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To cite this article: Orsolya Herr & Alexandra Köves (04 Mar 2024): Achieving while looking forward: variables influencing performance in the transitory career phases of professional women's handball, International Journal of Performance Analysis in Sport, DOI: [10.1080/24748668.2024.2323372](https://doi.org/10.1080/24748668.2024.2323372)

To link to this article: <https://doi.org/10.1080/24748668.2024.2323372>



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Published online: 04 Mar 2024.



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Achieving while looking forward: variables influencing performance in the transitory career phases of professional women's handball

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ABSTRACT

This paper investigates what variables may influence long-term performance in the transitory phases of a team athlete's career according to the perceptions of the athletes themselves. Narrative research was conducted with 16 world-class, retired women handball players and the qualitative analysis reveals those factors that influenced their performance in the transitory phases "from development to mastery" and "from mastery to discontinuation" on the individual, interpersonal, organisational, and sociocultural levels. The variables are organised into a systems map to provide a full overview as well as the perceived relationships between them. The practical implication of the paper is to draw the attention of those organisations that aim to improve long-term performance to the leverage points that athletes themselves find important.

ARTICLE HISTORY

Received 11 October 2023
Accepted 20 February 2024

KEYWORDS

Elite team sport; handball; career transitions; narrative research; women athletes; long-term performance

1. Introduction

At the end of the day, sport is about performance. Understanding an athlete's career and stages in life provides invaluable information on the athlete who is not just an asset, but a key internal stakeholder in a sports organisation, and as such, needs special attention. Studies of sport performance contribute to our understanding of athletic achievement through the analysis of players, teams, coach behaviour and referees (O'Donoghue, 2010), the analysis of technique (Lees, 2008, Campos, 2013), work-rate analysis (Carling & Bloomfield, 2013), effectiveness of chosen techniques and tactical analysis (Palao & Morante, 2013, Hibbs & O'Donoghue, 2013), or the factors affecting sports performance (Taylor et al., 2008, Gomez et al., 2013). Even in team sports it is becoming increasingly important to consider the individual athletes' personal attainments when analysing performance (De la Rubia et al., 2020). Our paper aims to contribute to research that uncovers the relationships between performance and the diverse characteristics of athletic careers, in particular in the transitory phases between development and

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mastery and between mastery and discontinuation based on qualitative research involving internationally successful Hungarian women's handball players.

Studies have covered such topics with regard to various individual and team sports. The longitudinal univariate analysis of Post et al. (2020) provides relevant and valuable information on the multigenerational performance development of top-elite swimmers looking at the performance levels required at certain ages to predict development towards the elite level. Yustres et al. (2019) examine the impact of early specialisation on the performance of senior elite swimmers, analysing variables like swim style, distance, sex, age, status, country, and years of high-level competition underpinning the positive effect of a long career on performance. Brustio et al. (2022) present the career performance progression of elite international swimmers in sprint events finding that progress in performance during the transition to an adult career might be a strong indicator of performance potential. They also emphasise the importance of pre-requisites (dependent on coaches, parents, and athletes) in transiting to international levels. Brustio et al. (2023) evaluate youth-to-senior successful and unsuccessful transitions to comprehensively quantify the prevalence and magnitude of relative age effect in Italian female football national teams. They also draw attention to the importance of addressing gender-specific mechanisms (e.g. sport popularity, selection opportunities, and differences in the timing of maturation) in the talent selection and deselection process. Baker et al. (2013) establish that career length is a reliable predictor of performance in team sports.

Transitions into the retirement stage have also been widely researched in various sports (for a comprehensive literature review see Knights et al., 2016). Nonetheless, Monteiro et al. (2020) claim that this area has not received enough attention in football (see also Carapinha et al., 2019) and understanding how the retirement phase affects the competitive level of Portuguese football players is crucial as the lack of awareness about career planning, a delay in retirement, and negative emotions can contribute to adjustment difficulties.

While our present study contributes to this existing line of research, we posit that it can extend our understanding of the current state of affairs from a number of different perspectives. Firstly, whereas most previous research aimed to analyse actual (objective) sports performance using observational data, we turn attention towards qualitative, subjective data. As O'Donoghue (2010, p. 225) suggests: "*Quantitative observational techniques are good for describing 'what' participants do during a performance, but they are not so good at explaining 'why'. Therefore, qualitative techniques have great potential in the analysis of sports performance*". Such narrative techniques have already been used (e.g. Poizat et al., 2010) to uncover thoughts and factors influencing decision-making processes that lead to sports performance. As instrumentalist approaches have intensified with the commodification or hyper-commodification of sports (Walsh & Giulianotti, 2006), we believe that such qualitative personal accounts also combat the treatment of athletes merely as "human machines" or "economic assets" and remind us of the importance of the human(e) perspective.

Secondly, creating an environment where athletes really flourish can be an effective way of reaching the highest potential of sporting performance. Overseeing the crucial elements of career development from the athlete's point of view can provide a perspective on how they "manage" their own sporting careers through conscious or unconscious decisions and often recurrent situations and how these influence their performance.

Hence, our central research question is to find out what leverage points can be facilitated through career management measures that support long-term performance.

Thirdly, to the best of our knowledge, handball has not been the subject of research regarding the relationship between career transitions and sports performance. Research by J. Ekengren, N. B. Stambulova, et al. (2020; Ekengren et al. 2020b) is unique in focusing on handball, illustrating an empirical career model along the holistic athlete life course among Swedish professional handball players. However, their research did not consciously cover the highest achievers in the sport.

Sport careers have been studied from many different aspects by various disciplines, especially (sport) psychology, sociology, behavioural sciences. Several studies present frameworks for athlete development (Côté & Fraser-Thomas, 2007, Wylleman & Lavallee, 2004, Stambulova & Ryba, 2014, Stambulova & Wylleman, 2015). Similarly to Monteiro et al. (2020; Monteiro et al. 2023) analysing football careers and Battochio et al. (2016) analysing ice-hockey careers, in this study we also rely on Wylleman's (2019) holistic athlete career model (HAC-model) as it provides a clear understanding of the characteristics of the four main athletic stages: initiation, development, mastery and discontinuation.

However, as career transitions significantly impact sports performance (Lavallee, 2019), from our research covering the whole length of a successful career, in this paper we focus on the two main transitory phases in an athlete's life: firstly, when becoming a professional and secondly, when already concerned about retirement (see Figure 1).

Even if there are opportunities for active athletes to plan ahead to their retirement, experience shows that they are reluctant to participate in such programmes as according to their perception, they distract them from their sports performance (Park et al., 2013). However, as retirement involves several losses (e.g. loss of identity, loss of employment, reduction in income), the fear of that affects athletes in the later stages of their active age as humans tend to invest psychological resources to limit potential losses (Hobfoll, 2002). When examining career performance data (team selection, team tenure, career tenure) of men's Australian National Rugby League players, participation in retirement planning significantly correlated with individual performance indicators and was positively related to them (Lavallee, 2019). Therefore, it is worth examining high-performing athletes' accounts for managing these transitory career phases when analysing sports performance.

The research presented in this paper used narrative research methodology to uncover the variables influencing the career performance trajectories of highly successful Hungarian professional women handball players, showing the intervention points where conscious career management can influence long-term performance. Handball is a fast and competitive team sport that has been highly popular in many countries beyond the Anglo-Saxon world. As Hungarian handball teams are among the best in Europe, the research has international relevance. Overseeing these variables can be crucial for sport management to understand how career paths can be actively influenced to enhance performance providing a supporting environment for athletes. For an overview, we propose a systems map (Barbrook-Johnson & Penn, 2022) based on the narrative interviews.

2. Methodological background

Narrative studies in sport can be traced back to the early 2000s, used especially in the fields of health sciences and psychology (e.g. J. Ekengren, Stambulova, et al., 2020). Agreeing with O'Donoghue (2010), we argue that the narrative approach both enriches the methodological repository of performance analysis and allows us to examine performance from a more human perspective.

2.1. Data collection

In our research 16 retired women's handball players were interviewed on their successful handball careers. The sample was selected according to the following criteria: Interviewees had to be outstanding Hungarian professional women's handball players having played at least 5 years in the first division and having had their sporting career finished at least 6 months before the interview to have sufficient experience on discontinuation. Among the participants, one player had not participated in games with the Hungarian national team but did participate in Olympic preparations. (The reason for missing the Olympic Games was pregnancy.) The overview of the relevant demographic and career data is presented in Table 1. The average age of the interviewees was 45 years. They became elite handball players at the average age of 17 and played in the Hungarian national team on an average 106 times. They retired from elite level sports at the average age of 34 and almost half of the participants continued playing in lower leagues. While the majority are engaged in handball coaching after discontinuation, three are no longer involved in handball and found new occupations.

The corresponding author – having been active in the top leagues before turning to academia – had the opportunity to find interviewees with truly great performance behind them. Tables 2 and 3 show their sports achievements to enable the reader to judge their long-term performance. All the interviews were conducted online between December 2021 and August 2022, and – as all participants agreed – they were all recorded. The interviews were on average an hour long. The research was conducted with the highest standards of integrity following the university's recommendation for research data management and went through the university's research ethics approval procedure.

In selecting the context for the stories, the focus was on personal stories using a semi-structured interview format, occasionally supplementing the interview outline with additional questions. The questions started from the present time, followed by those related to the past, all the way to the beginning of their handball career. Questions were mainly in chronological order, but if the storyline required, the discourses moved back and forth. After the participants had described their sporting careers over a period of time, life beyond sport was also discussed. During the interview, a timeline was drawn to help the analysis. During the interview, the interviewer (who is also the lead author of this paper) strived to listen actively and considered it important not to influence the subject's reactions. In addition, she took notes for self-reflection to minimise subjectivity in later analysis.

Table 1. Overview of relevant data on the interviewees.

Players	Current age	Age of becoming an elite player	Hungarian national team appearances	Age of retirement from elite level	Sports level after retirement	Current occupation	Explanation of retirement from elite level
1.	49	18	161	37	non-professional	physical education teacher, coach	<i>Hard</i> ended due to injury, but coaching made the transition easier
2.	51	14	110	32	-	coach, expert commentator on TV	<i>Easy and not</i> dissatisfaction with her performance; injury; civilian goals in the foreground
3.	54	20	131	36	non-professional	coach, mental coach	<i>Easy</i> internal motivation has run out
4.	46	18	150	38	-	coach, expert commentator on TV	<i>Hard</i> she thought it would be easy because she was prepared, but she doesn't have a sense of belonging; disappointments in people
5.	44	18	no match just preparation	34	-	coach	<i>Hard</i> loss of privilege and disappointment in people; starting a family makes it easier
6.	41	19	93	38	non-professional	grassroots professional leader, coach	<i>Easy</i> a decision considered for years; motivation exhausted
7.	36	18	103	33	-	coach	<i>Hard</i> what will I do, will I allocate my time?; alleviated by training
8.	57	15	58	33	-	professional director, coach	<i>Easy</i> after her decision due to injury; new goals have become (learning)
9.	37	20	38	34	non-professional	interior designer	<i>Easy</i> loss of motivation; family is a priority over travel
10.	56	18	82	33	-	coach, university lecturer	<i>Easy</i> loss of motivation, other things became more; important, she was physically fine
11.	46	14	133	37	-	coach	<i>Easy</i> she maximised her opportunities (she had a 3-year break in her elite career)
12.	38	15	26	34	non-professional (after birth)	entrepreneur	<i>Easy</i> she longed for something else (motherhood), there was no emptiness left in her

(Continued)

Table 1. (Continued).

Players	Current age	Age of becoming an elite player	Hungarian national team appearances	Age of retirement from elite level	Sports level after retirement	Current occupation	Explanation of retirement from elite level
13.	46	17	101	30	-	coach	<i>Hard</i> she didn't make the decision; they got rid of her due to injury
14.	37	17	122	33	non-professional (after birth)	full-time mom	<i>Hard</i> "We were in a comfortable world"; other tasks come the children come first
15.	43	15	152	33	non-professional	head of her own association, training of grassroots	<i>Hard</i> she did not make the decision; because of her injury, she was persuaded to retire; she couldn't find her place
16.	41	16	140	33	-	full-time mom, coach	<i>Easy</i> own decision, it is time to retire
Average	45	17	106	34	-	-	-

Source: based on interviews

Table 2. Outstanding achievements of the 16 interviewees as members of the Hungarian national team.

Sample number (person)	Olympic Games (1996–2008)					World Championships (1995–2019)				European Championships (1994–2018)						
	Participation (person)	Place (pcs)					Participation (person)	Place (pcs)				Participation (person)	Place (pcs)			
		1.	2.	3.	4.	5.		1.	2.	3.	4–14.		1.	2.	3.	4–12.
16	12	0	4	2	5	3	15	0	6	7	28	15	4	0	12	28

Source: based on interviews and <http://www.kezitortenelem.hu>.

2.2. Data analysis

All interviews were transcribed and loaded into NVivo software. After multiple re-readings, codes were created inductively and deductively. Inductive coding was generated through the meaning-making of the interviews, and it resulted in the use of 52 codes. Deductive coding was based on the autoethnographic research (Herr, 2022) and on the research of J. Ekengren, N. B. Stambulova, et al (2020, 2020) to enable the comparison of the results in the future.

As Hunter (2010) states, finding the most appropriate data analysis method and presenting participants' stories in a coherent and meaningful way is challenging. The method we picked was systems-mapping (Barbrook-Johnson & Penn, 2022) as it enables both the condensation and the visualisation of a vast body of narrative texts uncovering the patterns within them. Systems maps illustrate how different variables relate to one another and how they make up a complex system. The variables of the systems map were created by the researchers looking at the texts for each inductive codes and seeing those elements in their narration that repeatedly occurred as an influencing factor. When grouping together the texts through the codes, it also

Table 3. Outstanding domestic and international club-level performances of the 16 participants in gold medals between 1992 and 2019 (pcs).

Hungarian champion	64
Hungarian Cup	52
Champions League and European Champion Clubs' Cup	15
EHF Cup Winners' Cup	3
EHF European Cup	10
Other (e.g.: champion of another country, etc.)	27

Source: based on interviews and <http://www.kezitortenelem.hu>.

became clear how these factors impact each other. Once the variables were identified and their relationships drawn up (see Figures 2 and 3), the patterns were analysed. Those variables that played central roles with numerous inbound relationships were colour coded burgundy as they serve the fundamental aims of sporting careers. Those that have more than one relationship were colour-coded green as they seem instrumental in the success of a career. Those with just one relationship were left grey as these can also play a role in an athletes' life, but their role is slightly more marginal. This also enables us to focus on the crucial variables in our results section without leaving the contexts out. We also checked and found that the length of the discontinuation period had no impact on their career accounts.

3. Results

While the original research covered the whole career trajectories, this paper focuses on those transitory phases that impact performance. The HAC-model (Wylleman, 2019) presents the transitions and levels related to the athlete's development, while J. Ekengren, Stambulova, et al. (2020) supplemented the existing basic model for Swedish elite handball players. Figure 1 presents the four main and three transitory phases associated with a handball career. This results section will focus on the variables belonging to the second and third transitory phases.

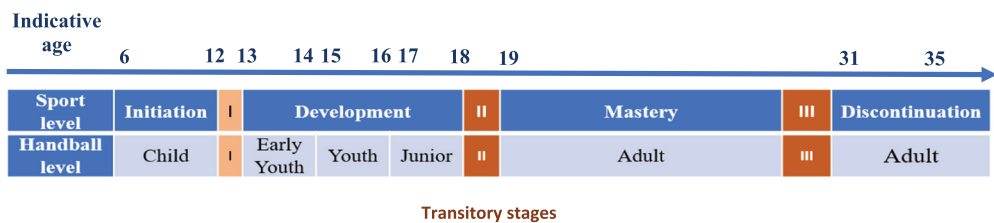


Figure 1. Transitory phases in the holistic athletic career model. Source: own edit based on Wylleman (2019, p. 96) and J. Ekengren, Stambulova, et al. (2020, p. 162)

3.1. Variables impacting performance in the transitory phase between development and mastery

During initiation and in the first few years of development, children play not necessarily as a preparation for a professional career but for the love of the game.

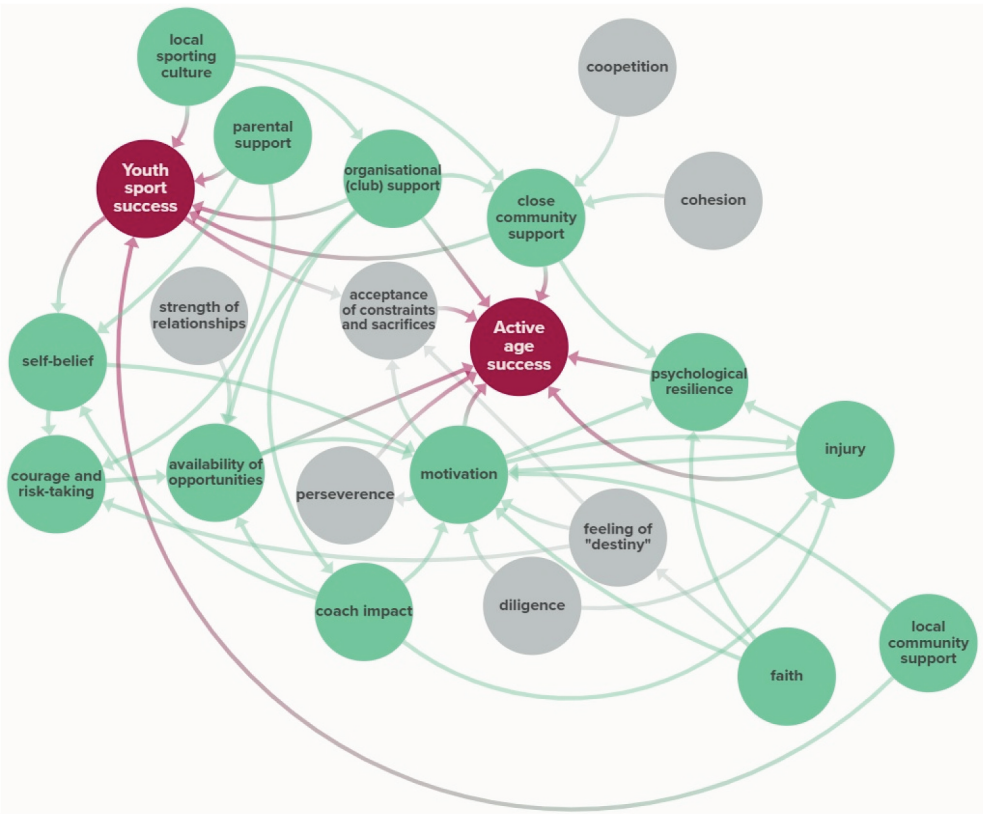


Figure 2. Variables in the transitory phase from development to mastery (from amateur to professional). source: own edit based on systems-mapping (Barbrook-Johnson & Penn, 2022)

However, for those talented players who decide to aim high, performance can be affected by the expectations of the transitory phase. [Figure 2](#) illustrates the variables that influenced successful young handball players make the transition to professional sport. For the sake of conciseness, only the most relevant relationships are to be described.

A key variable impacting performance in this transitory phase that occurred often in the athletes' narratives was strong *self-belief*. This can be impacted by the youth *coach* providing *support* confidence, encouragement, the sense of discovery, or a concrete offer from another club. *Parental support* also plays a role in the emergence of this belief both in terms of psychological support and sometimes concrete guidance. Another factor in the transitory phase is that young people have to *accept constraints and sacrifices* (sometimes missing out on things completely like the prom or family celebrations) as they move towards professional sports. They deem accepting others to plan their schedules as an invisible payment for doing what they like: play handball.

The degree of self-belief over time will determine the level of *courage and risk-taking* and intrinsic *motivation* of the young athlete. Self-belief seems to come hand-in-hand

with intrinsic motivation, the strength of which plays a decisive role in the transitory period:

But I don't know, I was always so motivated that I didn't care if it was raining, ugh, what's happening? I wanted to play handball; I told my mother I wanted to be a national team player. (Interviewee 8)

In their accounts, athletes often mentioned that the extent to which they were ready to take risky decisions either consciously or unconsciously were not only a matter of parental or coach influence but their own perception of what they could become:

... they said, well, I'll never play here because I have no talent. [...] that emptiness, that failure, that disappointment, I think that's what it took for me to get to where I am. I still gave myself 2 years, hoping to become a handball player. I went to the lower league while taking a job. [...] So I could appreciate it when they said, "Listen, we need you. (Interviewee 3)

The degree of courage is also influenced by a variable that we coined as "**feeling of destiny**", which is when the athlete dreams, feels, knows that sport must be a strong part of her life even through major sacrifices and this belief in destiny determines her motivation to do everything in her power for future medals. Alongside courage and risk-taking, **perseverance** and **diligence** are clear personality traits in athletes who emphasise the importance of dedication and consider it an important element in their progression.

To the athletes, the **availability of opportunities** is the most important when it comes to the big leap from development to mastery. They believe that "being in the right place at the right time" opens the door for a young person to enter the world of professional adults. While it seems like an independent variable that is beyond the control of the athlete, the emergence of these opportunities rarely comes from thin air. The **strength of relationships** (i.e. with the coach, the club, or other contacts) can provide strong leverage points, but it is not unrelated to intrinsic factors. It is through self-belief, perseverance, diligence, and talent that they gain the attention of certain actors who ultimately decide to open up opportunities:

My high-school PE teacher was a high school classmate of my future coach, and they had a class reunion and he talked about me because he thought there was more in me. [...] the future coach] wanted to see me [...], and then the rest was up to me. (Interviewee 5)

For a young talented athlete, the existence of a **sporting culture** is clearly important. It also has an impact on the functioning of clubs as organisations and on the opportunities provided in schools (both developing a love for the sport as well as developing the sport itself). **Organisational (club) support** covers the provision of conditions and opportunities for development beyond the school, at the local sports club which also influences performance at this age.

The best players in the world played handball in Dunaújváros under such conditions, with such a fan base and such a sporting life ... I fell in love with it. (Interviewee 4)

Close community (that refers to the group support directly in connection with the young athletes rather than the wider local community included in the local sporting culture) was also often mentioned by the former athletes. This covers the presence of peers who they

compete against, share their first successes, or just acquire a sense of love for the game and this having an influence for later stages as well. This variable also depends on the local sporting culture, i.e. the local traditions.

Actually, sport itself didn't really matter, it could have been anything if we were experiencing something together, doing something together with the team. (Interviewee 3)

It can be shown that motivation is affected by *injury* and vice versa. Although a few interviewees had already been injured in their youth years, they stated that the psychological and other burdens of these injuries were not comparable to those that occurred in adulthood when sport is a profession. However, on the one hand, through *psychological resilience* (especially when mental support is being provided), the athlete can focus on returning to the field as soon as possible (which is why she remains motivated).

With small steps, injuries, struggles. Uh, I had to stand my ground in the juniors, [...], so I had this kind of fight and struggle. Actually, I had the talent, I had the shooting power, I was injured a lot, but I overcame that after 2 years, so to speak. (Interviewee 15)

The role of teammates in this context can be assessed at several levels. *Coopetition* may be present, as they are all partners in moving the team forward. A typical example cited by interviewees is that older players often act as “unintended” mentors during the youth transition. This can give them a decisive impetus to continue playing and to pass on the experience to new young athletes. In teams where coopetition is the norm and team cohesion is evident, there is a lack of ostracism and even after sports careers end, celebrations of subsequent major sporting successes involve older players.

From the narratives of the athletes, we argue that these variables influence their performance during the transitory phase when as young players they already focus on where they want to go and how they might be able to get there. It is not just the existence or strength of these variables that matter but also the constant interplay between them.

3.2. Explaining the transition between mastery and discontinuation

Figure 3 illustrates the variables that helped the high-achiever professional handball players in their transition to life after sports. This transition might be an even more important area to investigate in terms of performance, since the inevitability of the end of a sports career influences players already in a phase where their physical performance is still unaffected, and their significant experience enables them to achieve great performance. However, psychologically, the mounting feeling that it is soon time to switch lurks behind their achievements. Based on the perceptions of the interviewees, the length of the phases and the intensity of the variables may differ from individual to individual. Nonetheless, understanding the way women players go through these phases can become a key to influencing late-career performance.

Well-being after sports is what players consciously or unconsciously strive for in their late sporting careers. Their trust in their ability to achieve such well-being or their anxiety for the unknown future can impact performance. From the narrative accounts of those who had already experienced this transition, the well-being after sports can be influenced by a number of variables. The most important one – not dissimilarly to the other transitory phase – is deemed to be the *availability of opportunities for change*. While



Figure 3. Variables in the transitory phase from mastery to discontinuation. source: own edit based on systems-mapping (Barbrook-Johnson & Penn, 2022)

such opportunities can manifest themselves for example in a coaching job or something to do with sports management, they are no longer strictly associated with just sports. Hence, variables like the athlete's *alternative qualifications* and *alternative experience* (alternative being something unrelated to sports) also play a role, while the support coming from the coach or the club, or the community also matter.

It is observed that the availability of opportunities to switch has an impact on the success of *adaptation to new roles*, since – for instance – the offer of a coaching position and the experience of success or failure in it has significant impact on wellbeing. Alternatively, frustration may cause the athlete to take much longer to adapt to new roles or can delay the choice of roles to be engaged with after active sports. The existence of alternative qualifications and experience can make a significant difference. Whether this is available to the athlete during the transition phase depends on having had acquired them in the previous stages of life. According to those interviewees who had such qualifications and experiences reported that much of this depended on *parental pressure* and was only really possible if *educational facilities were flexible* enough to accommodate the special circumstances of athletes.

The second key variable to wellbeing is what we coined the *inevitability of the change*: the extent to whether the athlete can decide based on her own free will to discontinue due to for example lack of motivation, different priorities, new goals, simply being tired or is being forced to stop:

I'll play as long as I have the motivation. And if my motivation is anything less than scoring more than 15 goals, [. . .], then I don't want more. So, the only way to do it is to really love it and give 100 percent. (Interviewee 3)

In this variable, of course injury is also a factor, where the athlete herself or someone else (e.g. a club executive) is in the decision-making role. It can be observed that these different alternatives have different depth and directional effects on the success of the adaptation to find a role after finishing. After all, if it is the athlete taking the decision, they tend to be more flexible in pursuing a post-sport career. If, on the other hand, injuries or others are the determining factor, it is more difficult to start a civilian life.

The challenges of forced transition can be eased by the support of those close to the athlete (family, former clubs as a source of new opportunities) and by the athlete's alternative qualifications and experience:

You have to feel for yourself when you've had enough or when you want to move on to something else, so that's how I've been given this discretion. They didn't interfere with that because my parents and whoever else was close to me always told me to do it as long as I enjoyed it. (Interviewee 16)

Motherhood can also bring about a decision in the athlete (especially if she is towards the end of her career) that the need to change is not far away, as the child comes first. (Often, they start school again at the same time as the child.)

The third variable crucial to well-being after sports is the **adaptation to new roles**, which explains how well the athlete finds herself in the role of a mother, a coach, an employee, or a wife. This depends on the **elaboration of one's own vision**, such as preparing for motherhood, having a vocation (e.g. wanting to be a coach or an interior designer), or other events that dampen negative emotions or set new life goals (e.g. a wedding). On the other hand, it depends on the strength of the community, as the support of the athlete's immediate environment may help her get through the difficulties of the transition and adapt to the new role.

Fourthly, **financial stability** suggests that after a successful and productive career, state benefits (e.g. Olympic benefits) or savings put aside over the years can provide the basis for a post-sport career for the athlete, which can provide some stability when starting afresh. This was the only context where **money** earned during the active phase received some attention as a resource that can provide stability in the years of transition.

"I was prepared for what would happen if I retired, there was no financial constraint, . . . I would add that the sure financial base requires the Olympic annuity that I will receive after the 2 medals, which gives me the basis so that I don't have to stress about it, but really only that much I can work as much as I like". (Interviewee 3)

The fifth variable is **coping with "sudden" autonomy**, which can be linked to the idea of time management. The athlete has had all her time planned, regulated, and prescribed (when and where to train, eat, play) throughout her career, leaving only little free time at her disposal. After sport, time management can cause difficulties such as taking on too many tasks (difficult to anchor in one place), boredom, inertia.

Handling the loss in value is the sixth issue observed during the interviews. The notion of commodification here is strongly felt by the athletes. The value of the athlete as an asset is reduced at the end and this is reflected upon by her environment. The

difficulty in losing privileges and worth, which had been a long-standing feature of a successful sporting career, often appears in the interviews.

“... we lived in such an environment, in such a world of stars, that we were treated as privileged people. Falling into everyday life from this meant a terrible psychological and psychic break. It was very difficult for me”. (Interviewee 5)

This negative connotation of value can lead to an athlete feeling that they have nothing to do with themselves and are worthless to society (mostly observed in those cases where they spoke also of disappointments at the availability of opportunities to change). Overall, it can be said that this factor can be influenced by the strength of the community through which both the athlete and the environment can manage the situation.

The **availability of mental support** can improve both the challenges during the active ages and the transition to a post-sport civilian life, as both the presence of a professional and the support of the environment are important at these phases.

Finally, among teammates friendships may persist over time, sometimes taking on an almost family-like role in the life of the former athletes. Last but not least, there is also the effect of partner support, as the adult athlete's life partner is also a significant influence. If the partner of the player is an athlete, s/he will understand what the priorities are: sport comes first and everything else second. In all other cases – even if the partner is not an athlete – support is crucial in among other things helping with studies (to achieve alternative qualification that may help later in life) or raising the children (i.e. reconciling motherhood and career).

4. Discussion

Previous research based on Wylleman's (2019) HAC model collected a lot of information about the characteristics of each career stage (like J. Ekengren, N. B. Stambulova, et al., 2020; J. Ekengren, Stambulova, et al., 2020] in handball). Our research, however, aimed to uncover the relationships between performance and these diverse characteristics of athletic careers, in particular in the transitory phases between development and mastery and between mastery and discontinuation.

Monteiro's et al (2020, 2023) research that identified career indicators over the stages of career development of Portuguese football players – also relying on the HAC model – emphasised how important it is for athletes to understand how to define their career goals; evaluate their own career paths; and both plan and manage their careers from the very beginning to retirement. They also concluded that empirical models are not sufficient for the analysis of certain relationships and quantitative and qualitative data can both be beneficial in understanding them. Our study contributes to this line of research showcasing the variables influencing performance in the transitory phases of an athlete's career when already being concerned by the next consecutive phase in her life.

While the theoretical implications of this study might be limited as the research had not uncovered radically new influential factors, the practical implications can be manyfold. First, it can repeatedly draw attention to the importance of providing personalised support to athletes as core stakeholders not just out of moral imperatives but also in order

to improve performance. Second, the research provides a “register” of variables to be considered with a clear indication of interplay between them. Understanding and consciously managing these leverage points can enhance long-term performance.

4.1. How to facilitate long-term performance in the transitory phases of athletic careers?

Performance analysis is about understanding factors that influence short- or long-term performance in order to be able to improve it (Taylor et al., 2008, Gomez et al., 2013). While much of this can be done through objective means, it is essential to think of athletes as incredible achievers with their own personal stories behind them. In this section we offer our findings that may provide some practical guidance on how long-term performance can be facilitated through conscious career management measures. When singling out these variables, the results may not come as a surprise. However, our aim is to provide a systemic overview of the barriers and supporting factors that influence athletes’ performance while also indicating how much of this is based on intrinsic or extrinsic factors. Conscious career management can support both intrinsic and extrinsic variables.

Hence, we grouped the variables on the individual, interpersonal, organisational, and sociocultural environmental levels (based on Taylor et al., 2022) as they need different management approaches. Table 4 presents these variables in a way that it also becomes clear which tend to be highly dependent of the athletes’ own personality, circumstances, and intrinsic values and which require the cooperation, coordination, or availability of support independent of the athlete. We believe none of these variables can be categorised as one or the other as the interplay between them is highly important. However, the table enables us to point out those variables that are “low hanging fruits” for sports organisations to focus on if they would want to assist long-term performance.

On the individual level of the transitory phase from development to mastery the most important intrinsic types of variables are self-belief, diligence, perseverance, faith and feeling of destiny. While motivation, courage and risk-taking, and psychological resilience are also intrinsic, they can be influenced by external forces. We found (similarly to Mooney et al., 2019) that the acceptance of constraints and sacrifices played a crucial role, but balance between family and career can be enhanced through for example more humane schedules. Early injury is the least dependent of the athlete but – as the narratives showed – at this age, the love of the game, youth successes and intrinsic variables (e.g. psychological resilience, diligence, perseverance) encourage the athlete to return to the field as soon as possible.

In the case of the transition from mastery to discontinuation the most important intrinsic variables are how the athlete is capable of elaborating her own vision of the life after sports and her capacity to cope with the sudden autonomy she faces. Motivation and psychological resilience are important at this stage as well but here, the existing alternative experience and qualification also support the athlete. The inevitability of change is not merely dependent of the athlete, but it can also be intrinsic when it covers the loss of motivation or other life goals gaining importance. Interestingly money and financial stability were consciously reflected upon by the athletes at this stage as an important resource after retirement where the future

Table 4. Performance-influencing variables in the transitory phases.

Determined by the athlete				
INDIVIDUAL VARIABLES				
<i>Transitory phase II</i>	self-belief faith and feeling of destiny diligence perseverance	motivation psychological resilience courage and risk-taking	acceptance of constraints and sacrifices	injury
<i>Transitory phase III</i>	elaboration of own vision coping with "sudden" autonomy	alternative qualification and experience motivation psychological resilience	inevitability of change money and financial stability	injury
INTERPERSONAL VARIABLES				
<i>Transitory phase II</i>		parental support	strength of relationships cooperation cohesion	coach impact availability of opportunities
<i>Transitory phase III</i>		parental pressure partner support	mental support	coach impact availability of opportunities to change
ORGANISATIONAL VARIABLES				
<i>Transitory phases II&III</i>			availability of opportunities (to change)	organisational (club) support flexibility of educational facilities
SOCIOCULTURAL VARIABLES				
<i>Transitory phase II</i>				local/close community support
<i>Transitory phase III</i>	handling the loss in value	compatibility of motherhood and career adaptation to new roles		local/close community support

Source: own edit based on Taylor et al. (2022).

seemed uncertain and as a means to provide a certain peace of mind. Money and material resources were treated more as pocket money at younger ages. During the active age it was treated as a reward for sports performance, which can be interpreted as the accumulation of experience in sports. Our research substantiates the claims that non-monetary support coming from diverse sources has a stronger influence on performance (see as Maier et al., 2016). Injury is the least controllable variable also in this phase.

Our research revealed that from development to mastery, the effects of variables in the interpersonal environment can be crucial. Hong and Coffee (2018) also developed a curriculum to support the work of sport managers in managing athletes' career transitions relying on the concept that stakeholder involvement is crucial. Parents, the club, teammates (the presence of competitive and/or friendly peers), coaches and the local community appear as crucial variables. The strength of the relationships between

these stakeholders and the athlete is neither independent nor fully dependent of the individual. After all, these variables can result in decisions that result in the availability of opportunities for the athlete. From mastery to discontinuation, the support of a partner also becomes crucial on the interpersonal level and the external support in the form of a mental health professional was also mentioned.

At the organisational level, the two transitory phases are quite similar. The support of the club can be manifested in the availability of opportunities offered by the organisation. Another organisational issue is how higher education can offer flexibility for the athletes to gain alternative qualifications.

Sociocultural variables are more important in the transitory phase between mastery and discontinuation. The behaviour of the close community as well as the wider local community surrounding the athletes matters in both phases. However, the “compatibility of motherhood and career” variable is only present in the mastery period providing a broader sociocultural challenge to accept that mothers can also be high-performing athletes, but parental and work obligations need to be balanced. “Handling the loss in value” is also a sociocultural variable as the environment strongly echoes this type of objectified worth of athletes. The “adaptation to new roles” can reduce the previously mentioned sense of depreciation, as new life goals can come into focus appreciated by the external environment.

4.2. Originality and limitations

The originality of the study lies partly with the unique sample as the participants were drawn from the most successful periods of Hungarian handball, who were ready to open up to the first author more for having been a peer herself rather than for being a researcher. However, this also conceals limitations. On the one hand, it was the other author’s task to filter out this effect and maintain validity. On the other hand, the sample covered athletes who performed at the highest levels (e.g. Olympics, World Championships), which gives a picture of a positive performance trajectory, so to uncover all factors influencing long-term performance, it may be justified to carry out the study on a sample that has not achieved similar levels of performance. As the sample included former athletes, the authors point to the future direction of research to be taken by conducting similar research at certain intervals, as intergenerational attitudes can also be changing. The interplay between different variables can also be an interesting future line of research, especially that “luck” mentioned so often by the athletes might just be a harmonious dynamic balance of all these factors.

Acknowledgements

The authors wish to express their gratitude to all the athletes who devoted their time to this research. We also wish to thank Zoltán Kynsburg, Zoltán Bajmócy and Attila Szathmári for their invaluable suggestions to improve the first version of this paper. We are grateful to the anonymous reviewers who contributed significantly to the improvement of this manuscript.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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