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Article

Athletes' Education for Their Successful Future Career After Sports—Perspective of Former Athletes and Potential Employers

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Abstract: Although sports are a dream career for many young people, only a small percentage of athletes can make a living from this. Moreover, even elite athletes with high incomes must find other employment after sports. This justifies the development of their human capital via education valued by employers. Our article originally approaches this issue with recommendations for the effective education of athletes. The aim is to identify and analyze the key skills that former athletes use in the work environment and that help them successfully integrate into employment outside sports. Our robust scientific approach, described in the methodology, combines relevant secondary and primary data and corresponding analytical methods. The secondary data analysis identified the skills required by employers as well as the employment of former athletes in areas outside of sports. Based on quantitative primary data (questionnaire on a sample of 237 young athletes), the skills perceived as important by young athletes were revealed. The qualitative component is represented by interviews with selected former athletes and employers from the corporate environment. The main findings include the alignment of the perceived importance of certain skills by young athletes and employers. The high perceived importance of education during sports careers was supported by all stakeholders.

Keywords: human capital; human capital development; sports; sports management; athletes; education; learning



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1. Introduction

Leaving professional sports and adapting to working life elsewhere are important and complex processes bringing numerous challenges for the athletes themselves. This period makes the athletes re-evaluate their inner identity and brings a completely new reality for them, often considerably different from their own expectations. The intense focus on training and competitions usually limits opportunities to develop athletes' alternative career skills. As a result, many athletes are ill prepared for life after their active sports careers. Several studies have shown that a significant number of elite athletes face identity or mental health issues during this critical transition. Furthermore, a lack of awareness of available career support options exacerbates finding effective help (Crook & Robertson, 1991; McKnight et al., 2009; Park et al., 2012; Suutarinen, 2014; Porter, 2021; Brassard et al., 2023; Evans, 2023).

Around the world, this issue is addressed by various athletes' education and development programs. The Canadian Game Plan program and the Australian Elite Athlete

Education Network (EAEN) are innovative initiatives designed to support athletes as they transition to the next stages of their lives. These programs are connected to the research by [Brown et al. \(2019\)](#), which highlights the importance of supporting dual careers in overcoming the barriers athletes face in balancing education and sports commitments. The Game Plan program supports personal growth and helps athletes plan their future careers, while the EAEN, in collaboration with universities, enables flexible study for athletes throughout their active sports careers. In Europe, the European Athletes Association ([EU Athletes, 2020a](#)) is pursuing similar goals, offering leadership training for professional athletes via the PROlead project ([Brassard et al., 2023](#); [UQ Sport, 2024](#)).

Our article examines the available educational opportunities for athletes, evaluates the effectiveness of various educational programs, and discusses the broader implications for improving support mechanisms facilitating the transition of athletes to a new career after leaving sports. The research topic we selected and its inner elements are captured in the following scheme (Figure 1).

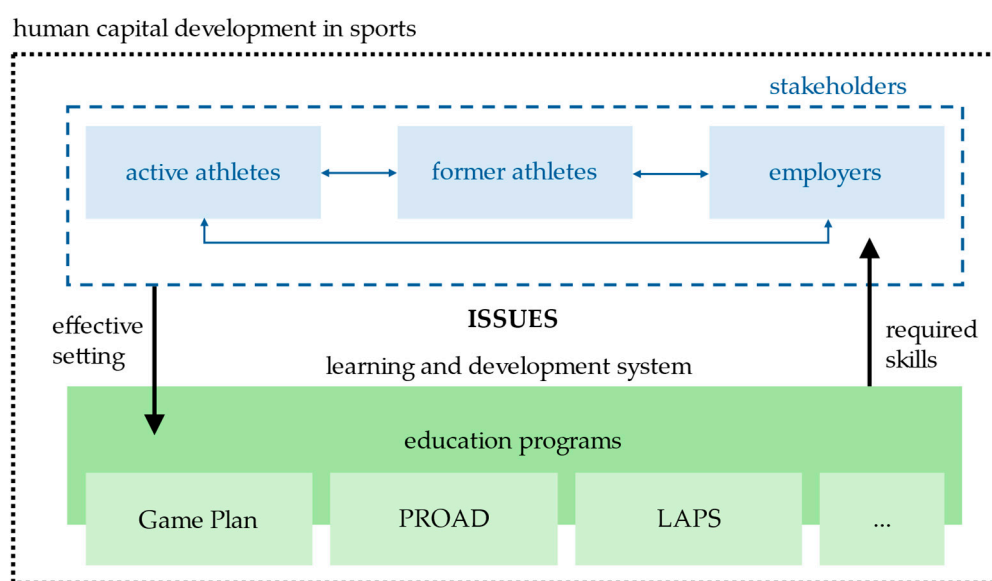


Figure 1. Human capital development in sports (own elaboration).

The model depicts dynamic relationships among former athletes, active athletes, and employers as stakeholders in the transition from sports to other employment opportunities. These stakeholders face a variety of challenges, which are highlighted by arrows indicating the need for alignment and collaboration. To effectively address these challenges, an education system inspired by best practices from programs such as Game Plan, PROAD, and LAPS is essential. This plays a key role in equipping athletes with the basic skills suitable for a variety of other professions outside of sports. These skills are then transferred back to stakeholders, addressing their challenges and supporting a more effective and efficient transition process for athletes into working life.

Following the research topic and the key stakeholders included in the model above, we stated three research questions (RQs) for this study. RQ1: How do employers from non-sports fields approach former athletes as job applicants? RQ2: How do former athletes perceive the importance of preparing for life after leaving active sports? RQ3: How do we set the education and development of current athletes as a form of investment in their human capital in such a way as to support their prospects in the labor market after leaving sports?

The novelty of our article lies in the unique connection and grasp of selected topics within sports and a systematic perspective of athletes' education. This article focuses on the development of the human capital of a specific target group. We build foundations

for a proactive solution to an important economic and managerial problem. The recommendations follow the effort to increase the employment of former athletes in the labor market. Another aspect of the novelty is the combination of data and methods applied. The secondary data analyzed represent the employment of former athletes in various positions in training as well as outside of sports, and the employers' view of key skills. The primary data include our questionnaire survey. This was focused on a sample of young active athletes from the Slovak Republic. The qualitative component of primary data was provided by interviews with former athletes and relevant regional employers.

The topic of this study is elaborated on in several chapters. First, the theoretical background was reviewed, linking the education of athletes, the perspective of employers, and the required skills for employment in the labor market. The perspective of former athletes regarding the transition to other careers after leaving active sports was analyzed as well. This is followed by methodology describing the aim, data collection, and methods applied for their analysis. The results are presented in the structure of secondary and primary data and their analysis. To increase the relevance of our findings, these were compared with the results of other researchers in the discussion. Finally, conclusions and recommendations were drawn for relevant stakeholders so that this study is not only theoretical, but also provides the basis for managerial decisions aimed at actual improvement of the situation in the future.

2. Theoretical Framework

Athletes' transition to regular working life is influenced by various aspects that we included in the analysis of theoretical background for our study. These aspects include psychological factors, athlete identity, and career options, which are crucial to a successful transition. Education is also an important part of this process, providing athletes with the necessary skills and support in adapting to new challenges.

2.1. Athletes' Education

During a sports career, education is a pivotal aspect allowing athletes to effectively combine their sports ambitions with their academic and professional goals. The concept of a dual career is based on the belief that athletes should develop both physical abilities and intellect to prepare for their life after an active sports career. This approach is proving increasingly important, as only a small proportion of athletes reach the professional level, and for most of them, it is essential to have alternative plans. Education supports personal and professional development. It helps athletes develop important skills such as teamwork, communication, and critical thinking, essential not only in sports but also in their future professional lives. These skills increase the athletes' value in the job market. Dual education provides athletes with better employment opportunities, reducing the risk of unemployment, ensuring a higher standard of living (Crook & Robertson, 1991; Valletta, 2017; Stambulova & Harwood, 2022; Brown et al., 2019). Based on the findings achieved by Johansen et al. (2024), the interaction between education and sports can be evaluated via the perspective of social and cultural capital. Socialization processes, influenced by family, friends, and the school environment, play a key role in shaping individuals' predispositions to participate in sports. Furthermore, a sports career needs to be approached as a biographical process, as it significantly influences long-term engagement in physical activities and the development of sports habits.

2.2. Acquiring the Necessary Skills for Practice Outside of Sports

The basic division of skills needed for various future careers of today's athletes includes two large groups of skills, soft and hard skills. Soft skills are personal characteristics, interper-

sonal skills, and communication skills that affect how individuals interact with others. Soft skills include teamwork, emotional intelligence, problem-solving, flexibility, and adaptability, but also creativity. Communication skills are essential for effective expression of ideas and active listening. Teamwork refers to the ability to work with others to achieve common goals, while it is important to respect different opinions and adapt to specific team dynamics. Emotional intelligence allows individuals to recognize and manage their emotions and the emotions of others, improving interaction in the work environment. Problem-solving involves analyzing situations and identifying effective solutions, especially in circumstances causing increased stress levels. Flexibility and adaptability are important in dynamic work conditions where swift reactions to emerging changes are required. Creativity represents the ability to think outside the box and create novel approaches (Kretchmer, 2020; Boere et al., 2023; Avença et al., 2023; Gafni et al., 2024; So, 2024).

Hard skills refer to specific technical abilities and professional knowledge individuals acquire via education, training, and practical experience. These skills are often measurable and assessable (Masterson, 2023). As such, hard skills include certifications and qualifications as well as various practical skills. Technical skills are specific to a particular profession or industry. They include knowledge of programming, software use, machine operation, or analytical thinking. Professional knowledge requires an in-depth understanding of certain concepts and theories, including areas such as law, finance, medicine, engineering, and others. Numerous hard skills are supported by formal certificates confirming professional competence in the field. They are often required by employers (Valaskova et al., 2018; Lyu & Liu, 2021; Boere et al., 2023; Masterson, 2023). Following the analyzed theoretical background, we proposed hypothesis H1 for our study: There are no differences in the perceived importance of skills necessary for employment between team and individual athletes.

2.3. Selected Programs Focused on Athletes' Education

Educational programs are seen as a useful tool for promoting mental health and managing anxiety, especially for former athletes facing difficulties in transitioning to life after sports. Many of them struggle with low self-esteem, persistent health problems, or fears of failure in their new careers. These feelings can affect not only their mental but also their physical health. Modern educational programs focused on mental health go beyond traditional approaches. They include advanced theories and practical methods to strengthen psychological resilience, develop emotional and cognitive skills, and increase self-awareness. The goal of these programs is to alleviate anxiety while promoting a positive perception of oneself, developing skills useful in coping with new challenges (Dong, 2022). These programs include Game Plan, PROAD, LAPS, USPA, EAEN, and EAA. The initiatives provide athletes with support and skill development.

Game Plan is a comprehensive support program available to elite athletes in Canada, facilitating career opportunities outside of sports. Each institute employs a program advisor to support the athlete's overall development. The program includes modules on self-discovery, career planning, resumé writing, networking, and problem-solving (Brassard et al., 2023; Olympic, 2024; Olympics, 2024). The PROAD program is designed to provide educational and career guidance to professional athletes. Its participants achieved higher levels of education and reported significant satisfaction with the support provided. The program emphasizes the importance of developing a dual career during an athlete's active sports career and equips them with the necessary skills to succeed in various fields after sports (López de Subijana et al., 2015). Life After Professional Sport (LAPS) is an organization assisting athletes with job opportunities to ease their transition into working life. It offers workshops and networking events focused on developing athletes' skills, connecting them with professionals from practice. Additionally, LAPS provides free job

offers to over 6000 registered athletes, helping them leverage their sports experience in new careers ([LAPS, 2024](#)).

US Performance Academy (USPA) is an accredited online school providing a customized educational program for athletes. USPA offers flexible study schedules, meaning students can choose a schedule best fitting their athletic commitments without sacrificing the quality of their education. The program is NCAA-approved, allowing athletes to continue their college sports careers in the United States. One of USPA's key services is the assignment of a learning coach or mentor to help students navigate the curriculum, provide support with studies, and motivate them to achieve academic and athletic goals. USPA also offers Advanced Placement courses, support for neurodivergent students via the GOAL program, and assistance with college preparation ([USPA, 2023](#)). The Elite Athlete Education Network (EAEN) is an Australian initiative created in partnership with the Australian Institute of Sport, providing educational and career development support. The aim of EAEN is to enable athletes to access flexible study options, balancing sports training, competitions, and academic tasks. EAEN brings together several universities, vocational schools, and other educational institutions. It operates on an individual approach, where athletes gain access to academic programs with flexible schedules and support via consultations with academic mentors. These help them select appropriate subjects, set study priorities, and tailor their studies to meet sporting goals and personal needs. The system includes access to training facilities and enables athletes to effectively manage the demands of high sports performance while learning valuable skills for life after sports ([UQ Sport, 2024](#); [AIS, 2024](#)).

The EAA Career Program, including initiatives such as the Dual Career and PROlead, supports professional athletes in managing their sports careers while providing opportunities for education or vocational training. The dual career approach addresses the challenge of balancing sports performance with education and skills development, while providing resources and partnerships to help athletes make career transitions after their sports careers. EU Athletes, in collaboration with various European organizations and universities, offers educational programs supporting the development of life skills, leadership training, and preparation for career transitions. The PROlead project, funded by the Erasmus+ program, focuses on developing leadership skills. It includes leadership courses and workshops aimed at helping athletes develop the skills needed to manage associations and support other athletes via mentoring. This initiative includes research, a European leadership course, and practical training at the national level in different sports sectors ([EU Athletes, 2020a, 2020b](#)). Following the theoretical background analyzed, we stated the following hypothesis H2 for our study: By linking the perspectives of employers, former athletes, and active young athletes, it is possible to create the basis for setting an effective system of athletes' education and development to support their employment after leaving sports.

2.4. Perspective of Former Athletes

In this section, we examine the transition of former athletes to life after sports careers, including the impact of sports identity, mental health, and the need for dual careers. Sports identity significantly influences the process of adaptation to the environment outside of sports. Athletes with a strong identity tend to face a higher risk of psychological problems, such as depression and anxiety, while those who can find new interests and goals outside of sports tend to adapt better. After their sports careers end, many athletes feel lost and seek new goals ([Brown et al., 2019](#); [Oulevey et al., 2024](#)). The way athletes end their careers plays an important role too. Voluntary retirement is associated with higher life satisfaction and well-being, while forced retirement can lead to greater hardships ([Batty et al., 2023](#)). Former athletes often faced a variety of life events that influenced their decisions about future careers, including sports injuries and changes in coaching. In the context of dual careers, it

is important that young athletes have access to educational and professional opportunities (Ryba et al., 2021). Economic uncertainty is another factor affecting athletes’ employment after their active sports careers. Many athletes lack formal education or work experience outside sports, which reduces their chances of finding stable employment. This uncertainty is often fueled by financial problems and the fear of returning to a lower standard of living, especially if the athletes come from lower-income cohorts (Mesagno et al., 2024).

In response to these issues, the Empirical Model of Athlete–Coach Transition was developed in Norway. This model consists of three phases. The first is a career shift from elite sports to a coaching career, which requires external resources such as education and mentoring. The next is re-identification, where athletes re-evaluate their identity and leadership skills, with support from professional colleagues and development focused on adaptation. The last part is further professional development. This model (Table 1) emphasizes the importance of psychological support and community networks for a successful transition and effective coaching (NCAA, 2024).

Table 1. An empirical model of the transition from athletes to coaches.

| | Career Advancement | Re-Identification | Professional Development |
|--------------|---|--|---|
| requirements | dealing with injuries and emotions, accepting the end of a sports career, working on an exit plan | living in the uncertainty of transition, discovering what makes a good coach, entering an unfamiliar environment | team thinking, stepping back a level, separating one’s own experiences from those of others, getting to know athletes and their needs |
| obstacles | to let go of what is known (safe), the structure of sports life, sports dreams, sports thinking | difficulty leaving sports life, unresolved feelings about sports, need for distance from sports, uncertainty about how to transfer sports skills to coaching | difficulties in abandoning the sports mindset, effectively connecting and transferring what athletes know and can do |
| resources | internal: sports experience, skills, affiliation | internal: sports experience, skills, affiliation | internal: competence, comfort, reflection |
| | external: coaching education, career guidance, invitation to coaching | external: coaching education, mentoring, support, peer coaching | external: support, mentoring, education |

Elaborated based on (NCAA, 2024).

However, the model is created only for the transition from active sports to the position of a coach, which is still a part of the sports world. For the effective adaptation of a larger number of former athletes, it is necessary to create a functioning system and model of the transition to other professions, completely outside of sports. In connection with the analyzed theoretical background, we stated the following hypothesis H3 for our study: Former athletes consider education during sports careers important for their employment after leaving sports.

2.5. Former Athletes’ Strengths and the Perspective of Employers Outside Sports

The demanding training in football, hockey, or athletics for young athletes affects not only their physical condition but also personality traits valuable in the work environment. After finishing their sports careers, professional athletes have exceptional skills that they acquired during them. These strengths include competitiveness, team leadership, and multitasking, which are in high demand in the modern workplace. Athletes gain self-discipline, self-confidence, motivation, determination, and leadership skills appreciated by employers. Research from Cornell University shows that students who participate in

sports show higher levels of leadership and achieve greater career success. British studies confirm that active athletes have better job prospects, because companies prefer candidates who demonstrate the ability to improvise and work effectively in a team. Athletes often bring a winning mentality, making them attractive candidates for employers (de Vries, 1997; Tarricone & Luca, 2002; Dizik, 2014; Berecz, 2014; Suutarinen, 2014; Kniffin et al., 2014; Gil, 2014; Chalfin, 2014; Evans, 2023; So, 2024).

Employers often have positive views of former athletes, seeing them as disciplined, determined, and able to work under pressure. However, they may also have doubts about their practical skills outside of sports. It is important that athletes develop other skills during their sports careers they can use in other types of employment. Support for dual careers can make a significant contribution to increasing former athletes’ employment (UK Sport, 2016; Vitali et al., 2019). Some former athletes may become their own employers as part of their transition after active sports careers. This is the case when former athletes become entrepreneurs. In the early stages of business-making, a person with a completed sports career has several advantages stemming from the resources acquired. Based on these, successful former athletes are in a better starting position compared to most start-up entrepreneurs. These resources include marketing resources in the form of a personal brand, financial resources, and mental resources developed through training and competitions. The connection between these strengths of former athletes and perceived advantages from the perspective of employers outside of sports is captured in Table 2.

Table 2. Exceptional qualities of former athletes.

| Exceptional Qualities of Former Athletes | Employers’ Perspective |
|--|---|
| purposefulness, leadership, discipline, perseverance | excellence in these qualities presents employees with the potential for career growth |
| teamwork, improvisation, critical thinking | application of these qualities mainly in jobs where it is necessary to cooperate and promptly solve problems that arise |
| emotional strength, coping with stressful situations | these qualities are appreciated in jobs with higher responsibility and psychological burden |
| punctuality, flexibility, ability to learn, patience | general qualities preferred by employers, showing professional commitment |
| energy, courage, dedication, success orientation | motivational qualities giving a person the desire to work better and with greater engagement |

Elaborated based on (Tarricone & Luca, 2002; Dizik, 2014; Berecz, 2014; Suutarinen, 2014; Kniffin et al., 2014; Gil, 2014; Chalfin, 2014; Evans, 2023; Masterson, 2023; So, 2024).

The table shows the exceptional qualities of former athletes that are often valued in various professional fields. This is described by employers based on their own perspective and experience with employing former athletes. In connection with the analyzed theoretical background, we stated the following hypothesis H4 for our study: The skills that current young athletes perceive as important are aligned with what employers require.

3. Materials and Methods

The main objective of our study was to identify and analyze the key skills former athletes can apply in the work environment, helping them successfully integrate into employment outside of sports. We focus on finding factors influencing the success of their transition to working life, those impacting the sports career itself, and the education received during it. The research is a combined approach including quantitative and qualitative methods, allowing for a more comprehensive understanding of the issue. For the acquisition of relevant data, we used questionnaires and interviews, which provided

us with an overview of the experiences of the sample of young athletes, former athletes, and employers.

3.1. Data and Their Collection

The quantitative part of this research was conducted using a questionnaire we distributed among active athletes aged 14 to 19 in the Slovak Republic. The questionnaire focused on identifying young athletes' opinions on integrating sports skills into everyday life as well as specific skills considered crucial in the transition to work outside of sports. This survey yielded primary quantitative data we analyzed and interpreted. It included the identification of the importance of athletes' knowledge and skills, focusing on what competencies athletes consider pivotal for their careers outside of sports. Another aspect was the assessment of the attractiveness of different forms of education. This was focused on identifying which education methods athletes consider the most effective and motivating. The total number of respondents was 237 and the collection of responses was open from May to June 2024. Questionnaire surveys were also used to analyze the opinions of board members of sports organizations, athletes, or students by [Mikkonen et al. \(2021\)](#), [Nyberg et al. \(2023\)](#), and [Seemann et al. \(2024\)](#). The survey by [Nyberg et al. \(2023\)](#) focused on former top athletes in Sweden. The aim was to examine the relationship between attending a sports school and results after a sports career.

The qualitative part of the research was conducted via semi-structured interviews with former athletes and employers. Interviews with former athletes ($n = 3$) allowed us to obtain detailed information about their experiences and challenges in the transition to working life after sports. Interviews with employers ($n = 2$) provided insight into how they evaluate former athletes as candidates for job vacancies. This included the identification of skills they consider most valuable. The questions asked in the interviews with former athletes focused on educational processes, strengths, and coping with psychologically demanding situations during an active sports career. The aim of the interviews with employers was to reveal whether former athletes have better work habits and whether they are more efficient than other employees.

The selection of suitable respondents for the interviews was subject to set criteria. Within the group of former athletes, we applied purposive selection respecting affiliation to popular forms of sport and cooperating sports organizations. The second group addressed were regionally significant employers outside of sports. One of the criteria was the size of the organization (at least a medium-sized organization regarding the number of employees). The interviews were performed in person or online. The course of the interviews themselves followed a set and agreed structure while allowing for flexible responses to emerging findings in the form of supplementary questions. We conducted interviews between April 2024 and October 2024.

The relevance of using semi-structured interviews as a data source is confirmed by [Ramadhan et al. \(2022\)](#). In this case, the interviews were used to analyze the implementation of the top-level sports policy. [Mikkonen et al. \(2021\)](#) used interviews in their study of sports as a complement to the questionnaire survey. In addition to primary data from the questionnaire survey and the interviews conducted, we used secondary data obtained from the analysis of available studies, research outputs, and professional articles. These secondary sources helped us provide a broader context and better understand existing theoretical frameworks and empirical findings.

3.2. Research Procedure and Methods Applied

An essential input for the next step was the analysis of theoretical foundations. We obtained an overview of other existing research and theories dealing with the skills of

athletes and their transition to working life outside of sports. This part provided us with a theoretical framework for our study. This was followed by the collection of secondary and primary data. Our research workflow engages three key stakeholder groups relevant to the topic of athletes' education set with the intention of supporting their prospects in the labor market. These groups are represented by current young athletes (approached within the quantitative part of this study via a questionnaire survey) and former athletes and important employers outside of sports (approached within the qualitative part of the study via semi-structured interviews). Therefore, the overall methodology belongs to the application of triangulation, increasing the credibility and validity of our findings.

For the quantitative part, we developed and distributed a questionnaire among young athletes (14–19 years old) to obtain statistically relevant data. For the qualitative part, we conducted semi-structured interviews with former athletes and employers to gain a deeper understanding of their experiences and perspectives. After obtaining the data, we continued with analysis, first processing the quantitative data from the questionnaires (statistical analysis), followed by the qualitative data from the interviews (thematic analysis). Via analyses, we identified the key skills that former athletes have acquired, helping them in their working life. We also identified factors influencing their success in integrating into working environments. Based on data analysis, we drew conclusions and recommendations targeted at active athletes, managers of sports associations and clubs, and employers.

As a qualitative research method, we chose semi-structured interviews, which are the most widely used means of data collection within this type of research. We followed specific steps in the application of this procedure, which increases the validity of the results obtained and supports the rigor of this method. Due to the application of this method, it was possible to describe the specific experiences of relevant stakeholders (former athletes, employers) in our study in connection with the research topic (Fischer et al., 2014). This approach is also described in the literature (Rossetto, 2014) as qualitative research interviews (QRIs).

Applying semi-structured interviews in this study allowed us to reveal how employers outside of sports perceive former athletes; why current young athletes should be more involved in their education; and what skills are demanded by employers in the labor market. It is specifically for these types of questions that it is appropriate to use interviews in our research (Haven & Van Grootel, 2019).

The phenomenon studied, the meaning of which we wanted to analyze from the perspective of the selected target groups, was education itself. If research is in its exploratory phase, as it is in our study, the application of the interview method is justified even for a small sample. In our case, it was three former athletes and two representatives of employers from areas outside sports. Haven and Van Grootel state that the sample size is sufficient when it provides answers to the RQ set (2019). Although different authors recommend various values as the minimum sample for interviews, there has still not been a consensus on the minimum sample that brings saturation of findings (Squire et al., 2024). Saturation is influenced by many elements, such as the chosen topic and the level of respondents' own experience with it.

In our study, we used methods such as deduction, where we started from general theories and moved to specific cases. We also applied induction, where we drew more broadly applicable conclusions based on specific observations. We analyzed data and designed general conclusions about factors influencing the success of former athletes after their sports careers. This included identifying conditions limiting the application of our conclusions in specific situations. We also used content analysis to process theoretical foundations and secondary data sources. This involves examining documents in various forms (text, image, video, etc.) and creating a systematic description of the researched

concepts, which provides a basis for drawing conclusions. A comprehensive view of the scientific approach we applied in this study is captured in Figure 2.

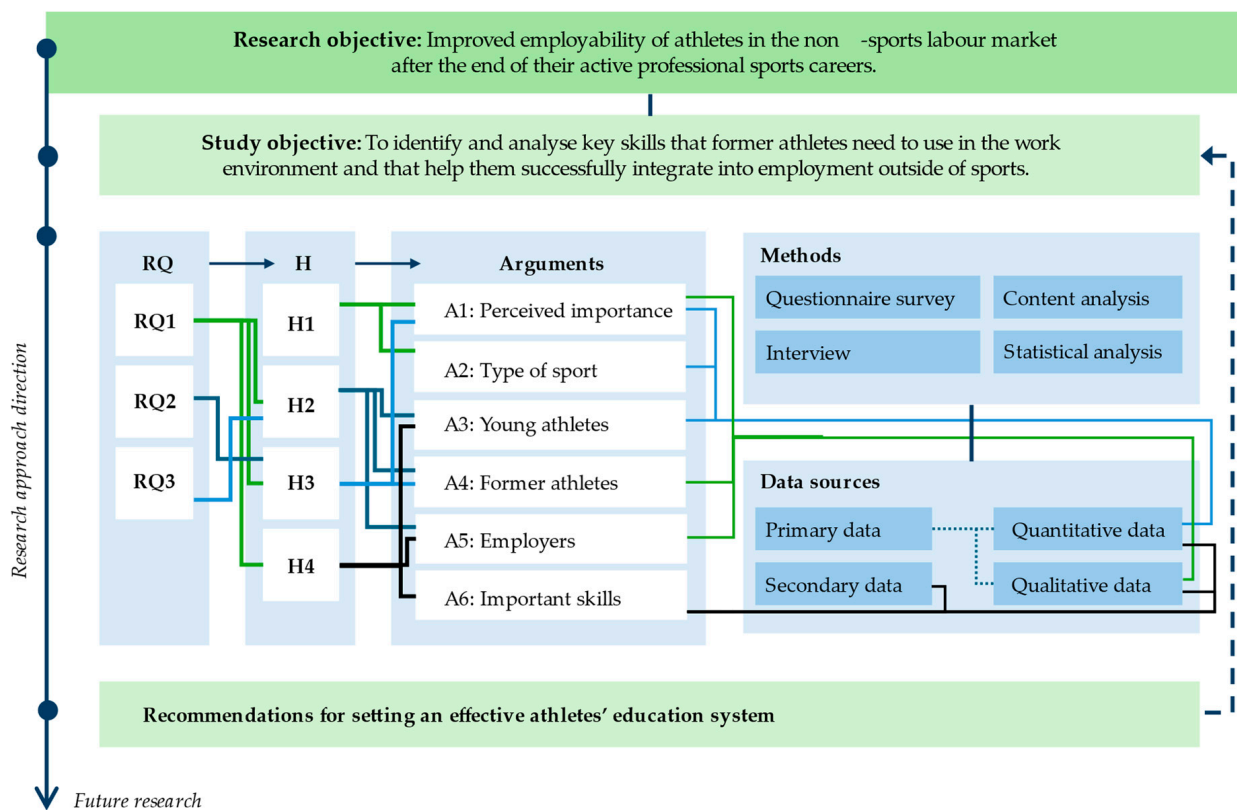


Figure 2. Applied research approach (own elaboration).

Our research approach consists of research questions (RQs, defined in the introduction), established hypotheses (H_i ; $i = 1, \dots, 4$; included in the theoretical framework), and arguments (A_j ; $j = 1, \dots, 6$) applied to verify the validity of the hypotheses. This represents the horizontal view captured in Figure 2. The individual arguments are linked to the relevant data sources we selected as well as to the methods applied for their analysis. In the vertical direction, the core of our research approach is linked from above to the overall defined research aim and the specific aim set for this study. Subsequently, as the output of this study, we define specific recommendations (included in the conclusions) for the effective setting of education and development of athletes to support their employment in the labor market. The applied approach ends with feedback from the recommendations back to the aim set.

4. Results

In this section, we present the results of our research focused on the skills of former athletes in integrating into the workplace after finishing their sports career. The findings, based on secondary data analysis, a questionnaire survey, and interviews with former athletes and employers, reveal preferred soft skills as well as the employers' needs. This serves as a basis for recommendations for education and increased employability of former athletes.

4.1. Results of Secondary Data Analysis

As a part of our research, we focused on analyzing studies, articles, and reports addressing the transition of athletes to working life and the importance of soft skills in the labor market. This allows us to better understand the context and trends in the employment of athletes and their successful transition to employment outside of sports.

4.1.1. Exceptional Qualities of Former Athletes

Based on the studies analyzed, we found that athletes are more confident and have better leadership skills than students who choose other extracurricular activities (Pinsker, 2015). According to entrepreneur and former NFL player Chris Valletta, there are certain qualities that make former athletes a good choice for employers. These are mainly their perseverance and determination (Valletta, 2017). Athletes who decide to pursue sports professionally invest a lot of effort in training and preparation. This willingness to work hard indicates to employers that such an individual is not afraid of challenging tasks. Athletes are driven by a desire to win, which motivates them to be goal-oriented. A key characteristic is also the emotional strength they develop during sports careers. They are taught to face the pressure and challenges of the competition environment. This helps them build resilience. Time management is another of their strengths. Given the demanding schedule of training, competitions, and other duties, they can effectively organize their day. The ability to lead is supported by the position of leading the team to success. They are aware of the importance of taking the initiative. Therefore, employers appreciate their willingness to take responsibility for the results of the entire team. They come from an environment with a strong collective spirit. Although they strive for individual success, they prioritize team goals. Commitment and work ethic are also developed. The high level of discipline athletes acquire during daily training helps them become organized. Statistics from the NCAA show that most athletes end their careers after graduating from college, which gives employers opportunities to recruit former athletes with job skills rarer among non-athletes (Masterson, 2023; Coursera, 2024; So, 2024; Forknell, 2024).

4.1.2. Most Common Job Positions of Former Athletes

According to data collected by the professional portal LinkedIn, up to 27% of professional athletes switched to sales jobs after retiring from sports between 2018 and 2022 (Aliucova, 2023). This is also confirmed by a study focusing on the years from 2015 to 2022. The role of sports coach/instructor was identified as the second most common (23%). This was followed by employment as an entrepreneur (10%). The fourth and fifth places were the job positions of a financial analyst and a teacher with 5%. The sixth, seventh, and eighth places (with 4%) were positions of a financial advisor, a marketing specialist, and a business development expert. These were followed by the job positions of a real estate broker and an HR specialist (Milord, 2022). We analyzed several specific cases of the employment of former athletes. Their descriptions and conclusions are captured in Table 3.

Table 3. Selected cases of successful and unsuccessful former athletes.

| Athlete | Type of Sport | Country | Education | Result After a Sports Career | Reason for Success/Failure |
|-------------------------|---------------|----------------|--------------------------------|----------------------------------|--|
| Peter and Martin Velits | cycling | Slovakia | high school | successful business | clear vision focused on quality and sustainability in cycling clothing |
| Marián Hossa | ice hockey | Slovakia | transport academy | successful business | mutually beneficial relationships with selected partners, innovation in the food industry |
| Ján Franek | soccer | Czech Republic | sports management and business | successful business and projects | passion for sports and projects that support the sports community, own business activities |

Table 3. Cont.

| Athlete | Type of Sport | Country | Education | Result After a Sports Career | Reason for Success/Failure |
|---------------|---------------|----------------|----------------------|--------------------------------|--|
| Ján Franek | boxing | Slovakia | locksmith | personal and financial failure | addiction to alcohol and gambling, unpreparedness for career transition, poor financial literacy |
| Michal Sýkora | ice hockey | Czech Republic | unknown | unsuccessful business | inappropriate financial investments, high debts, unsuccessful business projects |
| Dominik Hašek | ice hockey | Czech Republic | pedagogy and history | unsuccessful business | marketing mistakes, unsuccessful brand, poor management and insufficient understanding of the market |

Elaborated based on (SITA, 2014; Chren, 2017; Mikešová, 2018; Čop, 2023; Šebela, 2023; Rober, 2023; Petrcechsport, 2024; Sport-invest, 2024; Olympic, 2024; Olympics, 2024).

The table shows former athletes who achieved different results after ending their active sports careers. Some of them successfully adapted to their new lives and achieved success in various areas, while others faced problems and setbacks. The reasons for these differences are various. Factors that contributed to success include the ability to flexibly adapt to new challenges and the use of acquired experience and contacts from sports. On the contrary, unsuccessful athletes often face challenges such as psychological problems, insufficient preparation for life after their sports careers, or a loss of identity associated with leaving sports.

4.1.3. Most In-Demand Skills at the Workplace

By linking several relevant secondary sources, we have identified ten job skills that are important for finding a job in the current job market. Table 4 provides an overview of these skills and their importance to employers. Possessing these skills is crucial in today’s dynamic and competitive work environment.

The results of this part of our analysis reveal that soft skills are dominant in the desired list. Therefore, when preparing currently active athletes for their transition to other professions after their sports careers, special attention should be paid to the development of this group of skills.

Table 4. The most important skills for job seekers today.

| Skill | Skill Description and Importance for the Employer |
|---|--|
| adaptability | ability to respond quickly to changes and new emerging tasks |
| communication skills | ability to clearly express ideas, but also to listen to the opinions of other team members |
| problem-solving and creativity | ability to identify problems, analyze situations, and come up with practical solutions |
| time management | ability to effectively manage tasks and deadlines, which leads to better productivity and quality of work |
| team leadership | leadership skills allowing to motivate the team and take initiative, useful for career growth and responsibility |
| emotional intelligence and interpersonal skills | supporting empathetic cooperation and effective conflict resolution, beneficial for building team relationships |

Table 4. Cont.

| Skill | Skill Description and Importance for the Employer |
|-----------------------------------|---|
| technical skills | domain-specific technical skills; continuously updating them is essential in the digital world |
| collaboration | achieving common goals |
| endurance and determination | positive attitude and motivation even in the face of setbacks; contributes to the continuous progress of the individual and the entire organization |
| willingness to learn continuously | continuous learning is key to adapting to a changing work environment and maintaining competitiveness |

Elaborated based on (Bellfast management, 2024; Danao & Main, 2024; UK Sport, 2016; Kretchmer, 2020; Masterson, 2023; So, 2024; Coursera, 2024; Indeed, 2024; MVNU Communications, 2024).

4.2. Results of Primary Data Analysis

Our research also focused on the analysis of primary data obtained via a questionnaire survey. The total number of respondents reached 237. Respondents were divided based on their involvement in individual or team sports. The questionnaire contained a total of 25 questions, 2 of which were relevant for identifying knowledge and skills that are important for athletes' career transition to working life outside of sports.

4.2.1. Results from the Questionnaire Survey

The collected and analyzed results of the questionnaire survey allow us to compare the employers' view of important skills for success in the labor market with the view of current young active athletes. The focus on the junior category of athletes was intentional. It is with them that it is necessary to start pointing out the importance of education in preparing for a career after sports.

This section covers knowledge and skills according to their importance for a career outside of sports. Of the total number of respondents, 43 students are engaged in individual sports and 194 in team sports. From a total of eight groups of knowledge and skills, three main ones were selected based on the importance assigned to them by the target group.

Figure 3 captures the three most important skills from the perspective of individual athletes, along with a more detailed look at the indicated perceived level of importance.

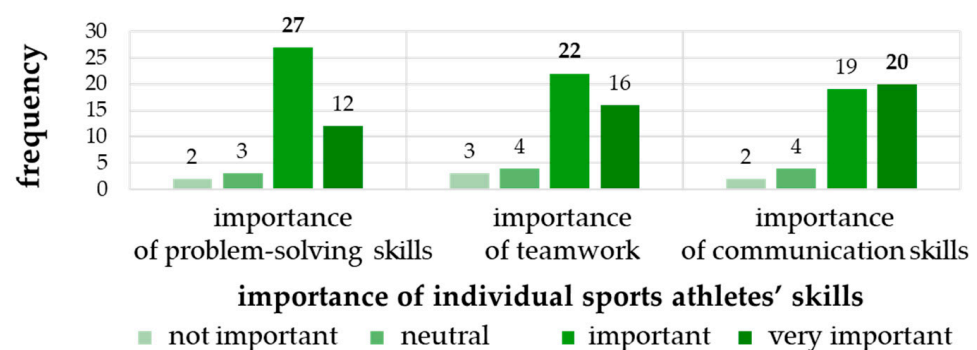


Figure 3. The importance of knowledge and skills for individual athletes (own elaboration).

The most frequently selected option for problem-solving was the option "very important" (27 respondents out of 43), and 12 athletes marked this skill as "important". Within teamwork, the most frequently chosen answer was "very important", including 22 respondents. A total of 16 athletes perceived this skill as "important". The answers that were not chosen by any of the respondents were "partially important" and "I cannot say". Athletes performing individual sports most frequently chose the answer "important" for communication skills. This was chosen by 20 out of a total of 43 respondents. Another

19 respondents marked the option “very important” and only 1 respondent chose the option “not important”.

Figure 4 shifts the focus to team athletes. An interesting result is that the importance of teamwork skills is replaced by decision-making skills in the ranking of the most important skills for team athletes.

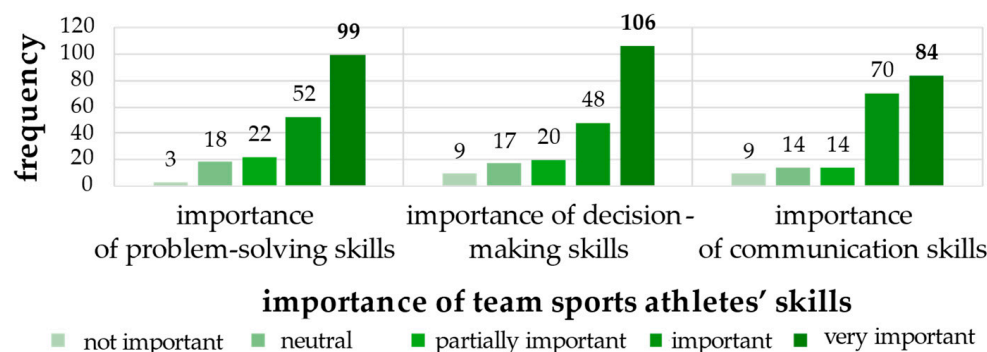


Figure 4. The importance of knowledge and skills for team athletes (own elaboration).

As for the comparison of the importance of communication skills, within team sports, the largest group of respondents consider this skill as “very important”: 84 out of 194 respondents. The second most frequent answer was “important”, which was chosen by 70 respondents. The fewest respondents chose the option “I cannot say”: 1 respondent. Two respondents did not decide on either ability. Up to 99 respondents out of a total of 194 considered problem-solving skills as “very important”. A total of 52 respondents marked mastery of this skill as “important”. One respondent chose the option “I cannot say” and one respondent left the box blank. The largest number of athletes stated that they perceive decision-making ability as “very important”. Up to 105 out of 194 respondents chose this option. The second-largest group of respondents (47) chose the option “important”. One respondent chose the option “I cannot say” and one athlete did not answer. Overall, however, in this part of the results, we can state that the skills considered important by current young athletes for their employment in the labor market after the end of their sports careers correspond very well with the skills valued by employers.

The next part of our survey focused on the attractiveness of different forms of education and learning. In the relevant question in our questionnaire survey, respondents made decisions on a scale from “unattractive” to “very attractive”. The results of the perceived attractiveness of individual forms of education in the form of the three most attractive forms are shown in Figure 5.

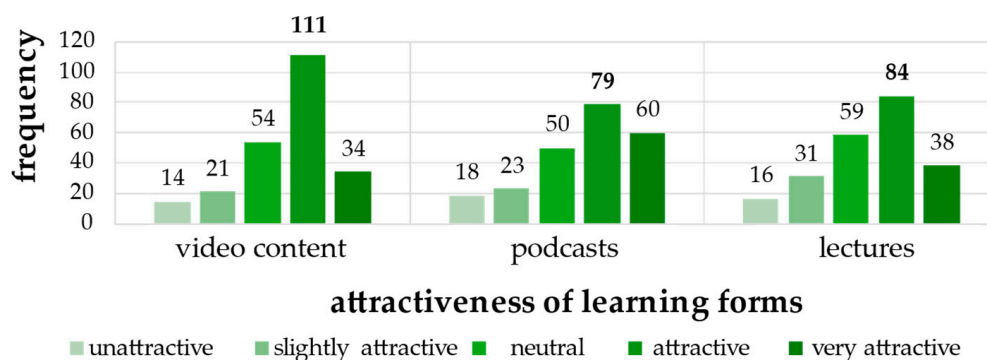


Figure 5. The attractiveness of different forms of education and learning (own elaboration).

Within the framework of learning using video content on various platforms such as YouTube, TikTok, and Instagram, 145 respondents expressed a positive opinion about this

form. A total of 54 respondents expressed a neutral opinion. Another form of education preferred by young athletes is podcasts. They are very popular among the young generation, and this is also reflected in the results of our questionnaire. For 139 respondents, this form was attractive, and they could therefore imagine learning using various professional explanations and practical tips with the help of podcasts. On the contrary, for 41 respondents, this form was unattractive, while another 50 expressed a neutral opinion. Lectures are still a very important part of education. This form is also applied at universities, and therefore it is justified in the context of education alongside sports. This form of education was considered attractive by 122 respondents. Lectures were perceived neutrally by 59 respondents, and this form seemed unattractive to 47 respondents.

Our selected results from the questionnaire survey link the perceived importance of individual skill sets from the perspective of current young athletes with the forms of education that this target group perceives as attractive. Both pieces of information are important for the correct and effective setting of the education system for current athletes so that they are better prepared for the transition to other professions after the end of their sports careers.

4.2.2. Results Gained from the Interviews

Following the analysis of theoretical background and relevant secondary sources, we also conducted interviews with former athletes and important employers in our region as part of this study. This section represents a qualitative input into the overall research and reveals further important connections for setting effective retirement for athletes to support their readiness for the labor market.

The views of former athletes on their own sports careers were obtained via semi-structured interviews. These detailed important events that influenced the course of their sports careers. Three respondents (two hockey players and one soccer player) were asked seven main questions that fell into three areas: available educational support during an active sports career; acquisition of strengths that were applied in other areas; and coping with psychologically demanding situations during an active sports career. The setting of the selected areas and the questions themselves was based directly on our theoretical framework.

Educational processes, whether during an active career or after its completion, are very important, based on the respondents' answers, as they determine future career directions. Ending a sports career can be voluntary or forced; therefore, according to the respondents, it is essential to study and gain knowledge in areas that can represent a future career after sports. The interviews also revealed teamwork as an important skill. According to the respondents, this is one of the most important things athletes can develop during their sports careers. Other important qualities are diligence and discipline. These are valued by employers. Two respondents did not encounter significant psychological problems during their active sports careers, but one of them used consulting services from sports experts regarding his own progress and performance. This respondent experienced burnout both during and after his sports career. This was further specified by the following statement: "Burnout occurred in my coaching career, where I considered quitting coaching, but the excellent feedback from parents, coaches, and colleagues convinced me that my work has meaning." All the respondents interviewed remained active in sports after finishing their active sports careers. Their steps after their active sports careers are supported by a quote from one of them: "I still do what I enjoy, what nourishes me, and what fulfills me." Table 5 summarizes the essential information provided by former athletes during the interviews.

Table 5. Results of interviews with former athletes.

| | Respondent No. 1 | Respondent No. 2 | Respondent No. 3 |
|---------------------------|--|-------------------------|--|
| Type of sport | ice hockey | football | ice hockey |
| Leaving | forced | voluntary | voluntary |
| Learning processes | unavailable, agrees that athletes should study during their active careers | pedagogical education | until after the end of active career—coaching, courses |
| Important qualities | discipline, hard work, and teamwork | | |
| Employer-valued qualities | discipline and hard work | unappreciated | responsibility, correctness, discipline, strong will |
| Using consulting | unused | unused | used |
| Further advancement | work in the field of sports | soccer coach | ice hockey coach |

Own elaboration.

The results of the interviews with the target group of respondents show the importance of educational processes that strengthen the subsequent employment of former athletes in new careers. The acquisition of specific qualities and skills during an active career is also a way of personal development. All qualities can be used after the end of a sports career in other work environments.

In the next part of our study, we focus on employers' views on the employment of former professional athletes and their integration into the work environment outside of sports. We wanted to discover whether former athletes have better work habits and are more efficient than other employees without sports experience. Via interviews with employers in various sectors, we gained a picture of how the qualities athletes acquired during their sports careers are perceived in the work environment. Based on two interviews with selected major regional employers, we were able to uncover and outline several important findings that need to be further studied (Table 6). The respondents in the interviews were HR managers of selected companies. In terms of size category, there was one medium-sized and one large company. The size categories and the type of focus of the companies were chosen due to the high probability of employing former athletes.

Table 6. Summary of the results of interviews with employers.

| Inquiry Area | Employer No. 1 | Employer No. 2 |
|---|--|--|
| company activity | automobile manufacturing | other manufacturing |
| impact of an athlete's career on employee performance | employee evaluation is individual, sports career has no significant impact | a sports career can help, but in practice the performance is the same |
| recommendations for active athletes in terms of preparing for a career after sports | invest in education and skills | — |
| support for active athletes | foundation that supports sports via grants and building sports facilities | reimbursement of entry fees in sports competitions, support for team events (jerseys, matches) |
| challenges associated with employing former athletes | health restrictions can be an obstacle | no significant problems, everyone has the same onboarding program |

Own elaboration.

Four main findings emerged from the interviews: an individual approach to the adaptation of former athletes in the company, independence from the type of sport, a specific approach to development and education, and health complications and limitations.

Employers stated that an individual approach is crucial when integrating former athletes into the work environment. Contrary to assumptions about the need for specific training programs for former athletes, employers emphasize that success depends more on the personal abilities and skills of the individual than on the sports background itself. Adaptation challenges, such as coping with potential health limitations, are addressed individually, often without distinction compared to employees with other backgrounds.

In employee evaluations, employers do not perceive any fundamental differences between athletes from individual and team sports, while they value team athletes' experience with teamwork and individual athletes' independence. This fact underlines the adaptability of athletes to various types of positions, regardless of the type of sport they previously engaged in. Employers recommend that athletes, during their active careers, devote themselves to developing skills that will facilitate their transition to the work environment. Informal education or gaining practical experience directly alongside sports can significantly increase their attractiveness in the job market. At the same time, they recommend that athletes acquire skills that are attractive in the job market or offer them flexibility in their use. Since sports are often dangerous and physically demanding, injuries occur, which can have permanent consequences. Such injuries can be divided into those that limit work activity completely and those that limit it. This can be a problem when choosing a job, as such injuries narrow the options of the affected athletes. However, this only underlines the importance of obtaining education, especially in soft skills, thanks to which former athletes can perform professions that are not physically demanding even after injuries.

Employers also assessed several skills that are considered pivotal when deciding whether to hire a job applicant (Table 7). These skills and other characteristics were assessed using a scale from 1 to 5, where 1 = unimportant and 5 = very important. The most important skills an applicant should have are stress management, flexibility, and teamwork. These characteristics and skills are a predisposition for an employee to be beneficial to the company. These conclusions from our interviews are also supported by several studies included in the section dedicated to soft skills above. The consistency of the results of our interviews with the comparative studies confirms the high importance of these skills.

Based on these findings, we can conclude that the skills studied are important for the employment of athletes outside of sports. Teamwork and flexibility are key in today's ever-accelerating work environment. We can also say that these skills are mainly of a personal nature and can be trained from a young age. Due to regular training, athletes can acquire skills such as teamwork, discipline, and time management. They therefore gain an edge they must grasp appropriately and work on applying in practice. Employers also claimed that they do not perceive much difference between athletes coming from team or individual sports.

Table 7. Skill assessment by employers.

| Skill/Attribute | Employer No. 1 | Employer No. 2 |
|------------------------|----------------|----------------|
| Determination | 4 | 4 |
| Discipline | 4 | 5 |
| Teamwork | 5 | 4 |
| Quick decision-making | 4 | 2 |
| Handling pressure | 5 | 5 |
| Good time management | 4 | 4 |
| Flexibility | 5 | 5 |
| Acceptance of feedback | 5 | 3 |

Own elaboration.

Based on all the results presented, in combination with our scientific approach described in the methodology, it was possible to jointly evaluate the validity of the hypotheses defined by us. An overview of the results of this verification is captured in Table 8.

Table 8. Overview of verification of established hypotheses.

| Hypothesis | Arguments for Verification | Data Source | Evaluation |
|------------|----------------------------|--|-------------|
| H1 | A1, A2 | primary–quantitative | unconfirmed |
| H2 | A3, A4, A5 | primary–quantitative, qualitative; secondary | confirmed |
| H3 | A1, A4 | primary–qualitative | confirmed |
| H4 | A3, A5, A6 | primary–quantitative, qualitative; secondary | confirmed |

Own elaboration.

All hypotheses were evaluated based on the relevant arguments supporting or not supporting their validity. The validity of hypothesis H1 was not confirmed by the research, because differences in the perception of the importance of individual skills between individual and collective athletes were identified. The validity of all other hypotheses was confirmed based on the collected and analyzed arguments.

5. Discussion

The results of several studies indicate that the support and development of soft skills are of vital importance for the successful adaptation of athletes when transitioning to an environment outside of sports. The main soft skills that athletes acquire during their active careers are communication, teamwork, emotional intelligence, problem-solving, flexibility and creativity. These skills represent a significant competitive advantage for them when entering the labor market.

Given the frequent interaction of athletes with coaches and teammates, communication is a fundamental skill they acquire. Research showed that athletes excel at expressing themselves effectively, actively listening, and receiving feedback, which allows them to apply these skills in teams outside of the sports environment. Their ability to work as a team is also highly valued. An exceptional level of emotional intelligence helps athletes better manage stress and work effectively under pressure. The flexibility resulting from their ability to quickly adapt to changes and new demands makes athletes ideal candidates for dynamic work environments (Xanthopoulou et al., 2024). Despite this, creativity, and therefore problem-solving, is less emphasized in athletes, although it is an asset in many professions (Westmattelmann et al., 2021). When compared with the results of other research on the importance of supporting dual careers, it is shown that the transition of athletes to regular employment requires systematic preparation and development of relevant professional skills already during an active sports career (Sterbenz et al., 2014; Zhou & Zhang, 2024). The importance of psychological support and mentoring is underlined, able to help athletes cope with the psychological challenges of losing their sports identity and reduce the risk of depression and anxiety (Soviar et al., 2015; Ding, 2024).

Another study emphasizes the need for formal education and the development of soft skills that will enable athletes to successfully master a given profession and interact with customers or colleagues (Stambulova & Wylleman, 2019). Emotional intelligence and teamwork are considered important soft skills. Research results conclude that without specialized education, athletes could have problems adapting to a new environment, whether it is the school system or the work environment (Kondur et al., 2022).

Other research offers a more detailed overview of the phases of athletes' careers, dividing them into the beginning, the rise, the peak, and the decline. Each phase is characterized by physical, technical, and psychological changes, which highlights the need

for psychological support throughout the career, especially during the period of declining performance and preparation for leaving the sports environment. This view shows that psychological support is needed not only when moving to another job, but also within the individual phases of the sports career (Behrens & Urich, 2022; Kim & Yun, 2023). Forms of support in coping with emotional and psychological challenges are essential pillars within the psychological background. Professional psychological support plays an important role, helping former athletes prevent serious psychological problems (Moemeni et al., 2021). A dual career helps athletes develop professional skills already during sports activities. This approach is effective not only in managing work challenges but also in alleviating psychological problems. Combining our original findings with other research, we recommend systematic support for athletes that will allow them to build skills such as effective communication, stress management, and teamwork even further. Athletes who have access to such focused education and development of their human capital can demonstrate higher levels of adaptability and empathy, allowing them to engage in teams and contribute to a positive atmosphere in the workplace (Hussein, 2024). Properly selected programs can ease the transition for athletes and maximize their contribution to employers in their new careers (Jankal, 2014; Koman et al., 2019; Štaffenová & Kucharčíková, 2023).

6. Conclusions

Our study focused on former athletes and their transition from an active sports career to regular working life. It is a focus on a specific target group and an effort to appropriately develop their human capital to increase their employability in the labor market after leaving sports. Based on the analyses performed, we can summarize our main findings into the following points:

- For athletes performing individual sports, the most important skills are problem-solving skills, teamwork, and communication skills.
- Athletes performing team sports identified knowledge and skills in problem-solving, decision-making, and communication skills as the most important.
- Among students who play sports, the most attractive forms of education are video content, podcasts, and lectures.
- Former athletes support education during an active sports career, as it is an important aspect of employment after its completion.
- The qualities former athletes value the most in relation to their sports past are discipline and teamwork.
- Employers emphasize that the success of the adaptation of former athletes depends more on personal abilities and skills than on the sports background itself.
- According to employers, the differences between former athletes and non-athletes are not significant; however, some characteristics are visible, such as teamwork in athletes involved in team sports, and independence in performing work tasks in individual athletes.
- Employers recommend that active athletes pay sufficient attention to learning and education in addition to their active sports careers, so that they have an easier transition to the work environment.

Our study provides an overview of the challenges faced by active athletes, especially those who have finished their sports careers and are trying to transition to working life outside of sports. It details the importance of education and support in career development and draws inspiration from successful cases in other countries. It highlights that athletes who have access to dual career programs and systematic education manage this transition more effectively and successfully, as they develop not only sports but also broader

professional skills. Our recommendations to relevant stakeholders are summarized in the following points:

- Integration of educational programs needs to be implemented from the beginning of an athlete's career, focused on the development of important soft skills, such as communication, teamwork, flexibility, and pressure management.
- Sports clubs should introduce systematic support for dual education, including cooperation with vocational schools and universities, so that athletes have a real chance for a career outside of sports.
- It is necessary to ensure coordination of educational and career programs for athletes at the national level, to ensure a sustainable approach to education for all sports and levels of sport.
- The Ministry of Sports should primarily communicate with athletes and associations regarding funding, which would include funding for educational programs for athletes while supporting legislation enabling effective dual education.
- From the perspective of young athletes, it is necessary to link dual education and career opportunities with seminars and workshops drawing attention to the importance of education and development for employment after an active sports career.
- It is appropriate to offer internship opportunities that would provide young athletes with practical experience in non-sporting areas. Due to this, they would acquire initial work habits and would be more attractive candidates for future employers.

Finally, we need to state the limitations for the generalizability of our findings. These could have affected the results of our study and its applicability. The main limitations are described in the following points. The data we focused on in the quantitative approach only represent the situation of young athletes. This limits the view of the challenges that professional athletes face when transitioning from a sports career to working life. Examining both age categories would allow for a more accurate comparison and evaluation of differences in career needs and challenges. To support generalization in the future, it is necessary to obtain more answers in qualitative research, which was conducted via interviews with athletes and employers. Processing personal experiences from several respondents will strengthen the explanatory power of the findings presented so far. Due to the small sample size obtained in the interviews, it is not possible to fully generalize our findings. However, they can be considered a successful exploratory analysis revealing the respondents' perceptions of the research topic. The results are specific to the Slovak environment, which means that research conducted in other legislative, economic, or geographical conditions may bring certain deviations. Different countries approach this issue differently, and when setting an effective system of education for athletes to support their application after leaving sports, it is necessary to respect the given situation.

Future research may focus on the most appropriate forms of education and the development of soft skills during an active career in more detail. After applying the preferred educational forms identified by us to the practice, it is appropriate to examine the results achieved in future research. Research on career transitions into areas unrelated to sports can provide valuable data on the broader possibilities of athletes' employment. In future research, we intend to continue collecting data via interviews to include a larger sample (this approach is also supported by [Haven & Van Grootel, 2019](#)). However, conducting further interviews with representatives of selected stakeholders also provides opportunities for new research by other authors. Further research can also reveal the stories of more former athletes and their transition to other careers. It is also possible to focus on adjacent subtopics related to athletes' careers and employment, such as gender differences or secular trends (these aspects are supported by ([Pourhashem et al., 2022](#); [Gejdoš & Hitka, 2022](#)). All

such findings will contribute to the further development of athletes' human capital in the future and its possible application in sports and beyond.

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