 65 national sport-governing federations which are in charge of one specific type of sport each.

and earmarked donations via the Olympic Centre.⁶ The Stiftung Deutsche Sporthilfe was listed by all athletes as an important/existential supporter of their athletic careers. However, the sport is unpleasantly done at the expense of the parents and long competition journeys are partly omitted, since athletes rate them as not worthwhile.

Clearly, financing problems occurred primarily with athletes pursuing a Dual Career, but not with athletes of the German Armed Forces' sports promotion group. Here in particular, sports soldiers explicitly named the army as a supporter and considered a competitive career without the support of the army to be impossible. This became apparent for athletes who left the army because of their studies and consequently had to finance their entire cost of living.

Thus, if these framework conditions developed unfavourably, this partly led to athletes thinking about retiring.

Setbacks

All athletes interviewed emphasized setbacks in their athletic careers but did not describe them specifically as turning points.

Poor performance, i.e. failure to achieve self-imposed goals was a primary concern for some athletes. This e.g. included missing an Olympic medal and the Olympic qualification or even the non-nomination despite having achieved the qualification criteria. Besides that, a perceived stagnation of performance was mentioned as setback.

The atmosphere in relationships with coaches or teammates was often associated with setbacks resulting in demotivation. This field ranged from coach changes and coach dismissals over non-consideration by the national head coach to conflicts with the (national) coach and the squad mates.

Larger injuries were perceived as drastic negative experiences. These included cruciate ligament ruptures and even a stroke. As such injuries take time the feeling of missing out on the competition arises.

The interviews give a fairly coherent picture of how the athletes (especially men) deal with setbacks, whether on an interpersonal,

6 The Stiftung Deutsche Sporthilfe is a non-profit foundation under civil law. The purpose of the foundation is the idealistic and material support of athletes to compensate for their participation in international championships and national representation. The athletes should be financially supported in return for their services to their country's reputation.

physical or goal-oriented level. All athletes develop a special ambition and an inner incentive to train even harder, better and more thoughtfully in order to avoid something like that happening again. The athletes wanted to show the people around them even more what they are capable of. The majority also has an extremely objective and factual point of view: 'That's simply sport'. Only a small number of athletes were looking for the causes and reasons for the setback and were not able to identify them.

Female athletes, by comparison, seem to be much more sensitive to setbacks. Again, they had much more difficulties to find an efficient coping strategy than male athletes. They partially resigned, and no proper coping process occurred. This was particularly evident among female athletes with a Dual Career, as the second pillar compensates for competitive sports.

Way of Coping with Career Termination

For some of the retired athletes their retirement was fixed (Group 'fixed') as it was a creeping process for others (Group 'creeping'). The athletes who deliberately set a point in time mentioned age and the feeling that they were no longer able to perform at their best as causes of career termination. In contrast, athletes presenting their exit as a creeping process were in particular students, as their studies and professional goals became more and more important. This intention was reinforced by dissatisfaction with the respective national head coach and federation.

All athletes of Group 'fixed' had completed vocational training or studies while pursuing their sporting careers. As a consequence, none of them was afraid of the future. Summing up, a combination of reasons led to a shift in priorities at the expense of sport among top student athletes and thus to the end of their careers. Group 'creeping', consisting of athletes who were still participating at a high level, can be divided into students and sports soldiers. None of the sports soldiers thought about a point in time when they would end their career. However, they were rather concerned with the question of what they wanted to do after their sporting career, which they did not know yet. Remarkably, the sports soldiers mentioned that they wanted to continue doing their sport as long as their bodies would allow it. They described the exit from competitive sport as hardly imaginable and expressed fear of the time coming after that.

In contrast, student-athletes had a more concrete idea about their career planning after competitive sports. They thought more in terms of professional and financial reasons about their retirement. Unlike the sports soldiers, they did not stress that they were afraid of the end of their sporting careers due to their studies. Some student-athletes

even spoke of joy about the 'time after', since they would have many alternatives and would no longer have to make so many commitments.

A common difficulty for both sports soldiers and students is the new rhythm of everyday life.

In general, thoughts about phasing out were mainly caused by a declining performance curve and lack of nominations. Many sports soldiers wanted to remain involved in sport in the form of a coaching profession even after their career was over. Moreover, none of the fourteen athletes interviewed believed that they would receive any support from the federation or the coach during or after the retirement process. They rather hoped that the army, the Stiftung Deutsche Sporthilfe and sponsors would help them in the transition to the post-sport career.

4. DISCUSSION AND CONCLUSIONS

In this article, the results are interpreted and related to existing results of the authors referred to in the first section of this paper. Based on this, recommendations for the athletes and their consultants are derived. In addition, the value of the study is summarized and its limitations will be outlined.

Second Pillar

Student-athletes perceived their Dual Career as extremely exhausting and most of their statements regarding the combination of professional sports and studies have been negatively associated. This can be explained by the fact that they have to cut back in both studies and sport as well as in their social life. In addition, student-athletes are limited in their choice of university and have to extend their study time. This counteracts to build up social relationships due to a different course plan compared to their fellow students. Furthermore, a Dual Career poses an organizational challenge to the athlete. As there is no uniform regulation for them concerning presence time, exam dates etc., the organization depends often on individual arrangements. Only a few universities have sports representatives trying to facilitate the communication between professors, faculty members and athletes. The results demonstrate that if athletes have no organizational help and the university members do not appreciate individual arrangements, it is barely impossible to master or even successfully complete studies and sports. Consequently, by pursuing a Dual Career the athletes already make a – somehow subconscious – decision of how important sports and vocational education comparatively are to them. In this decision process the role of their parents and their upbringing in childhood

are clearly recognizable. If parents themselves have made a career, their children are more likely to pursue a vocational education as well because they learn from childhood on how important a vocational pillar is.

Most of the athletes who are not combining sports and academic training are working as sports soldiers and have a positive attitude towards the army. They perceive the army's support as inevitable to perform on a professional level in their sports. The main problem is that sports soldiers do not have concrete plans regarding an occupational career when they retire. Therefore, the possibility is high that they will work in the sports area as coach or in areas where they do not need a specific education. As a result, it could be dissatisfying and hard to accept for athletes being ordinary workers in the post-sport career as they were used to perform at a high level.

The identified resources for a well-working Dual Career approach are an athlete-friendly university (members), stress-persistency, wanted subject of study close to the training environment and an understanding coach. Barriers are the tendency of sports soldiers not pursuing anything else next to the athletic career and the opposites of the resources mentioned above.

Summing up, two groups can be identified by investigating the Dual Career approach. Either athletes decide to combine high-level sport with high-level education or they choose the way as 100% professional athlete by becoming sports soldiers in the army. In the first case, athletes must be aware of meeting various obstacles and be mentally and physically strong to break through those barriers. But in the end student-athletes will be rewarded with a university or associate degree and are well-prepared for the post-sport career. The second case is quite the opposite situation. Athletes in the army have no obstacles during their active careers as they are free for practice, training camps and competitions but conflicts arise when they move on to the post-sport career. Usually they pursued no or only a low-level academic training which makes it difficult to establish in the vocational world. This is aggravated by the fact that sports soldiers have no fixed point in time when they want to end their career as it is an easy life pursuing their 'passion' and getting paid for it. Resultingly, they are most often way above 30 years when they want to enter the world of work. In addition, they have no occupational experience at all. Based on these facts, it is quite difficult for athletes pursuing a career as an officer and to make it to the top also on an academic level.

Benefits of a Dual Career identified by Elbe and Beckmann [2006] as well as by Stambulova and Ryba [2013] are barely confirmed by the interviewed athletes. Only the aspects of balanced lifestyle and higher employability after sports are visible in two individual cases.

Contrary their studies carved out problems (when new levels in sport or education are achieved) that can be documented by the results of the interviews. Furthermore, the athletic identity is not necessarily greater than the athlete's student identity concerning every athlete interviewed. However, a higher athletic identity can be recorded for sports soldiers whereas the identities of student-athletes change during their athletic careers.

Regarding career development, transitions, and termination, the theory-based obstacles (Dual Career approach, junior-to-senior transition, career termination) and three new aspects (coach, federation and setbacks) were extracted from the collected data influencing an athletic career. Significant differences were found in the Dual Career approach between student-athletes and sports soldiers. There were considerable problems with student-athletes who tried to pursue a Dual Career. Uniform regulations at all universities are necessary to improve the Dual Career approach and would be a huge step into the right direction. In addition, better support of student-athletes could be achieved through a higher recognition of their efforts in sport by universities' staff members. The NCAA system for colleges in the USA serves as an orientation, since nearly 80% of the Olympic participants of the USA are college students [McDonald 2016].

The study thus highlights a large discrepancy between sports soldiers and student-athletes in almost all areas. For student-athletes the financial subsistence, the functioning of the Dual Career, the decisions of federations, and the relationship with coaches are influencing their careers. In comparison, the athletic performance appears to be the only crucial factor for careers of sports soldiers.

Further research should investigate more success factors more detailed to give a clear advice for career assistance programs, federations, universities and training companies.

Higher-Level Competition Experience at Young Age

Studies showed that only a small percentage of high-level junior athletes make a successful transition to the senior stage and the majority drops out. Most of the combat sport athletes interviewed in this study transitioned successfully from junior to senior level, which is obvious because they are or were highly successful in their sports. One reason for a smooth transition was that those athletes have already competed at the senior level before they accessed this level formally.

This finding can be supported by the statements of those athletes who had difficulties to adapt to the senior level. They felt that the higher level, the experience of the older athletes, and the decreased number of competitions that they had to get used to the new level were the

causes of the protracted transition process. Although the athletes met the demands for a successful transition mentioned by Stambulova [1994; 2009], they did not necessarily experience a successful transition. Additionally, the skills for an efficient transition stated by Wylleman and Lavallee [2004] are not specifically essential skills for the junior-to-senior transition and can be applied to all other transitions as well. In this time in particular, the key element is that the athletes need to take part in many competitions of the highest possible level in order to get experience needed for the senior level. Concluding, this way should be already pursued at a young age to enable athletes to develop towards a high-class level.

Coach

A huge difference in the relationship with the national head coach is reported by the interviewed athletes. Statements describe the relationship from very confidential to rather aloof. But no matter what kind of relationship with the coach prevailed, the recognition of the national head coach was of major importance for all of the athletes. Above all, the coach's trust in the athlete's person despite an experienced defeat is an enormously important factor for the athletes. A crucial problem emerges for athletes who did not train at the same club as the national head coach because athletes from other training bases had the impression that he often had a bias towards his own students in terms of nomination, financing and other supporting services. All athletes who did not perform significantly better than athletes from the national head coach's base must therefore usually fight for the attention of the national head coach.

Especially with foreign coaches this problem becomes increasingly apparent. If they have a different mentality, difficulties may be the consequence. Besides comprehension problems due to language, foreign coaches reach their limits due to their ignorance of the German social and sports system with its federal elements. As a result, student-athletes, in particular, have enormous difficulties in establishing a relationship of trust with the national head coach due to absences from academic further training and have to fight for the support of the national head coach. In the worst case, this creates a vicious circle in which top athletes turn away from competitive sports. [Figure 2].

This links to the next point 'change of coaches' and makes it evident how important a long-term relationship to the coach – be it national head coach or club coach – is. Due to frequent changes of coaches it is difficult for the athletes to build up confidence in the new coach again and again. In addition, the athletes need at least one year to get used to the new philosophy and a different technique of the new trainer as well as to adapt. This in turn means that athletes are initially dissatisfied with their performance and feel set back.

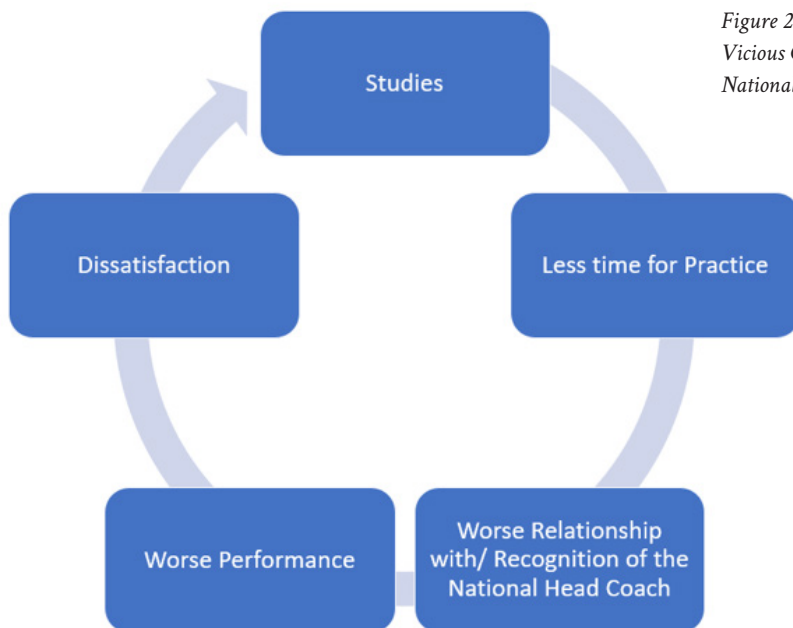


Figure 2:
Vicious Cycle of Student-Athletes with
National Head Coaches

The factor coach is also mentioned by other authors [Stambulova et al. 2009]. However, in addition to other aspects such as high motivation, positive attitude, parents, etc., it mostly represents only a mosaic in the overall picture with little influence. It thus contributes to a certain extent to a positive or negative coping reaction but is not investigated as a decisive element [Wylleman, Lavallee and Alfermann 1999]. Additionally, Debois et al. [2012] identify coaches – beside several other factors – as issue facilitating the development of a high-level performance.

In summary, it can be shown that the confidence of the national head coach in the athlete's person is a key element for athletes' career development, which is particularly difficult to achieve for athletes from other bases. Furthermore, frequent coach changes represent an additional obstacle for an increasing performance curve of the athlete.

Federation

The athletes interviewed also perceived the support services of the association very differently. While athletes of the national team, who took part in important international highlights such as the Olympic Games, World and European Championships for the federation, spoke of impeccable financing of competitions, travel and training camps, the remaining squad athletes represent a clear contrast. They had to put together their own financing and felt abandoned by the association.

Furthermore – in contrast to the members of the national team – no conversations were held regarding the future of the athletes. As a consequence, the athletes in this group had a very negative image of the federation. So, the question arises: To what extent should the federation invest in good athletes who, however, do not reach international highs due to poorer results in the meantime?

Another problem arises from the non-financing of such athletes. Often the nomination criteria and the associated financing of the federation are not transparent for these athletes, and, consequently, encounter incomprehension and fierce criticism. If these athletes do not benefit from their parents' financial capabilities or regional foundations, the association loses these athletes who, despite their not above-average performance, are talented, motivated and ambitious. If these athletes are pursuing studies or training at the same time, the path to a post-sport career is very short. Furthermore, their potential to act as high-quality training partners is not recognized. As these athletes become frightened away, the national top performers become narrower and are limited to the four athletes of the national team with increasing age. In summary, whether these are nomination or financing problems, the lack of transparency of such decisions and the lack of or no communication about them are decisive factors.

Although there are existing career assistance programs, athletes confirm that they often feel abandoned. Especially in the fields of

medicine and dentistry there is no organizational support. Furthermore, communication within the federation must be completely improved. This requires clearly formulated nomination and financing criteria to be met and more trust in lean periods to be placed in the B-squad athletes. In addition, the high frequency of different trainers should be kept to a minimum. Especially foreign coaches pose an increased risk of miscommunication.

Setbacks

Poor performance, atmospheric interferences in relationships with coaches or teammates, and injuries are the three inductively derived sub-categories from the code setbacks. In general, a gender difference was noticed. Female athletes appeared to have much more difficulties to find effective coping strategies on setbacks comparing to male athletes. No matter what setback they experienced, the attitude 'That's sport!' was omnipresent. Furthermore, they responded to setbacks with harder training which proves a part of the male characteristic. In contrast, the generally rather effeminate image of women was confirmed. They reacted more sensitive when they experienced losses and were rather demotivated. The different handling of setbacks can be explained by the different perception of setbacks. If athletes perceive the new situation after the setback pessimistic, ineffective coping strategies are the result. Contrary, if athletes do not attach great importance to the new situation, they are able to cope better with the new conditions. In summary, the handling of setbacks depends on the athlete's mental attitude.

Only one paper dealt in specific with injuries as setbacks [Ivarsson, Stambulova, and Johnson 2018]. After the detailed investigation of this study, the authors described the setback injury as a career transition with its long-term consequences in terms of career termination. The authors constructed a four-phase model (pre-injury, first reactions, diagnosis and treatment, rehabilitation and consequences) demonstrating the transition process. In each phase athletes experience specific demands and barriers and respond to them with distinct coping strategies and resources. Comparing to this study, distinct strategies of the interviewed athletes can be identified by the reaction of higher training intensity and volume as well as their mental skills.

Therefore, it is necessary that the athlete continuously works on his mental condition to avoid ineffective coping-strategies in advance. As a consequence, attention should be paid to integrate not only physical skills but also mental abilities into the training plan.

Way of Coping with Career Termination

Although research about athletic career termination is abounding, nothing about the different transitioning of student-athletes and sports soldiers has been investigated. As mentioned in the discussion about the second pillar student-athletes have a much smoother transition than sports soldiers. The findings of the interviews point out that the athletes who had already retired can be divided into two groups [Fig. 3]. One group determined a fix point in time for their career termination whereas it was a creeping process for the other group. The last-named group has been all student-athletes who gradually dropped out of sport due to dissatisfaction on their performance and the increased importance of their occupational education. Those athletes who determined a concrete date for their career termination mentioned age, decreasing performance, injuries and missing fulfilment as reasons for their decision. Most of those reasons have been already shown by Taylor and Ogilvie [1994; 2001] and, thus, are confirmed by this study.

Athletes who are still participating in high-class sport can be split in two subgroups as well. Group 1 represents student-athletes whereas the group 2 consists of sports soldiers. Differences can be reported in the planning of the post-sport career. Whereas student-athletes have a concrete plan in mind, sports soldiers want to compete on a professional level as long as their bodies would allow it. While student-athletes are excited about the future without any commitments, the sports soldiers are more afraid of the time after competitive sports. This can be explained by the fact that student-athletes always have to decide between two sides which they both want to pursue whereas sports soldiers 'lose' their possession/passion and have no suitable alternative. While Alfermann and Stambulova [2007] assume that adapting to post-sport career is easier when the athletes terminate because of future plans [Alfermann and Stambulova 2007], the student-athletes interviewed rather terminate due to future plans, mainly because they want to join the world of work but also when they want to raise a family. The retirement process of student-athletes is described as a creeping process, but in this creeping process the athletes reported that they compulsively attempt to achieve good results in both sports and studies. Therefore, the student-athletes trudge through the adaption process until they finally decide in favour of their studies. However, the initially described

resources: pro-active retirement planning in advance, voluntary athletic career termination, multiple personal identity and positive experiences, effective social support from family and friends [Taylor and Ogilvie 2001; Alfermann et al. 2004; Fernandez et al. 2006; Alfermann and Stambulova 2007], and

barriers: high athletic identity leading to an identity crisis, missing support of coach, peers and organizations [Taylor and Ogilvie 1994; Alfermann and Stambulova 2007; Stambulova and Wylleman 2014]

can be confirmed by this study.

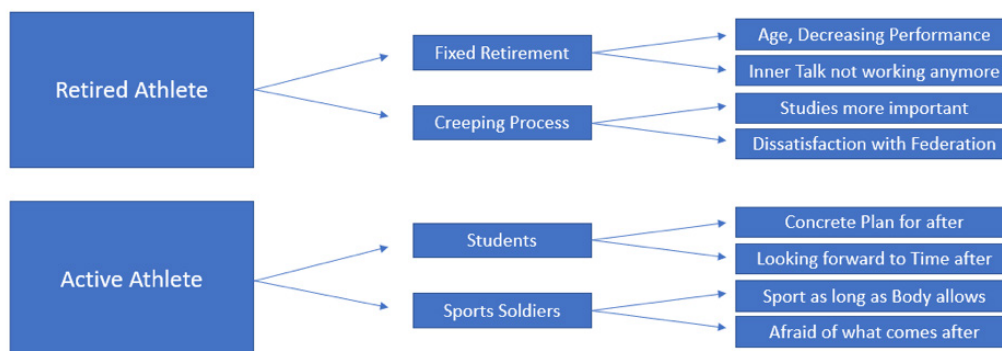


Figure 3:
Career Termination of Different
Groups of Athletes

Limitations

Three limitations relating to the sample, the research design and the author can be found in this study. The first limiting factor is that different athletes from several sports were interviewed. Due to diverse conditions in the respective federations, the results of the present study are limited in their generalizability. In addition, the wide range of the age of the sample is a problem as the German sport system changed over time. Therefore, comparing statements from retired athletes about second pillar, coaches, federations etc. with statements from active athletes these days skews the results.

Second, the retrospective design of the study has its limitations (e.g. recall, bias) [Kerr and Dacyshyn 2000; Stephan et al. 2003]. Reinterpretation and memory selection pervert the truth and lead to different results. For example, retired athletes often do not view past events as badly as they experienced them at time. Further research should consider taking more homogenous samples and a smaller age range to obtain more confident conclusions.

Third, our own experiences in combat sport could bias the results as well. This is a common problem in ethnographic research. On the one hand being a ‘native’ definitely helps to open doors and to deeply understand what athletes experienced and tell about. On the other hand, as Bergold and Thomas state, the high degree of involvement and commitment in the field can also lead to the participating scientists being too strongly influenced by the ways of thinking and concepts of the research field [2010: 338]. According to Bergold and Thomas, researchers have to use distancing instruments which allow them to reflect on their personal interests and blind spots and on their relations with research partners and to establish a critical distance to the research situation. We have been aware of this problem and the requirements associated with it, however, a certain bias cannot be completely ruled out.

Value of the Study

The study is highly valuable as career transitions are a decisive issue in both literature and current topics in society. The sport-specific investigations so far have dealt with athletes from individual or team sports (ice hockey, handball, hockey, football, boxing, etc.). The special value of this study is that, for the first time, high- and top-level athletes in judo, karate, kickboxing, wrestling, boxing, and fencing were interviewed. Summarizing, the study’s question can be answered as follows: The study identified six key factors for career development and transitions – (1) second pillar, (2) higher-level competition experience at a young age, (3) coach, (4) federation, (5) setbacks, and (6) way of coping with career termination – whose characteristics partly confirm the current state of scientific discussion and, above that, reveals a row of new – crucial – findings both for athletes themselves as for their advisors.

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Competing interests

The authors have no competing interests to declare.

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