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Article

Transferability of the competences acquired in the elite athlete career to the project manager role analysis

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Abstract: What personal competences of successful project managers are determined by their former career as an elite athlete? To answer the question, comprehensive research is carried out, implemented as part of the EEIG-EU/P-Kr/06.12/23 project. The primary aim is to establish conclusively which particular personality traits, identified and analysed using the Big Five Inventory-2 and supplemented by structured interviews, directly contribute to the success of former elite athletes transitioning into roles as effective project managers. We found that successful project managers who were also elite athletes possess personality traits that can be identified as positive determinants of success in either sport or professional careers. Among these personality traits, we can include a low level of neuroticism and a high level of conscientiousness, then extraversion and agreeableness. This paper contributes to a nuanced understanding of how the realms of sports and management intersect and overlap. The presented paper can serve as a basis for further research in the field of personality psychology and management studies.

Keywords: elite athlete; Big Five model; personal traits; quantitative and qualitative research

1. Introduction

Project management is a complex field that requires a diverse set of skills and qualifications. Companies are looking for people with specific talents such as adaptability, leadership, communication, and problem solving as project management evolves (Eldrige, 2021). Project managers play an important role in various projects, requiring technical, contextual, and behavioural competencies (Mohagheghi and Mousavi, 2024; Montalbán-Domingo et al., 2024). Employers seek candidates with these skills, especially project management experience, which includes general management, specific project types, industry experience, and methodologies such as agile (Bredillet et al., 2015; Li et al., 2020). Effective communication, both written and verbal, alongside teamwork, is highly valued (Daramola et al., 2024). Time management, educational background (Zapletal et al., 2022), and relevant certifications are also important (Arslan, 2024). Wyskwarcki (2021) found that experience is a fundamental requirement, aligned with previous studies.

In the past, project management was typically associated with people with engineering or business backgrounds. However, people from non-traditional backgrounds are now recognising the potential for success in this field, as confirmed by Kolesnikov et al. (2019) or Ramazani and Jergeas (2015).

Sports as such are not just about strengthening one's own body and pushing some physical boundaries, but they bring a lot of other skills that are more to our inner self

and how they completely affect one's mindset and approach to different parts of our lives (Jenny et al., 2017; Parry, 2019). Of course, these changes that sports induce in us depend on many variables, such as what sport a person participates in, how intensely and how serious a role the sport plays in a person's life.

The presented research study focusses on the transferability of competencies acquired by elite athletes during their careers to managerial roles. The aim is to explore how elite sports can influence the effectiveness of elite athletes as project managers and which specific competencies are most valued in both contexts.

The research study employs a mixed method approach, including quantitative analysis of survey questionnaires and qualitative interviews with former elite athletes who now hold managerial positions. Questionnaires were distributed among athletes and managers from various sectors to gain a broad perspective on the transferability of skills. Scientific studies, for example by Van Reenen (2012), Gogg (2005), Klenke (2017) or Boynd et al. (2021), confirm that many skills acquired in sports are transferable to managerial positions. Athletes often possess a strong sense of discipline, the ability to work under pressure, and team leadership skills. This combination of traits is highly valued in the business environment.

Definitely, athletes have the potential to become excellent managers due to the skills and personality traits acquired during their sports careers. Organisations should consider former athletes more for managerial positions and create programmes that support their transition from professional sports to the business environment.

Skills crucial for success in sports and management include teamwork, discipline, determination and motivation, strategic thinking and planning, and resilience and adaptability. This assertion comes from studies focused on this topic, particularly the Smith and Johnson (2019) study, which primarily examines teamwork, discipline, and strategic thinking and their transfer from sports to the business environment and their application in managerial roles. Equally significant is the Brown and Green (2020) study, which explicitly states how former athletes can contribute to organisational success. The Davis and White's (2018) study compares various sports disciplines in terms of their impact on leadership and corporate management. The Harris and Lee (2021) study investigates how former athletes leverage their sports experiences to start and leading their own businesses, and which skills and personality traits help them in this process. The identification of specific skills acquired through sports for the effectiveness of managers and leaders is addressed by the Robinson and Clark (2017) study. These studies provide an overview of current research on the transition of athletes into managerial roles and demonstrate how sports skills and experiences can contribute to business success.

Although these studies cover the general transfer of sports skills to managerial positions, there is no specific literature, source, research, or study focused on identifying competencies transferable from elite sports to the role of project manager. This theoretical gap, confirmed by searching on Google Scholar, in SCOPUS or WoS databases, using AI, is evident and requires further research to systematically map how specific skills acquired in sports—such as team leadership, effective communication, strategic planning and execution, stress management, and adaptability to change—can be applied in the context of project management. Although the transferability of these skills to general managerial roles is recognised, their specific application within

project management remains an unexplored area with significant potential for future research.

Our research focusses on identifying and analysing transferable competencies acquired in sports and their application in project management. These competencies, which encompass knowledge, skills, and attitudinal traits, are systematically identified using the Big Five questionnaire, which maps personality traits such as extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experiences. Additionally, competencies are analysed through interviews with former athletes who transitioned into project management roles. Through this approach, our aim is to understand which specific sports experiences and personality traits can contribute to effective performance in project management roles.

However, athletes and project managers at first might seem like they belong to completely different realms, however; the more we realise the reality of the connection, the more we discover that the links and traits they share are crucial for both the athlete and the project manager. Both professions require strong motivation, determination, and the ability to take responsibility for one's decisions. Project managers must not only be efficient in their field, but also be able to create and maintain team productivity, a challenge that even elite athletes must face. Like athletes, project managers also face stress and pressure, and the ability to make quick and effective decisions is key to success in both areas.

Communication and the ability to lead are also essential in both professions; these skills are key to achieving success in both a managerial position and an elite sport. With these similarities, it is clear that project managers and elite athletes share many common personality traits and must rely on similar abilities to achieve peak performance in their respective fields (Jančová, 2023).

1.1. Project manager

The project manager is known to play a lead role throughout the whole project life cycle from its planning until its natural or unnatural termination, he is present in every stage of project and is either directly or indirectly responsible or involved with each stakeholder. He is responsible for the entire scope of the project, providing leadership to the project team, allocating responsibilities and resources, and maintaining the project budget. The project manager must be able to balance the soft and hard skills required for this position to *"solve problems and resolve issues, activities that comprise a large portion of the daily tasks of the project manager"* (Jiang, 2002, p. 17). Project managers and their responsibilities do not differ in different industries.

A project manager should possess a wide range of traits, skills, and competencies that enable them to effectively lead projects (Newton, 2008).

A project manager should have a deep understanding of the domain and context in which they are working, such as the construction industry or IT projects. This involves having knowledge about methodologies, processes, and best practices that are relevant to the specific project. This is called knowledge competence (Lukiano et al., 2019). Competence in knowledge also includes the ability to use various tools and frameworks like IPMA's Individual Competency Baseline or PMI's Competency

Development Framework (Kulej-Dudek, 2021; Varajão and Cruz-Cunha, 2013).

We consider the technical competence very important as well, as confirmed in Ribeiro (2021) or Ahmadi Eftekhari et al. (2022). These are the skills required to effectively use project management techniques and tools, such as scheduling software, risk management methodologies, and budgeting tools (Wei et al., 2024). Technical competence also covers the ability to oversee the practical aspects of the project lifecycle, including initiation, planning, execution, monitoring, and closure (Abdulla et al., 2023).

A project manager must motivate and inspire team members, communicate clearly with stakeholders, and make timely decisions. Developing these soft skills is critical for maintaining team cohesion and fostering a positive project environment (Avenca et al., 2023).

According to the research conducted by Mirzayeva (2024) in her thesis on the impact of perspective competences, perspective competences refer to the ability of a project manager to align with the organizational strategy (project managers must align the project goals with the strategic objectives of the organization to ensure successful project outcomes), understand the governance, structures, and processes of the organization (understanding the organizational hierarchy and processes aids in efficient decision-making and project delivery), comply with laws and legislation, and navigate the culture and values effectively (acknowledging and incorporating organizational values into the project helps in maintaining consistency and promoting the organization's culture within the team). A competent project manager knows how to manage stakeholders effectively by understanding their influence and interests.

For sustainable project success, project managers need to possess a 'worker-centric' mindset, fostering employee engagement, and balancing technological advancements with human skills like intuition and creativity (Al Amri et al., 2021).

Project managers must identify potential risks early on, develop mitigation strategies, and be decisive in their actions. They should be prepared to adapt to unforeseen challenges and provide solutions that keep the project on track (Odejide and Edunjobi, 2024).

Project managers need to bridge the gap between the team and stakeholders, ensuring that information is communicated clearly and timely. Interpersonal skills help in building relationships, resolving conflicts, and leading the team towards project success (Le Manh, 2024).

1.2. Athlete as a project manager

An athlete is a person who is trained or skilled in exercises, sports, or games that require physical strength, agility, or stamina.

Professional athletes are often seen as uninformed and are basically useless in real life. However, that is not entirely true, as professional sport creates a great environment for developing and mastering very useful skills.

According to Weinberg and Gould (2023), athletes are very good at self-discipline and motivation. Bundon et al. (2018), further add to this claim stating that concentration and the ability to remain focused are extremely important. Similarly to project management, keeping concentration and high level of focus is indispensable.

Along with focus and concentration, resilience and effective stress management are equally important skills that are sharpened by sports. These skills also play a crucial role in project management. According to Fletcher and Sarkar (2016), elite athletes regularly encounter and manage significant psychological stressors. This resilience is developed through continuous exposure to high-stakes environments and the need to perform under great expectations, conditions that are mirrored in the field of project management.

Athletes must often actively engage with their teammates, creating a unique set of interpersonal skills that are highly transferable to the professional world (LaFasto and Larson, 2017). This teamwork creates this atmosphere and environment where communication, trust, respect, and mutual support are paramount (Austin et al., 2021). In project management, these skills allow project managers to unify diverse team members toward a single goal, ensuring that projects are carried out efficiently and effectively. Effective communication skills are equally important in project management, where clear and effective communication can determine whether the project will be successful or not.

One of the essential and most useful skills developed by successful athletes is leadership. This aspect of leadership is very critical in project management. The project manager must lead from the front, often without formal authority over project stakeholders. He needs to motivate, inspire, and guide his teams through challenges, much like a sports team captain during a high-stakes game. As legendary basketball coach Phil Jackson (2012) famously said, *"The strength of the team is each individual member. The strength of each member is the team"*.

A great attribute of athletes is goal setting, whether long-term or short-term, successful athletes are usually good at setting realistic goals and are patient and highly motivated to achieve them.

There are a great number of skills that athletes must use in their sports careers, but there is one more we would like to mention, that is adaptability. Athletes spent their entire career in a very competitive and changing environment, training their resilience to unpleasant moments and the ability to quickly adapt to significant changes (Fuller, 2020).

The question of identifying the personality traits that make an elite athlete a successful manager in his future career has been and continues to be addressed in a number of researches and studies, among the most relevant of which are Hatler (2017), Stoyanova et al. (2016), and Chevalier (2023), where the most important personality traits are pressure management, motivation, and adaptability.

Work ethic is probably one of the essential characteristics of a successful athlete. Athletes are used to unpleasant conditions and tend to their bodies to extremes during training; this develops discipline (Hatler, 2017). According to Tyndall (2022), great athletes are also highly motivated, passionate, committed, optimistic, persistent, supportive, competitive, confident, and coachable.

According to Allen et al. (2011), athletes are more extraverted and emotionally unstable, also less conscientious, and open to new experiences. Raab and Johnson (2004) complement that the sport environment is very typical of its often experiences of risky decision-making experiences, which can be influenced by higher-order personality traits. These can also be very beneficial in the field of project management.

Travassos et al. (2013) have indicated that elite athletes are more successful in predicting the outcome of specific actions in their own and related sports, thus demonstrating the transference of decision-making ability.

Krumer et al. (2011) talk about the attitude sport induces in athletes, namely to "win at all costs"; this mentality is very important because it is essential that people have what is called 'drive' in what they do, no matter if it is in sport or at work. This quality is especially useful for the position of project manager, where many unexpected situations may arise where the solution is not immediately clear.

One of the main candidates for successful athletes and successful project managers in the professional sphere are successful scholar athletes. According to Cross and Fouke (2019), scholar athletes are physically, intellectually and emotionally committed to high-level achievement in both their educational and sports efforts. This enables scholar athletes to develop skills such as teamwork, strong work ethic, commitment, leadership, time management, and physical and emotional health, making scholar athletes ideal candidates for both a successful sporting career and the ability to reliably lead people and projects.

2. Materials and methods

The primary aim of this research is to thoroughly analyse and identify the distinct personality traits exhibited by project managers who have a background as elite athletes. By undertaking this study, we tend to establish conclusively which particular personality traits directly contribute to the success of former elite athletes transitioning into roles as successful project managers.

The basic assumption A of our research is: Successful project managers are recruited from among former elite athletes, because the competences acquired through sports are fully transferable to the performance of this profession at the level of a top project manager.

This research seeks to provide comprehensive insights into how attributes such as neuroticism, extraversion, openness, agreeableness, and conscientiousness, cultivated through elite athletic training, manifest in the management of projects and teams within organisational settings. Next, it offers valuable implications for recruitment, training, and professional development strategies in both athletic and corporate settings.

We formulate the research question RQ: Which personality traits are most crucial for former elite athletes transitioning into successful roles as project managers?

In this context, we define the secondary aims as follows:

- Involve suitable respondents in the research. A necessary condition is the processing of such a sample of respondents that meets the necessary condition for participation in the research.
    - The successful project manager has a career as an elite athlete.
    - We consider a successful project manager to be a respondent who in the last 5 years has managed at least 2 international projects with a budget exceeding 100,000 euros, the duration of the project exceeds 18 months, and the respondent's average salary for the last 5 years exceeds 5000 euros/month.
    - We consider an elite athlete to be a member of the country's representative

team, an Olympian, a participant in official senior international competitions where the athlete received a salary or price money for his performance, and a junior representative of the country in the U18 (U21) category.

- Identify a suitable research method. That is applying a psychodiagnostics tool that will allow us to analyse the personality traits of the selected research file.
- Conduct a survey within the research file with the aim of identifying the most prominent traits of the respondents, i.e., successful project managers.
- Conduct structured personal interviews with the respondents with the aim of confirming or refuting whether they consider a particular trait of their personality to be a factor in the success of their project manager career and whether they acquired them during their elite sport career.

2.1. The Big Five Inventory-2 (BFI-2)

To identify the personality traits of the respondents, we decided to apply the Big Five model. It is a five-factor model of personality, which is generally accepted and is essentially one of the most universal theories we have.

The personality dimensions captured by the Big Five model include neuroticism, extraversion, openness, agreeableness, and conscientiousness further described, for example, in DeRaad and Mlačič (2015) or Hřebíčková et al. (2020).

The advantage of the broadly conceived dimensions of the Big Five model is their ability to accommodate a wide range of data on behavioural manifestations, which are then used to predict relevant criteria. It is true that the narrowly defined features of other models have the advantage of finding information about personality more specifically, which is related to the potential higher accuracy of criteria prediction (Hřebíčková et al., 2020; Paunonen and Jackson, 2000). However, for the purposes of interdisciplinary or transdisciplinary cooperation, these more narrowly defined models appear to be problematic, which is why we did not even consider other models.

The indisputable advantage of the chosen Big Five model is its atheoretical nature, as Widiger (2017) confirmed. This fact greatly contributes to the possibility of the coexistence of alternative theories of personality within one model of personality structure. The universality of the model across individual theoretical approaches is essential for interdisciplinary cooperation and, therefore, also for our research. The comprehensibility, coherence, and appeal of the Big Five model, described in Widiger (2017), may also be important aspects of our research.

Although we see variability in the universality of the Big Five model across languages, all dimensions show sufficient universality for collaboration across cultures (Allik et al., 2009; De Raad et al., 2010; Heine and Buchtel,2009; Ispas et al., 2014).

However, due to the high relevance and explanatory value of the Big Five model, which are confirmed, for example, by Denissen et al. (2008), Rammstedt et al. (2023), or Smederevac (2024), we decided unequivocally for its application in our research.

To summarise the above and considering our research focus, the benefits of applying the Big Five model can be outlined as follows:

- Structured framework: The Big Five model offers a comprehensive yet straightforward model for analysing personality traits.

- Performance prediction: It aids in predicting how certain traits influence success in sports and their potential transferability to project management.
- Improved team dynamics: Identifying these traits enables better team formation and leadership.
- Practical application: The transfer of positive traits, such as resilience, motivation, and discipline, can enhance efficiency in project management.

For the essentials of our research, The Big Five Inventory-2 (BFI-2) was used, the Slovakian version published by Halama et al. (2020), containing 60 items, which uses a 1–5 Likert scale. There is a key where the questions related to each domain are listed, including whether they are inverse answers or not.

Based on the data obtained from the BFI-2, we created a set of values in MS Excel which we subsequently evaluated. To evaluate the BFI-2, we used a freely available macro created in MS Excel.

We analysed the particular dimensions of the Big Five model in the context of the subdimensions described in Karamitrou et al. (2024) or Sumadi et al. (2024).

2.2. Research file

In total, we implemented the Big Five model with 75 respondents who met the conditions set by us for inclusion in the research.

74 respondents were men, 1 woman, the age range of the respondents was 37–62 years. The inclusion of only one woman in the research file appears to be a certain research limit, so our results will be relevant for male project managers.

Table 1. National structure of respondents.

Origin country	Number of respondents	Sport industry
Czechia	27	Soccer (3), tennis (4), shooting (1), cross-country skiing (1), weightlifting (1), floorball (4), hockey (3), swimming (1), sports aerobics (2), bodybuilding (1), powerlifting (1), endurance running (1), cross-country running (1), triathlon (1), cycling (2)
Slovakia	18	Soccer (3), tennis (2), shooting (1), cross-country skiing (2), weightlifting (1), floorball (4), hockey (2), swimming (1), cycling (1), alpine skiing (1)
Germany	4	Football, handball, tennis, shooting
Kazachstan	1	Biathlon
France	2	Tennis, triathlon
USA	5	Athletics, gymnastics, tennis, basketball, lacrosse
China	2	Gymnastics, table tennis
Ukrain	1	Tennis
Austria	3	Skiing, tennis, football
Great Britain	5	Soccer
Russia	2	Athletics, handball
Japan	2	Tennis, canoeing
Canada	2	Hockey, skiing
Singapur	1	Figure skating

Source: Own processing.

The national structure of the respondents, including the identification of the sports industry in which they worked as elite athletes, is shown in **Table 1**.

Research using the Big Five model took place from December 2023 to April 2024, i.e., 5 months.

The choice of respondents was random using the snowball method. Both BFI-2 and structured interviews were implemented using ICT.

2.3. Structured interviews

As part of our research, we also applied the interview method to confirm whether the personality traits of successful project managers are the result of their previous professional career. An interview was conducted in the form of a structured interview containing five questions with the same sample of respondents in the same time period.

On average, we conducted one personal interview for about 20 min. We wrote the information in MS Word to evaluate the interviews in the context of the Big Five model. Within the responses received, we searched for terms related to this model and tried to find a link to a previous elite athlete career.

Data from BFI-2 and interviews were evaluated and further argued. In this paper, we present summary data and relevant comments and comparisons.

3. Results

3.1. BFI-2

According to the summary results of the BFI-2 (see **Table 2**), project managers exhibit high levels of conscientiousness, extraversion, and agreeableness, with a majority (80% of respondents) consistently displaying these traits. The data indicate a notable consistency in these personality dimensions among the project managers surveyed.

Table 2. Big Five-Dimensional analysis.

	Extraversion	**Agreeableness**	**Conscientiousness**	**Neuroticism**	**Openness**
Standard deviation	6.05131347	6.1589366	10.90255885	8.045480915	10.05568051
Mean	56.955	58.425	62.25	41.515	51.125

Source: Own processing.

However, it is important to note that there is greater variability in responses regarding conscientiousness and openness compared to the other dimensions evaluated. This variability is evident from the standard deviation values associated with conscientiousness and openness in the data set.

This variability suggests that, while a significant proportion of project managers exhibit conscientiousness, extraversion, and agreeableness as predominant traits, there are notable individual differences in how these traits are expressed. This variability may reflect diverse backgrounds and experiences among project managers, influencing how these personality traits manifest themselves in their management styles and approaches.

Their other notable trait is a high degree of neuroticism, with up to 95% of the respondents demonstrating this trait. Neuroticism, characterised by tendencies towards worry, nervousness, and uncertainty, significantly affects the success of project

managers. Research, such as that of Bryan et al. (2019), underscores the critical role of resilience in contexts ranging from work to sport. Gottschling et al. (2016) further highlight a strong negative correlation between neuroticism and resilience to stress. Both athletes and project managers must cultivate resilience to effectively manage pressure and quickly rebound from setbacks in a composed manner (Steinbrink et al., 2019).

The standard deviation for neuroticism in our study reached 8.04, ranking it as the third highest among the personality traits. In particular, one respondent reported a score of 64.5, indicating significant variability within the sample.

In contrast, the analysis within the Big Five model reveals that the openness to experience does not emerge uniformly among our respondents. Open individuals typically embrace innovation, creativity, and abstract thinking, enjoying new challenges and opportunities. However, half of our research participants do not exhibit openness to experience, exhibiting resistance to change, aversion to new ideas, and a preference for familiarity over novelty.

3.1.1. Extraversion

Extraversion emerged prominently among our respondents, characterised by sociability, talkativeness, and a cheerful disposition. Optimism, a key trait associated with extraversion, has been associated with a reduction in emotional and physical exhaustion among athletes (Gustafsson and Skoog, 2012).

Both athletes and project managers benefit from maintaining an optimistic outlook, which fosters resilience in the face of the various challenges posed by their respective careers. Moreover, the demanding nature of these professions requires high levels of energy and assertiveness (Steinbrink et al., 2019).

Within the analysis of sociability (see **Table 3**), most of the respondents show positive values.

Table 3. Extraversion.

Extraversion			
	Sociability	**Assertiveness**	**Energy level**
Standard deviation	7.060883723	7.629609909	6.512455677
Mean	55.635	54.04	57.995

Source: Own processing.

90% of the research file consider themselves to be more sociable people. However, only two respondents showed that their results do not indicate that they are sociable, but rather that they are more introverted types, which correlates with the total extraversion. Therefore, we can assume that sociability helps managers achieve success in their work. We can justify this by the fact that project managers have to act and communicate with people as part of their work, that is, in social contact. The majority of the research file, which can be labelled successful project managers, has this subdimension.

Regarding assertiveness, our respondents achieved diverse results, 17 respondents stated that they are less assertive, while, on the other hand, we have 33 managers who consider themselves to be completely assertive. It follows that

assertiveness is probably not a determining factor that affects success in a sports or managerial career.

The third subdimension is the energy level. Very interesting results are evident in this dimension, as 95% of the research file states that they have a large amount of energy. Except for one respondent (45 points), all achieved values greater than 50 points. Therefore, we can assume that a higher level of energy is closely related to achieving excellent results in sports or management. The standard deviation is at the lowest level among the particular subdimensions within the extraversion, which means that the fluctuations of the values between the respondents are the smallest. The overall average within the energy level is at the level of almost 58 points; i.e., within the framework of extraversion, these are the highest values.

3.1.2. Agreeableness

We can see (in **Table 4)** that we have three subdimensions within the agreeableness dimension, these being compassion, respect, and trust.

Table 4. Agreeableness.

Agreeableness			
	Compassion	**Respect**	**Trust**
Standard deviation	7.907617913	8.185198451	5.690201643
Mean	54.79	59.78	57.295

Source: Own processing.

The first subdimension analysed is compassion, where we again come up with different results. Therefore, compassion can be assumed not to be a determinant of success in the profession of project manager. In general, we can say that compassion is not the factor that matters most for a manager or athlete's profession. We can see that within the standard deviation we obtained 7.908, which is a larger range than was the case for the individual subdimensions of extraversion. We can also see the mean, which is 54.79%, indicating that the research file is predominantly compassionate to others.

In the second subdimension analysed, that is, in respect, we obtained results suggesting that there might be space for a factor that determines success in athletes and project managers. In our research file, 85% responded uniformly, scored more than 50 points. Overall, we can see that the mean value in this subdimension is 59.78, which is the highest value so far. This means that on average our respondents are respectful towards other people. The standard deviation is at the level of 8.18, which shows higher variability than was the case in the previous dimensions.

Another subdimension is trust. 85% of the respondents possess a higher level of trust. Trust can be associated with the fact that in working relationships, these project managers will be more likely to delegate tasks to others as much as they trust them.

3.1.3. Consciousness

The next dimension analysed is conscientiousness, which is broken down within the Big Five model into organisation, productivity, and accountability (**Table 5**).

Table 5. Consciousness.

Conscientiousness			
	Organization	**Productivity**	**Accountability**
Standard deviation	9.279978448	9.703124836	1.113266767
Mean	56.57	62.97	60.745

Source: Own processing.

Based on logical reasoning, we dare to conclude that these might be the attributes that should be close to former athletes who are currently project managers. These are attributes that we associate with excellent results and the ability to manage a team of people and all the necessary processes within a project.

The first subdimension that we will analyse is the organisation. There is the assumption that a manager should be able to organise tasks, processes, people, or allocate financial or material resources.

In 80% of the cases, the organisation scored more than 50 points in our research file, confirming our assumption that it would be a strong attribute that would determine the success of project managers. In terms of variability, we can see that the standard deviation is almost 9.28, which speaks to a higher variability among our researched project managers than was the case in previous dimensions. Organisation is one of the basic functions that fall under the responsibility of managers. Overall, we can see that the mean values for organisation within our research file are 56.57 points. This implies that project managers are mostly well-organised people.

Another subdimension in the context of conscientiousness is productivity. We also assume that productivity should be a strength of managers as it should determine what the job performance will look like. Within the research file, up to 95% of the respondents scored more than 50 points, with a single respondent scoring very low at 43,8 points. When we analysed this respondent in more depth, we noticed that this respondent scored less than 50 points in conscientiousness in each subdimension. Therefore, this manager does not excel in organisation, productivity, or responsibility. However, on the other hand, this is the only respondent in our research file.

In general, we can conclude that the standard deviation of conscientiousness has reached the level of 9.7 points, which can be considered to be a relatively large variability compared to the previous dimensions. However, in general, we can see that the mean values achieved by our research file in terms of productivity are at their highest level within all dimensions analysed, that is, 62.97 points. So far, it appears to us that productivity is the characteristic that unites them and most determines the success of project managers in their professional performance. However, it can also be noted that this is also true for athletes, since our project managers are also former elite athletes.

The third subdimension within the conscientiousness analysis represents another attribute that we assumed to be one of the main determinants predicting success in the performance of the managerial function, accountability. We consider accountability to be one of the essential traits that a good project manager should possess. We see this characteristic as a controlled, organised, proper, and ethical approach, whereby a responsible individual does not take things lightly and tries to do them right.

We can see that in our research file, 85% of the respondents rated themselves as responsible project managers. Only three respondents show lower levels of accountability, with scores below 40. However, for this dimension, we see the highest standard deviation, which is 11.13. We can also see that the mean values in terms of accountability are at the level of 60.745 points, which can be evaluated as one of the most important traits that responsible project managers should possess.

3.1.4. Neuroticism

Next, we will analyse neuroticism, which we consider to be a negative personality quality (**Table 6**). We will assume that successful project managers who have also been successful in sport will not exhibit strong neurotic values.

Table 6. Neuroticism.

Neuroticism			
	Anxiety	**Depression**	**Emotional experiencing**
Standard deviation	8.189396225	8.941452843	7.324371717
Mean	40.69	44.03	44.93

Source: Own processing.

The first subdimension within neuroticism is anxiety. Only 10% of the respondents exhibit anxiety and 90% of the respondents show good mental health in terms of anxiety. Therefore, two respondents have anxiety with a score of 57.1, which can be assessed as poor symptoms of this mental illness. We can see that the variability according to the standard deviation is at the level of 8.189 points, with moderately higher values in our research file. The mean achieved by project managers and at the same time former elite athletes in this dimension is at the level of 40.69 points, so it is a lower incidence of anxiety, or its weak or complete absence. We evaluate this positively. People with anxiety could not be successful, and those who are successful will not suffer from anxiety. Therefore, we can conclude that successful project managers do not suffer from anxiety, given the results obtained.

The second subdimension analysed in this category is depression. We have probably all encountered depression, and we know that it limits productivity, reduces energy, and overall represents a negative quality of a person. 80% of the respondents reported that they do not suffer from depression or depressive states. However, 20% of the participants show some degree of depression. We can see that a standard deviation of 8.94 was found in our research file, which can also be evaluated as moderate variability in the research file. The mean value measured among our project managers is 44.03, which can be considered a favourable result that indicates that successful athletes and managers do not suffer from depression.

Emotional experience represents the last subdimension within the category of neuroticism. We can also conclude that the lower the emotional experience scores managers will show, the more stable and balanced they can be described as, but this can sometimes make them appear as if they are insensitive. Personally, however, we agree that project managers should have a low or at least lower level of emotional experiencing so that they are not easily swayed by, for example, negative news. 85% of the respondents showed a lower level of emotional experience, and only the

remaining 15% responded in such a way that the values of emotional experience are above 50 points. The standard deviation shows a value of 7.3, so it is about a medium variability within the analysed subdimensions. We can also see the mean value, which is at 44.93 points. This implies that a lower level of emotional experience could be one of the traits that helps managers and athletes become successful.

3.1.5. Openness to experience

In the last analysis, we discuss the openness to experience in more detail (**Table 7**). There are three different subdimensions within this category, intellectual curiosity, aesthetic sensitivity, and creative imagination.

Table 7. Openness to experience.

Openness to experience			
	Intellectual curiosity	**Aesthetic sensitivity**	**Creative imagination**
Standard deviation	9.166832375	1.338284841	8.76827265
Mean	51.435	45.58	56.945

Source: Own processing.

Within the last dimension of the Big Five model, we analysed intellectual curiosity, aesthetic sensibility, and creative imagination. But for intellectual curiosity, we do not have a clear preponderance of whether project managers, former elite athletes, are intellectually curious or not. Therefore, we note that this subdimension does not represent a factor that determines success in the work of a project manager or elite athletes. The standard deviation is at the level of 9.16 points, while we also obtained the mean results, which indicate a value of 51.435. This suggests that our research file is inconsistent on this subdimension of intellectual curiosity, and thus we will not consider this personality quality as a determinant of success in the project manager's profession.

The second subdimension is aesthetic sensitivity, which shows that this is a heterogeneous research file in this context. Therefore, we note that this is not a factor that determines the success rate of project managers. The standard deviation is at the level of 9.16, but we can see the overall mean in the research file at 51.435, so we can say that this subdimension is balanced among project managers.

The aesthetic sensitivity is another subdimension in the analysis of openness. Most of the respondents scored less than 50, indicating reduced aesthetic sensitivity. Therefore, we conclude that it is not important whether an individual has an aesthetic sense in the context of successful performance as a project manager; it probably does not play any role. The standard deviation is at the level of 13.38, which can be described as the highest variability within the research file.

Creative imagination is another subdimension we focus on in our analysis. 75% of the respondents showed values greater than 50. Thus, we can conclude that creative imagination is not clearly represented in our research file and thus we cannot speak of a common personality quality. We can also analyse the standard deviation, which is at the level of 8.76, which represents a moderately higher variability within the achieved values. However, the mean is shown by the respondents at 56.945.

Productivity, accountability, and respect are the three subdimensions of the

personality traits analysed that have the highest mean values in our research file. Therefore, we can conclude that it is very important for individuals to possess these traits to achieve success, whether in a management profession or in sport.

3.1.6. Practical implications

Below we present practical implications of analysed traits within project management:

- Conscientiousness: This trait, which includes qualities like discipline, organisation, and accountability, directly correlates to a project manager's ability to create and adhere to structured plans, set and achieve goals, and maintain high levels of productivity. Project managers with a high degree of conscientiousness are likely to be efficient in resource allocation and time management, leading to smoother project execution.
- Extraversion: Extraversion in project managers is linked to effective communication, leadership, and team cohesion. Sociability and assertiveness enable project managers to facilitate collaboration, resolve conflicts, and motivate team members, all of which are vital for managing diverse stakeholders and ensuring project alignment.
- Agreeableness: Traits such as respect, trust, and compassion contribute to the ability to foster positive relationships within teams. A project manager who scores high in agreeableness can build strong interpersonal connections, making it easier to unify team members towards a shared goal and maintain a cooperative work environment.
- Neuroticism: Lower levels of neuroticism, which are associated with reduced anxiety and better stress management, contribute to a project manager's ability to remain calm under pressure. This stability is crucial when dealing with project risks and unexpected challenges, allowing for clear-headed decision-making.
- Openness to experience: Although it shows variability among project managers, openness to experience can be valuable for innovation and adaptability. Project managers open to new ideas and approaches can respond effectively to changing project requirements and encourage creativity within their teams.

These personality traits identified in the Big Five model offer a more comprehensive understanding of how elite athletes' characteristics can be practically applied in project management. They enhance key competencies such as discipline, resilience, teamwork, and leadership, contributing to professional success in managing projects effectively.

3.2. Structured interviews

Using structured interviews, we attempted to identify whether respondents acquired the personal determination of the Big Five model as important for the performance of the managerial profession or the elite sport due to their elite athlete career.

The project managers interviewed identified the traits listed below as the most important traits they have acquired as elite athletes, and at the same time, these are traits that are extremely important to the performance of their current profession as project manager.

- Discipline and ability to work in a team: Our respondents emphasise discipline and the ability to work in a team as key traits. This quality has helped them to create and follow plans, achieve goals, and work with the team to achieve common goals. In the context of the Big Five model, this quality can be associated with a conscientious attitude and openness to new experiences. Conscious individuals tend to be organised, consistent, and accountable, allowing them to keep plans and work effectively as part of a team. Openness to new experiences can also foster the ability to work as a team through the willingness to learn from others and contribute to a common goal.
- Ability to manage pressure and stress: All respondents, regardless of their previous profession, mention the importance of managing pressure and stress. This skill is essential for managing a team in challenging situations and for making quick decisions under pressure. Lower neuroticism could be associated with the ability to manage pressure and stress. Individuals with lower neuroticism tend to be more emotionally stable and less prone to anxiety and stress, allowing them to better manage difficult situations and make quick decisions under pressure. Therefore, the findings of these interviews also correlate with the results of the analysis using the Big Five model.
- Teamwork and collaboration: All respondents stress the importance of teamwork and collaboration. Their sports experiences have taught them to appreciate the contributions and perspectives of different people in a team and to work effectively with others. Extraversion can be related to the ability to communicate and work effectively in a team. Extraverted individuals tend to be socially engaged, communicative, and open to others, which promotes the formation of positive team relationships and effective collaboration. Thus, the identification of this quality correlates with previous findings in the context of the Big Five model.
- Communication skills: Strong communication skills also seem to be a key success factor for all respondents. These skills help them lead, motivate, and communicate effectively with their team, which is the basis for achieving common goals. Again, extraversion may be involved as a factor related to strong communication skills. Extraverted individuals tend to be expressive, talkative and good at building relationships, making them effective communicators and leaders in a team.
- Resilience and stress management: Elite athletes develop strong resilience and stress management skills due to their high-pressure environments. In project management, this translates to the ability to maintain composure, make decisions under pressure, and navigate project uncertainties effectively. A resilient project manager can sustain performance and morale during setbacks or challenging phases of a project.
- Goal orientation: The goal-oriented mindset of elite athletes fosters an approach of setting clear objectives and achieving them with discipline. This trait is crucial in project management for strategic planning, setting milestones, and maintaining focus on the project deliverables. Project managers who apply this mindset can ensure that the team stays aligned with the project's vision and objectives.
- Adaptability and Agility: Athletes often face dynamic environments that require

quick adaptation and continuous improvement. This translates to a project manager's ability to remain flexible in changing project conditions, adjust strategies as needed, and learn from both successes and failures. Adaptability is essential for navigating shifting client requirements, evolving market conditions, and unexpected challenges in a project's life cycle.

- Teamwork and leadership: Experience in team sports instills a sense of collaboration and leadership. Athletes understand how to work within a team, support others, and lead when necessary. These dynamics are directly applicable to project management, where effective teamwork, leadership, and the ability to foster a supportive team culture are essential for project success. The leadership traits athletes possess can inspire and drive teams towards achieving common goals.
- Discipline: The discipline required in an athlete's training and performance enhances a project manager's ability to plan and manage time effectively. Adhering to timelines, maintaining focus on tasks, and prioritising resources are key aspects of project management that benefit from disciplined practice.

By applying these traits, project managers can improve efficiency, productivity, and team motivation, which are all critical for achieving professional success in project management. These skills and characteristics support a project manager in effectively handling the complexities of a project while guiding their teams toward successful outcomes.

4. Discussion

The results indicate that project managers primarily exhibit high levels of conscientiousness, extraversion, and agreeableness, with 80% of respondents consistently demonstrating these traits. While most participants show high neuroticism, which can influence resilience under pressure, there is significant variability in conscientiousness and openness among them. Additionally, 90% of respondents consider themselves sociable, emphasizing the importance of interpersonal skills for success in project management.

The analysis of agreeableness reveals that while compassion does not appear to be a determinant of success for project managers, respect and trust show more positive correlations, with 85% of respondents scoring above 50 in both traits. In the conscientiousness dimension, project managers demonstrate strong organizational skills, productivity, and accountability, with 80% achieving over 50 points in organization and 95% in productivity, indicating these attributes are crucial for their success. The mean score for productivity is the highest among all dimensions analysed, suggesting it is a key factor for effective management. Additionally, accountability is identified as a critical trait for successful project managers, reflecting a responsible and ethical approach to their roles.

The results show that 85% of respondents consider themselves responsible project managers, with a mean accountability score of 60.745, indicating this trait is essential for success in their roles. In the neuroticism dimension, the majority of project managers exhibit low levels of anxiety and depression, with 90% demonstrating good mental health concerning anxiety and 80% reporting no

depressive symptoms. Additionally, 85% of respondents have a lower level of emotional experiencing, suggesting that emotional stability is a beneficial quality for effective project management.

The analysis of openness to experience reveals three subdimensions: intellectual curiosity, aesthetic sensitivity, and creative imagination, with mixed results indicating these traits do not significantly contribute to success as project managers. Specifically, the data shows that intellectual curiosity and aesthetic sensitivity are inconsistently represented among respondents, suggesting they are not critical determinants for effective project management. Conversely, creative imagination is somewhat more prevalent, with 75% of participants scoring above 50; however, the variability indicates that it is not universally present in this cohort.

Thus, in the context of the Big Five model, we can see how the different traits of successful managers relate to different aspects of their personality. And how these aspects contribute to their success as project managers, with the qualities that are built up in them in relation to their success in elite sport. Therefore, we can add that based on the above information from the structured interviews, we can see that the respondents' answers were unambiguous and thus that their current personality traits, especially extraversion, conscientiousness, and agreeableness, were determined by their sporting careers. They reported that this was due to the need for teamwork, that is, trust in their teammates, having learnt to lead teams in team sports, communicating with teammates, coaches, etc. Respondents stated that they strived to achieve goals, i.e., win games, which they ultimately use in their work as project managers.

4.1. Comparison of research results with available data

The comparison of our findings with other available data presents significant challenges. As previously mentioned, there is a notable absence of scientifically validated data in the form of academic articles or studies that specifically focus on the correlation between the personalities of elite athletes and project managers. Within this context, our results stand out as unique, and we see great potential for further exploration of this topic (see Chapter 5.1, Future Directions).

The topic of correlating the personalities of elite athletes and project managers remains largely under-researched. Consequently, the ability to compare our findings is restricted to a limited set of existing data. Despite this limitation, it is worth noting that a growing trend among large international corporations, particularly in their HR strategies, is to harness the potential of former elite athletes by placing them in managerial and top executive roles. This emerging trend is documented in various studies, including those by Klitschko and Bilen (2018), who examine the transition from athletic careers to leadership positions, and Knights et al. (2019), who explore the unique skills athletes bring to corporate roles.

Moreover, Gardner and Love (2023) investigate the transition from sports management education to professional employment, providing insights into how skills developed in sports can be effectively translated into business environments.

These works suggest that elite athletes possess a skill set that is increasingly valued in the business sector, particularly in roles that require leadership, discipline, resilience, and a high-performance mindset—all traits that align closely with the

competencies required of successful project managers.

Bedrnová et al. (2012) point out some common specific qualities that managers should possess in the context of personality analysis. They mention uniqueness, wholeness and unity, adaptation and development, and relative constancy. These characteristics make it possible to predict an individual's behaviour in different situations.

Thus, we can conclude that this quality of personality of the manager indicates his psychological stability, which is related to a low level of neuroticism. Considering the results obtained from our research, we can see the intersection of theoretical and practical information presented in our paper. Higher managerial positions, which require more communication and cooperation, are better suited for extroverts (Váchal and Vochozka, 2013). In comparison with this theoretical claim, we can again state that we were able to verify the literature information as true, as we confirmed it with our research, where successful project managers evaluated themselves as extroverts through the Big Five model.

According to Hančovská (2013), managers find themselves every day in situations that cause unpleasant tension, fatigue, dissimilarity, and irritation. These experiences can lead to a decrease in mental and physical performance (Ionut, 2024). Managers often have to mobilise their resources to cope with these challenges. Their performance and efficiency are also often affected by maladaptive psychological states such as psychological distress, frustration, and stress. Again, we can note that it is important for managers to have low levels of neuroticism, making them more stable and mentally resilient. This was also confirmed in our research using the Big Five model.

Allen et al. (2013), among others, examined the differences between athletes competing at the elite level (that is, national and international competitions) and athletes competing at a lower level (that is, university or club competitions) and found that elite athletes competing at the elite level had lower neuroticism scores and higher conscientiousness and agreeableness scores. Again, we note that our managers, who were formerly elite athletes, scored lower in neuroticism and higher in agreeableness and conscientiousness according to the Big Five model as individuals with lower neuroticism and higher agreeableness and conscientiousness scores.

In addition to the studies mentioned above, several other articles and research papers also explore the relationship between personality traits and managerial success, especially in relation to background in elite sports. For example, Weinberg and Gould (2023) discuss the psychological characteristics of peak performance in sports and how these traits are translated into the business world, emphasising resilience and mental toughness. Additionally, Kaiser and Kaplan (2006) explore how leadership qualities in sports can inform executive leadership, focussing on traits such as decisiveness and strategic thinking. Lastly, Clough et al. (2002) examine mental toughness in sport and business, showing how traits such as confidence, control, and commitment are crucial for success in both arenas. These studies reinforce the idea that the personality traits developed through elite sports significantly contribute to the effectiveness of managers in their professional roles.

Given this trend, our study contributes to the understanding of the potential alignment between the characteristics of elite athletes and project managers. The

findings of our research can serve as a foundation for further investigation into the potential benefits and strategies for integrating former athletes into project management and leadership roles within organisations. This could ultimately contribute to more comprehensive HR strategies, recognising the transferable skills of elite athletes and their impact on professional success.

4.2. Comparison of research results with big five model available data

In our research, we utilised the Big Five model as a framework for data collection and analysis. This model, which categorises personality traits into five dimensions—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—enabled us to examine the underlying connections between the traits of elite athletes and project managers comprehensively. Below, we summarise our findings to demonstrate the correlation between these two personality profiles, fully confirming our formulated Assumption A.

The correlation we found between the personality traits of athletes and project managers according to the Big Five model, subjected to further examination using structured interviews, shows that some key traits are common to both groups and contribute to their success in their respective fields. The following research suggests, and our study unequivocally demonstrated, that athletes and project managers have similar profiles in the following dimensions.

- Extraversion: Both athletes and project managers often exhibit high levels of extraversion. For athletes, social interaction, energy, and assertiveness are important, helping them in team sports and competitions. Project managers must be communicative, motivating, and capable of effectively leading teams. Athletes use extraversion to motivate themselves and others, handle competitive environments, and maintain high energy levels. These skills are essential for project managers to lead teams, maintain stakeholder relationships, and drive project momentum. According to research by Allen et al. (2013), athletes have a high extraversion, which helps them in their sport careers. Similarly, Váchal and Vochozka (2013) found that higher managerial positions require more communication and collaboration, which is suitable for extroverts.
- Conscientiousness: High levels of conscientiousness are common to both athletes and project managers. This trait includes discipline, organisation, diligence, and a strong work ethic. Athletes often have to follow strict training schedules and aim for specific results. They demonstrate high conscientiousness through their adherence to strategic plans, and commitment to improvement - qualities directly transferrable to project planning, risk management, and deadline adherence in project management. Project managers need these traits to plan, coordinate, and managing projects..Allen et al. (2013) found that elite athletes have greater conscientiousness. Bedrnová et al. (2012) emphasise the importance of conscientiousness for managers in the context of their ability to predict and manage behaviour in different situations.
- Emotional stability (opposite of Neuroticism): Lower levels of neuroticism correlate with higher emotional stability, an important factor for both athletes and

project managers. The ability to handle stress, stay focused under pressure, and maintain composure in high-stakes situations is crucial for optimal performance in sports as well as in project leadership roles. This trait is crucial for performance in highly competitive environments and for effectively managing project risks and challenges. Hančovská (2013) emphasizes the importance of low levels of neuroticism for managers to be mentally resilient and stable. Allen et al. (2013) found that elite athletes have lower neuroticism, which contributes to their success.

- Agreeableness: This trait includes the ability to cooperate, empathise, and trust. Both elite athletes and project managers benefit from high agreeableness, which includes cooperation, trust, and effective teamwork. While athletes often rely on strong teamwork and supportive interpersonal dynamics in team sports, project managers need similar skills to facilitate collaboration, resolve conflicts, and maintain positive team environments. Allen et al. (2013) found that elite athletes have higher agreeability. Similarly, Bedrnová et al. (2012) cite agreeability as a key trait for successful managers.
- Openness to experience: This trait involves creativity, flexibility, and a willingness to try new things. Athletes engaged in more strategic and creative sports may exhibit higher levels of openness. Project managers need this trait for innovative thinking and adapting to changes. While this trait varies across individuals, successful athletes and project managers who score high on openness tend to embrace new challenges, exhibit creativity, and adapt quickly to changing environments. This flexibility and openness to learning are vital in complex project scenarios that require innovation and adaptability. Weinberg and Gould (2023) show that athletes with higher openness tend to be more successful due to their ability to adapt and innovate.

We can conclude that successful project managers who were also elite athletes possess personality qualities that can be identified as positive determinants of success in sports or professional careers. Among these qualities, we were able to include low levels of neuroticism and, conversely, high levels of conscientiousness. It is clear that only a person who follows regular training and a proper lifestyle within the sport can perform better than someone else who does not have a high level of conscientiousness and may skip training regularly or not pay as much attention to getting enough sleep and eating properly. In the context of project managers, we explain conscientiousness in terms of planning, organising tasks, and meeting set goals. Given that organisation and planning are essential functions of managers, it is imperative that individuals possess this quality of personality.

Within the results arising from structured interviews, we found that through sport, individuals can develop several positive personality qualities in the context of the Big Five model to use in the project management function. These are mainly extraversion, conscientiousness, and agreeability. Our research highlighted lower levels of neuroticism in successful project managers who are also former elite athletes. Although our respondents did not mention in personal interviews that sport helped them reduce neuroticism, our results from the Big Five model indicate this trend. We also understand sports as a way to relieve stress levels and reduce negative psychological states. However, more research needs to be done in this area to verify

whether athletes can become less neurotic, which can help them in their managerial roles.

In addition, extraversion is another key trait that appears to be shared by both successful athletes and project managers. Athletes, especially those involved in team sports, often develop strong social skills, energy, and assertiveness. These qualities are directly translatable to the role of a project manager, where effective communication, team leadership, and motivation are crucial. For example, athletes accustomed to leading a team on the field can transition these leadership skills into managing a team in a corporate setting. This aspect was also confirmed by Allen et al. (2013), who found that high levels of extraversion in athletes contribute significantly to their sports performance, a quality that is equally beneficial for project managers as indicated in Váchal and Vochozka (2013).

Agreeableness, characterised by the ability to cooperate, empathise and build trust, is another trait that stands out in both groups. Athletes, especially those who play team sports, must work closely with teammates and coaches, fostering a sense of empathy and trust. These interpersonal skills are invaluable in project management, where resolving conflicts, fostering a collaborative work environment, and maintaining positive team dynamics are essential for success. Allen et al. (2013) found that elite athletes often exhibit higher levels of agreeability, a trait that Bedrnová et al. (2012) also identified as crucial for effective management.

Although the correlations are clear, it is important to acknowledge that not every athlete will naturally be a great manager. The transition requires the development of specific management skills and, more importantly, an educational or training background that will support this career change. Future research should mainly focus on identifying the most effective ways to bridge the gap between athletic and managerial competencies, most likely through focused educational programmes or mentoring. These programmes could leverage athletes' unique skills and experiences, helping them effectively transition into project management roles.

Furthermore, considering the importance of low neuroticism in successful project management, further investigation of how athletic training influences emotional stability could provide valuable information. For example, exploring whether the stress-relief mechanisms inherent in sports can be adapted into stress management techniques for managers could be beneficial.

However, despite these promising insights and the evidence supporting our Assumption A, we face limitations when it comes to comparing our findings with existing research in project management. As outlined previously, there is a scarcity of scientifically validated data focusing on the intersection of personality traits in elite sports and project management. This lack of relevant and comparable studies restricts our ability to conduct a deeper analysis or make broader comparisons.

The limited availability of data highlights a gap in current research, suggesting a need for further exploration in this area. More extensive research into how the Big Five traits manifest specifically within project management and how they interact with other factors such as organisational culture, team dynamics, and project complexity would enable a more refined understanding of the transferable skills between elite sports and project leadership. By filling this gap, future studies could better delineate the shared characteristics of high-performing individuals in these fields and offer

clearer pathways for the development of effective project managers drawing on principles from elite athletic performance.

5. Conclusion

The research conducted has highlighted that project managers with a background as elite athletes share distinct personality traits, such as high levels of conscientiousness, extraversion, and agreeableness, that contribute to their success in both sports and project management roles. These traits, as measured by the Big Five Inventory-2 and supplemented by structured interviews, are directly transferrable from an athletic to a managerial context. The findings suggest that competencies like discipline, teamwork, and effective stress management, honed through elite sports, are beneficial in managing projects and leading teams.

Moreover, the variability in conscientiousness and openness indicates that while these traits are common among elite athlete project managers, their expression is influenced by individual backgrounds and experiences. The practical implications of these results recommend that organisations consider recruiting former athletes into managerial positions and support their transition through targeted training and development programs.

In conclusion, the study provides a nuanced understanding of how skills developed through elite sports can be leveraged to enhance performance in project management, demonstrating a unique intersection between the realms of sports and business.

Future directions

Based on the research's findings, future research and development in the field of identifying and transferring the traits of elite athletes into project management can pursue several key directions.

One area ripe for further exploration is the long-term impact of these traits on project outcomes. While presented paper highlights how traits like resilience, goal orientation, and teamwork positively influence project management, it would be valuable to examine how these skills evolve over time in a professional context. A longitudinal study could track how former athletes adapt their sports-acquired skills to different phases of their project management careers. Moreover, further research could assess how certain skills are transferrable across different industries, project sizes, or cultures, examining whether the athletic background provides a universal advantage or if it is context-dependent.

Another potential direction is exploring the intersection between the Big Five personality traits and emotional intelligence (EI). While the current research discusses the impact of traits like extraversion, agreeableness, and emotional stability, the role of emotional intelligence could provide deeper insights into how athletes' abilities to understand and regulate emotions contribute to their leadership and teamwork skills in project management. Since emotional intelligence is crucial for motivating teams, managing conflict, and leading under pressure, research could focus on mental conditioning techniques used by athletes and their potential application in project leadership.

Given the unique traits identified in elite athletes that translate effectively into project management, organisations could develop targeted training programs that focus on honing these skills. Future research can investigate best practices for integrating athletic-style coaching and leadership development into corporate training programs. This could include simulations, goal-setting exercises, and stress-management workshops based on athletic training principles. Such programs could be tested for effectiveness in enhancing the productivity, performance, and well-being of project managers.

The article mentions the traits that contribute to success in both sports and project management, yet it would be valuable to explore whether these traits manifest or are applied differently across genders. As project management and sports have historically been male-dominated, future research could examine how female athletes' traits and leadership styles contribute to their effectiveness in project roles. This analysis could offer a broader understanding of diverse leadership styles and their impact on team dynamics and project outcomes.

Additionally, future research could explore how different types of sports – individual vs. team sports, high-intensity vs. endurance sports – cultivate different traits that may influence the style and success of project management. For instance, an athlete from a team sport like football may bring strong collaboration skills, while an individual sportsperson like a marathon runner may contribute higher levels of self-discipline and perseverance. By understanding the nuanced differences between various athletic backgrounds, organisations can better match project managers with projects that align with their strengths.

With the rise of data analytics in sports performance, another area of interest is the integration of technology and data-driven decision-making in project management. Research could focus on how skills developed through sports analytics – such as real-time decision-making, performance tracking, and feedback loops – can be applied to managing complex projects. The use of technology in monitoring performance and guiding team strategy in sports can inspire new methodologies in project planning, execution, and evaluation.

In summary, the future development of this research can provide deeper insights into how athletic traits influence project management, develop comprehensive training programs, and explore the implications of these traits across different demographics, industries, and technological advancements. This would contribute to a more nuanced understanding of how skills honed through elite sports can be harnessed effectively within a professional project management setting.

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