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Exploring Entrepreneurial Intention among Students in the Academic Sports Domain: A Multifaceted Examination

Valentina ŞTEFĂNICĂ [1]
Raul Ioan MUNTEAN [2*]
Daniel ROŞU [3]
Vasile Emil URSU [4]
Gina GOGEAN GROZA [5]
Gheorghe Cristian DRAGOŞ [6]

[1] Department of Physical Education and Sport, Faculty of Sciences, Physical Education and Informatics, National University of Science and Technology Politehnica Bucharest, Pitesti University Center, Pitesti 110040, Romania; valentina.stefanica@upb.ro; https://orcid.org/0000-0003-4031-1412
[2*] Department of Physical Education and Sport, Faculty of Law and Social Sciences, University "1 Decembrie 1918" of Alba Iulia, Alba Iulia 510009, Romania; muntean.raul@uab.ro; https://orcid.org/0000-0003-4615-6687
[3] Department of Physical Education and Sport, Faculty of Sciences, Physical Education and Informatics, National University of Science and Technology Politehnica Bucharest, Pitesti University Center, Pitesti 110040, Romania; daniel.rosu@upb.ro; https://orcid.org/0009-0005-2701-7501
[4] Department of Physical Education and Sport, Faculty of Law and Social Sciences, University "1 Decembrie 1918" of Alba Iulia, Alba Iulia 510009, Romania; vasile.ursu@uab.ro; https://orcid.org/0000-0003-2805-031X
[5] Department of Physical Education and Sport, Faculty of Law and Social Sciences, University "1 Decembrie 1918" of Alba Iulia, Alba Iulia 510009, Romania; gina.gogean@uab.ro;
[6*] Doctoral student, Doctoral Program in Marketing, Bucharest University Of Economic Studies, Piaţa Romană 6, Bucureşti 010374, Romania; ghcristian@gmail.com; https://orcid.org/0009-0008-1863-9757
*Correspondence authors: muntean.raul@uab.ro , ghcristian@gmail.com

Abstract: *It is imperative to comprehend the determinants shaping entrepreneurial intent, especially during pivotal junctures when individuals are navigating career decisions. This research endeavors to scrutinize the entrepreneurial intent of university students, with a specific focus on the sports domain, and examine the potential impact of their involvement in sports activities on said entrepreneurial intent. The participants comprised 415 students from the academic sports domain in four cities in Romania (Pitesti, Alba-Iulia, Cluj-Napoca, and Sibiu). They were administered a 35-item questionnaire and subsequently categorized into four groups based on their sports background: individuals and team sports participants with a competitive history, amateur athletes, and non-practitioners. The questionnaire demonstrated strong internal consistency (Cronbach's alpha coefficient = 0.755). A test of homogeneity across criteria such as competitive sports involvement, type of competitive sports, and engagement in amateur sports revealed significant differences in five out of 45 comparisons. Furthermore, this study employs an explanatory approach to elucidate the distinctions among athletes, amateur, and non-athlete students in academic sports programs regarding: comfort and security in workplace stability, embracing risk-taking for gains, proactive problem-solving, expectations from superiors, work ethic and goal orientation, workload and productivity relationship, task completion and challenge acceptance, work avoidance and problem management, work-life balance prioritization, openness to personal development, parallels between sports and business strategies, taking initiative and responsibility, entrepreneurial determination, comfort zone preference and adaptation after sports career.*

Keywords: *entrepreneurship, athlete entrepreneur, amateur entrepreneur, non-athlete, sports entrepreneurship, professional careers, education.*

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Introduction

Sports entrepreneurship has garnered considerable attention as an appealing and sustainable pursuit among many young individuals, owing to the diverse array of sports markets and its significant societal role (Neck et al., 2023; Ratten, 2018). The sports industry encompasses a wide range of domains, including training, recreation, leisure, tourism, physical rehabilitation, and others, offering opportunities for both independent entrepreneurship and employment within these sectors (Amzar & Stefanica, 2017; Moroianu & Rusu, 2023). In the realm of sports, as in any other industry, startups often face a significant risk of failure due to a multitude of factors. One such factor lies in the misalignment between students' perceptions of entrepreneurship and their true abilities. Understanding the broader landscape of startup failures, as highlighted by Eisenmann (2021), is essential before delving into this discrepancy.

Failure within the startup ecosystem can be attributed to factors like insufficient funding, ineffective resource allocation, an inadequate grasp of market dynamics or customer demands, and fierce market competition (Cantamessa et al., 2018; Neacsu et al., 2023). Nevertheless, an understated yet crucial aspect pertains to how students envisage their competencies and potentials vis-à-vis reality as prospective entrepreneurs (Boyd et al., 2021; Rusu et al., 2022; Ramos et al., 2022).

The viewpoints, outlooks, and cognitive mechanisms of students regarding entrepreneurship wield significant sway over the triumph or downfall of a startup. Elements such as risk tolerance, adeptness in problem-solving, ingenuity, and resilience play pivotal roles (Hägg & Jones, 2021).

Frequently, there is a disjunction between students' perceived entrepreneurial prowess and their actual capabilities. Many youthful aspirants harbor visions of swift success and acclaim in the entrepreneurial sphere, yet they undervalue the hurdles and adversities they may encounter en route. For instance, an enthusiastic student may harbor the belief that their business concept is ingenious and will instantly gain traction in the market. However, in practice, they might realize that the market is not primed for their offering, that analogous solutions already exist, or that substantial adaptations are necessary to cater to genuine customer needs (Burns, 2022).

To narrow the chasm between perception and reality in entrepreneurship, furnishing students with a robust education in business and entrepreneurship is imperative (Bajçinca-Brestovci et al., 2023; Cipu & Dragnea, 2007). This could encompass mentorship schemes, internships,

collaborative projects, and specialized coursework where students are exposed to authentic entrepreneurial quandaries and opportunities.

Furthermore, nurturing competencies like critical thinking, problem-solving, and adaptability is indispensable to equipping students for the rigors of the business realm (Lounsbury et al., 2009). By investing in the entrepreneurial education and grooming of young individuals, we can contribute to mitigating the failure rate in startups and fostering enduring entrepreneurial triumph (Jones & Jones, 2014; Roș u, 2022).

Certain specialists advocate the notion that certain genetic facets may predispose certain individuals to entrepreneurship while others abstain (Shane & Nicolaou, 2013). However, the contention that specific environmental factors, be they economic or socio-cultural, could influence an individual's inclination and decision to pursue entrepreneurship has garnered increasing support (Singh et al., 2018). Indeed, some inquiries have lent credence to the notion that the psychological attributes linked to entrepreneurship can be culturally cultivated (González-Serrano et al., 2018; Iordache et al., 2010). Others have scrutinized the significance of certain moderating variables, such as gender, unearthing a persistent divergence between male and female individuals regarding their levels of entrepreneurial engagement, entrepreneurial proclivity, motivation, and aspirations for entrepreneurship (Dheer et al., 2019). Diverse investigations conducted in the realm of business inception suggest that individual disparities serve as the primary impetus for some individuals' active involvement in establishing their own enterprises while others desist (Dörnyei & Skehan, 2003; Narayanasamy et al., 2011).

This underscores the pivotal role played by entrepreneurship education in guiding and nurturing prospective entrepreneurs, furnishing them with the requisite amalgam of knowledge, skills, and disposition to inaugurate and oversee novel business ventures (Kurczewska & Mackiewicz, 2020). Education assumes a pivotal role in cultivating enterprising citizens by unearthing and eliciting vocations in individuals, fostering entrepreneurial mindsets and competencies, and inciting entrepreneurial intentions and conduct. In this vein, education and training grounded in robust pedagogical principles can contribute to augmented managerial acumen and the cultivation of psychological attributes associated with entrepreneurship (Lee et al., 2006; da Costa et al., 2023).

Purpose of the research

The primary aim of this study is to analyze the entrepreneurial intention of higher education students, particularly those in the field of

sports, and to investigate whether this intention is influenced by their engagement in sports (Arikatla & Gregorich, 2021). By elucidating these dynamics, the findings contribute to the development of tailored entrepreneurial programs, underscoring the importance of comprehending the diverse factors shaping entrepreneurial attitudes and perceptions among students in sports academic programs (Zhao et al., 2010).

The research objectives include:

1. Development of an opinion questionnaire aimed at capturing the nuances of entrepreneurial attitudes and tendencies among students in the field of sports.
2. Analysis of internal consistency: this involves calculating and interpreting the Cronbach's alpha coefficient to assess the internal consistency of questionnaire elements measuring entrepreneurial attitudes.
3. Assessment of the impact of sports engagement: this involves evaluating the influence of different types of sports engagement (intensive individual sports, intensive team sports, amateur sports, and non-athletes) on students' entrepreneurial perspectives using the Chi-Square test of homogeneity.
4. Conducting comparative analysis: this objective focuses on making comparisons using descriptive statistics and chi-square tests to identify significant differences in entrepreneurial behaviors based on sports engagement.
5. Providing implications for future research: this objective involves discussing study limitations and proposing directions for future research to understand the interaction between sports engagement and entrepreneurial attitudes.

Material and methods

Subjects

To comprehensively explore entrepreneurial attitudes, transition perspectives, and challenges, we collected data through online questionnaires from a sample of 415 Romanian university students (54.9% men; 45.1% women; mean age of men: 23.97; mean age of women: 22.51) across four universities in four different counties of Romania. We used a conventional sampling approach, taking into account students involved in sports-related fields, as well as their entrepreneurial intentions, interests, and accessibility.

This approach aimed to ensure that the results obtained from the study were both representative and relevant to the target population. Personal consent, in accordance with the principles established in the Declaration of Helsinki, was mandatory and obtained prior to the initiation of the study. Approval for this research was granted by the Ethics Committee of the Doctoral School of Physical Education and Sport Science (ID: 07/4.09.2023), University of Politehnica Bucharest, University Center Pitesti, Romania.

The distribution of participants by gender and type of sports activity is presented in Table 1.

Table 1: *Demographic Characteristics and Activity Types of Survey Participants*

Gender	Activity Type	Frequencies	%	Total
M 54.9%	High-Performance Individual Sport	52	22.8	228 100%
	High-Performance Team Sport	81	35.5	
	Amateurs (1 year of practice, non-competitive)	61	26.7	
	Non-practitioners of sports	34	14.9	
F 45.1%	High-Performance Individual Sport	39	20.8	187 100%
	High-Performance Team Sport	26	13.9	
	Amateurs (1 year of practice, non-competitive)	46	24.5	
	Non-practitioners of sports	76	40.6	
		Total		415

Dataset and Analysis Techniques

The research intervention unfolded across four stages, aligning with the first semester of the academic year 2023-2024 and spanning 14 weeks. This timeline alignment ensured a well-organized and comprehensive exploration of the interplay between sports backgrounds and entrepreneurial perspectives among the study participants.

Stage I: Literature Review (October 2023):

During this stage, an extensive bibliographic study of specialized literature was conducted. Utilizing platforms such as Google Scholar, a thorough theoretical approach was undertaken to assimilate existing knowledge, frameworks, and relevant theories regarding the intersection of sports backgrounds and entrepreneurial intentions and perspectives.

Stage II: Questionnaire Development (November 2023):

In the second stage, three focus groups were organized to engage with the practical realities. The questionnaire development was based on insights gathered from these focus groups, which included specialists, researchers, and lecturers in higher education specializing in the area of entrepreneurship. (focus group 1), sports-oriented non-governmental organizations (NGOs) (focus group 2), and representatives from student associations (focus group 3).

Stage III: Sociological Case Study (December 2023):

The core of the research involved the execution of a sociological case study. Using Google Forms to administer a detailed questionnaire, the survey method was employed to collect primary data, providing insights into the entrepreneurial attitudes and perspectives of students with diverse sports backgrounds. This stage aimed to capture nuanced information about the participants' experiences and insights.

Stage IV: Statistical Analysis (January 2024)

The data obtained from the responses to the questionnaire underwent analysis using the SPSS Statistics 20 Core System (Rode & Ringel, 2019). To assess the internal consistency of the questionnaire items, the Cronbach's alpha coefficient (α) was utilized, examining the proportion of common variance among all items reflected in the total score (Koning & Franses, 2006). The present research aimed to maximize response options using a Likert scale with five response items, ranging from the smallest extent (1) to the very great extent (5).

Measures

The questionnaire consisted of a total of 35 questions, which were divided into two parts:

1. Characterization of the sample, comprising 5 questions; and
2. Analysis of entrepreneurial intention, consisting of 30 questions.

The consistency of the items ranges between 0.732 (Item 9) and 0.753 (Item 14). The average Cronbach's alpha result is 0.755, indicating, based on the interpretation scale (Ercan et al., 2007), good consistency of the questionnaire items (result between 0.7 and 0.9).

The correlations between the questionnaire items are relatively low, with the highest value observed between item 4 and item 6 being 0.443, suggesting that the questions addressed different issues and the responses exhibit limited similarity.

These findings collectively establish a robust foundation for comprehensively understanding the study variables. The level of consistency revealed by Cronbach's alpha aligns with, and even surpasses, the

benchmarks set by previous authors (Koning & Franses, 2006), emphasizing the questionnaire's reliability and efficacy.

The Chi-Square test for homogeneity (Johnson et al., 2015) was conducted on 35 items across four criteria: competitive sports background versus the rest of the group, high-performance individual sports background versus high-performance team sports background, and amateur sports versus non-practitioners of sports. Out of the 45 performed comparisons, five revealed statistically significant differences ($p<0.05$), offering valuable insights relevant to the entrepreneurial perspective based on participants' sports backgrounds. The outcomes were scientifically interpreted to derive meaningful conclusions, effectively addressing the research objectives.

Results

Within the analysis, several items show no statistically significant differences across diverse categories. We have grouped and summarized these items for enhanced clarity in Table 2.

The checkmarks indicate that the differences in responses across athletic engagement, competition type, and non-competitive engagement were not statistically significant ($p > 0.05$).

Table 2. *Overview of Items with Non-Significant Differences*

Item	Aspect Considered	Athletic Engagement (p>0.05)	Competition Type (p>0.05)	Non-Competitive Engagement (p>0.05)
Item 2	**Comfort and Security in Workplace Stability**	✓	✓	✓
Item 3	**Embracing Risk-Taking for Gains**	✓	✓	✓
Item 4	**Proactive Problem-Solving**	✓	✓	✓
Item 5	**Expectations from Superiors**	✓	✓	✓
Item 6	**Work Ethic and Goal Orientation**	✓	✓	✓
Item 7	**Workload and Productivity Relationship**	✓	✓	✓
Item 8	**Task Completion and Challenge Acceptance**	✓	✓	✓
Item 9	**Work Avoidance and Problem Management**	✓	✓	✓
Item 11	**Work-Life Balance Prioritization**	✓	✓	✓
Item 12	**Openness to Personal Development**	✓	✓	✓
Item 15	**Parallels Between Sports and Business Strategies**	✓[1]	✓[2]	✓[3]

[1]No statistically significant difference between sportive and non-sportive individuals, including amateurs (p>0.05).
[2]No statistically significant difference between individual and team sports (p>0.05).
[3]No statistically significant difference between amateurs and non-sportive individuals (p>0.05).

Table 3 offers an intricate Chi-square analysis for Item 1, concentrating on the theme "Taking Initiative and Responsibility." The table delves into the relationships between various categories, including sports involvement, competitive nature, and non-competitive engagement.

Table 3. *Chi-square Analysis for Item 1: "Taking Initiative and Responsibility."*

Nr crt	Item 1/Criterion	Compared Categories	χ2 Value	df	Significance (2 sides)	p-value
1	Athletic Engagement	High-performance vs. Non-competitive sports (incl. non-sport)	12.134	4	.016	**p<0.05**
2	Competition type	High-performance Individual Sports vs. High-performance Team Sports	3.014	4	.555	p>0.05
3	Non-competitive engagement	Amateurs vs. non-sportive individuals	4.491	4	.344	p>0.05

Table 4. Chi-square Analysis of Item 10: *"Entrepreneurial Determination"*

Nr crt	Item 10/Criterion	Compared Categories	χ2 Value	df	Significance (2 sides)	p-value
1	Athletic Engagement	High-performance vs. Non-competitive sports (incl. non-sport)	9.975	4	.041	**p<0,05**
2	Competition type	High-performance Individual Sports vs. High-performance Team Sports	6.454	4	.168	p>0,05
3	Non-competitive engagement	Amateurs vs. non-sportive individuals	11.827	4	.019	**p<0,05**

Table 5. Chi-square Analysis of Item 13: *"Comfort Zone Preference"*

Nr crt	Item 13/Criterion	Compared Categories	χ2 Value	df	Significance (2 sides)	p-value
1	Athletic Engagement	High-performance vs. Non-competitive sports (incl. non-sport)	11.396	4	.022	**p<0,05**
2	Competition type	High-performance Individual Sports vs. High-performance Team Sports	2.428	4	.658	p>0,05
3	Non-competitive engagement	Amateurs vs. non-sportive individuals	4.093	4	.394	p>0,05

Table 6. Chi-square Analysis of Item 14: *"Adaptation After Sports Career"*

Nr crt	Item 14/Criterion	Compared Categories	χ2 Value	df	Significance (2 sides)	p-value
1	Athletic Engagement	High-performance vs. Non-competitive sports (incl. non-sport)	13.376	4	.010	**p<0,05**
2	Competition type	High-performance Individual Sports vs. High-performance Team Sports	2.803	3	.423	p>0,05
3	Non-competitive engagement	Amateurs vs. non-sportive individuals	5.462	4	.243	p>0,05

Discussion and Interpretation

The outcomes of the Chi-Square Test of Homogeneity reveal a substantial distinction among the groups of athletes, amateur sports enthusiasts, and non-athletes concerning various aspects, including taking initiative and responsibility, entrepreneurial determination, comfort zone preference, and adaptation after sports career assumption. These findings demonstrate a significant difference.

Unexpectedly, the comprehensive analysis presented in Table 2, which encompasses various factors such as comfort and security in workplace stability, embracing risk-taking for gains, proactive problem-solving, expectations from superiors, work ethics and goal orientation, workload and productivity relationships, task completion and challenge acceptance, work avoidance and problem management, work-life balance prioritization, openness to personal development, and parallels between sports and business strategies, did not reveal statistically significant findings.

The meticulous examination of these items concludes that no statistically significant differences exist between categories ($p > 0.05$), suggesting a parallel spectrum of entrepreneurial intention among both athletes and non-athletes. This indicates a uniformity in the perception of work-related values and priorities across the studied cohorts, irrespective of their athletic background.

Similarly, Aries et al. (2004) carried out a longitudinal study that involved the comparison of student-athletes and non-athletes over a four-year period. Despite student-athletes exhibiting lower academic credentials and self-assessments compared to non-athletes, their academic performance remained consistent with expectations based on their entering profiles. Athletes outperformed non-athletes in sociability/extraversion, self-reported well-being, and personal growth throughout the study.

The examination of responses to Item 1 (Table 3) reveals distinct entrepreneurial perspectives within the athlete and non-athlete cohorts. The statistical scrutiny exposes a significant disparity between high-performance athletes and non-athletes. Despite both groups predominantly endorsing responses categorized as "to a great extent" (51.5% for athletes and 55.5% for non-athletes), notable differences emerge in the proportions of "neutral" responses (6% for athletes and 12% for non-athletes) and "to a very great extent" responses (40.9% for athletes compared to 26.7% for non-athletes). The observed statistical significance indicates that competitive athletes exhibit a notably higher conviction than their non-athlete counterparts concerning the assumption of responsibilities and taking initiative.

Factors underpinning athletes' elevated engagement include discipline, resilience, determination, teamwork, leadership skills, and a structured training regimen. These qualities acquired through sports translate well into the entrepreneurial realm. In their study, Steinbrink et al. (2020) conducted an examination that encompassed the measurement and analysis of the big five personality traits and risk propensity among non-athletes, athletes engaged in low-risk sports, and top athletes involved in high-risk sports. The outcomes of the study revealed a correlation between the personality traits exhibited by top athletes and those commonly associated with entrepreneurial intention and success.

Examining responses to Item 10 (Table 4) yields insightful perspectives on entrepreneurial determination across diverse groups. Competitive athletes showcase a heightened determination, with a significant proportion (39.4%) strongly endorsing the statement "to a very great extent." In contrast, amateurs and nonsport individuals exhibit a lower level of determination, with only 28.6% expressing a similar level of commitment. The statistical significance ($p < 0.05$) emphasizes the robustness of these differences. Competitive athletes, recognized for their discipline, goal orientation, and resilience, demonstrate an elevated determination to pursue entrepreneurial ventures. The structured nature of competitive sports appears to instill qualities that seamlessly transfer into the entrepreneurial realm. Łubianka & Filipiak (2022) embarked on a study aiming to delve into the intricate interplay of personality foundations shaping value preferences among young individuals in Poland, with a specific focus on both athletes and non-athletes. The outcomes of the study uncovered noteworthy and distinctive patterns within personality traits, locus of control, and value preferences. These patterns underscored the profound impact of athletic engagement on shaping specific facets of individuals' personalities and influencing their orientations toward core values.

Another statistically significant difference emerges between the responses of amateurs and nonsport individuals. Amateurs exhibit a higher determination to develop their own businesses, with 43% expressing a strong commitment. Nonsport individuals, conversely, show a notable inclination towards the neutral zone (33.6%). These differences are statistically significant ($p < 0.05$), underscoring their significance.

The findings suggest that sports, regardless of the competitive level, play a positive role in nurturing the entrepreneurial spirit (Ratten, 2018).

Examining responses to Item 13 (Table 5), a significant contrast emerges between athletes and individuals categorized as amateurs and nonsport participants. Athletes demonstrate a higher inclination toward staying within their comfort zones, with a notable proportion (39.4%) strongly endorsing this feeling to a great extent. In comparison, amateurs and nonsport individuals express a lower preference for comfort zones, with only 28.6% indicating a similar inclination. The statistically significant difference ($p < 0.05$) highlights the distinctive approach of competitive athletes towards comfort zones, suggesting a higher affinity for routine and familiarity. This preference, Jones et al. (2017), is associated with the structured and disciplined nature of competitive sports, where adherence to established routines is often integral to success.

Item 14 (Table 6) sheds light on a significant disparity between competitive athletes and non-athletes, emphasizing athletes' heightened apprehension regarding post-sports career adaptation. The observed differences maintain statistical significance ($p < 0.05$), indicating that athletes adopt a more reserved stance towards change and adaptation post-sports career compared to their non-athlete counterparts. A potential explanation for why athletes are more hesitant to change careers is provided by Williams and Murphy (2022). In their research, they found that soon after a career-disrupting event, such as voluntary or involuntary retirement at a young age, individuals experience cognitive and affective disorientation, commonly referred to as "drift," which hinders their capacity to progress in their careers. Their findings indicate that the systematic differences in how individuals interpret the causal forces underlying the disruptive event influence the paths they pursue as they strive to construct a new, secure self-image and mitigate the challenges associated with "drift." Understanding the process of constructing a self-image is a crucial initial step in recognizing its significance for theories related to self-perceptions in the context of careers. However, Gliga et al.'s (2018) study investigated the challenges athletes face upon retirement, emphasizing the significant impact it has on both their physical and mental well-being. Despite the recognized need for gradual

disengagement and adaptation to post-athletic life, many sports clubs fail to provide adequate support during this transition. The research aimed to analyze the multifactorial effects of retiring from elite sports, hypothesizing that such a transition adversely affects athletes across morphological, physiological, and psycho-behavioral dimensions. The study, conducted over five weeks on a sample of 30 former elite athletes, employed a questionnaire covering current health status, morpho-functional changes, and the impact of athletic careers on various aspects of personal life. Statistical analysis revealed no significant difference between positive and negative effects post-retirement, contradicting the initial hypothesis. While negative effects were observed, they did not constitute disruptive individual influences. Moreover, the study identified sustained positive effects of athletic careers even after retirement.

This study not only contributes to the broader discourse on entrepreneurial perspectives but also informs practical initiatives aimed at promoting entrepreneurial endeavors among diverse cohorts, considering the multifaceted factors influencing such attitudes.

Study limitations and future research directions

This study highlights several notable limitations that provide directions for future research at the crossroads of sports and entrepreneurship. Despite the inclusion of a comprehensive sample comprising 415 students, it is imperative to recognize the use of the conventional sampling approach. Participants were selected based on availability, accessibility, and their entrepreneurial interests and concerns. In our research, we analyzed the relationship between engagement in physical activities and entrepreneurial aspirations. One limitation of our study might arise from the grouping of various sports programs (both bachelor's degree and master's degree studies) within the broader sports domain without probing potential disparities among them, especially those focusing on sports management components. Future research endeavors should delve into such distinctions. Additionally, it would be valuable to explore whether entrepreneurial intentions vary across different stages of students' academic careers, thus determining whether such intentions evolve alongside the acquisition of skills and knowledge over time.

Another avenue for exploration involves comparing the entrepreneurial intentions of male and female students. Furthermore, it is essential to ascertain whether students with entrepreneurial backgrounds exhibit a propensity towards entrepreneurial careers. Lastly, conducting a survey to understand the initiatives implemented by higher education

institutions to foster entrepreneurship, particularly among female students, would be beneficial.

Our findings make significant contributions to both existing research and practical applications (Miragaia & Soares, 2017). Previous studies utilizing quantitative data have primarily focused on sports students or individuals involved in sports activities, irrespective of whether the context is recreational or professional (da Costa et al., 2023; Ndofirepi et al., 2018). This study addresses a notable gap in the existing research literature by providing data from students in the sports domain engaged in various aspects of sports performance, non-sport activities, and amateur sports, thus shedding light on the relationship between these diverse domains and entrepreneurial intentions.

By tailoring programs to address these nuances, we can create a more inclusive and effective entrepreneurial landscape that maximizes the potential of athletes in their post-sports careers. Based on the identified patterns in entrepreneurial attitudes among athletes, several promising directions for future research and entrepreneurial training initiatives emerge. Firstly, personalized integration programs for athletes are warranted due to the observed hesitancy, particularly among competitive athletes, towards post-sports career adaptation. These programs should cater to individual athletes' concerns, aspirations, and perceived challenges to facilitate a smoother transition into post-sports society (Chifita, 2021). Such initiatives may include resources for skill development, mentorship, and psychological support.

Secondly, exploring risk-taking and entrepreneurial determination among athletes is essential. Given the established link between risk-taking and entrepreneurial success, future research could delve deeper into the factors influencing risk perceptions among athletes (Steinbrink et al., 2020). Additionally, understanding the sources of heightened determination among competitive athletes may inform strategies to instill similar qualities in other cohorts (Mahoney et al., 2014). This knowledge could guide the development of targeted training programs focused on enhancing risk tolerance and determination.

Furthermore, tailoring entrepreneurial development strategies for different sporting cohorts is crucial. The significant differences in entrepreneurial determination among competitive athletes, amateurs, and non-sport individuals suggest that entrepreneurial development strategies should be customized to leverage the specific qualities nurtured within different sporting cohorts (Sherry et al., 2024). Recognizing and harnessing the unique attributes developed through sports participation can contribute to a more inclusive and effective entrepreneurial ecosystem.

Additionally, integrating athlete perspectives into entrepreneurship education is vital. Recognizing athletes' distinct viewpoints on entrepreneurship compared to traditional employment, entrepreneurship education programs should incorporate these insights (Taylor et al., 2015). This integration may involve highlighting the transferable skills acquired through sports, such as discipline, resilience, and teamwork, to enhance entrepreneurial success.

Lastly, societal integration initiatives beyond entrepreneurial training are necessary. Broader collaborations between sports organizations, educational institutions, and entrepreneurial networks can bridge the gap between the athletic and entrepreneurial realms (Kohe & Collison, 2019). These initiatives aim to create supportive environments for athletes transitioning into entrepreneurship.

Conclusions

In conclusion, our research aligns with a broader understanding of entrepreneurial intention by delving into the attitudes of athletes, amateurs, and non-athletes, drawing parallels between their characteristics and those associated with successful entrepreneurs.

Analysis of various entrepreneurial intentions, including Comfort and Security in Workplace Stability, Embracing Risk-Taking for Gains, Proactive Problem-Solving, Expectations from Superiors, Work Ethic and Goal Orientation, Workload and Productivity Relationship, Task Completion and Challenge Acceptance, Work Avoidance and Problem Management, Work-Life Balance Prioritization, Openness to Personal Development, Parallels Between Sports and Business Strategies reveals no statistically significant differences between athletes and non-athletes ($p > 0.05$), indicating a parallel spectrum of attitudes across both groups (Items 2–9, 11, 12, and 15). Furthermore, the identified statistical significance suggests that competitive athletes demonstrate a significantly stronger conviction compared to non-athletes regarding assuming responsibilities and taking initiative (Item 1). The heightened determination of competitive athletes towards entrepreneurial ventures (Item 10) aligns with their discipline and resilience, showcasing the positive role of sports in nurturing the entrepreneurial spirit. Athletes exhibit a greater propensity to remain within their comfort zones, whereas amateurs and individuals not engaged in sports express a diminished preference for such zones (Item 13). The observed hesitancy towards post-sports career adaptation (Item 14) among athletes underlines the need for targeted support, acknowledging the cognitive and affective challenges they may face during career transitions.

Our research contributes valuable insights to the discourse on entrepreneurial perspectives, providing a foundation for practical initiatives aimed at promoting entrepreneurship among diverse cohorts, with a particular focus on the unique characteristics of athletes and the potential impact of gender-specific attitudes.

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Institutional Review Board Statement: In accordance with the specific guidelines and criteria set forth for this study, it was determined that Institutional Review Board (IRB) oversight was not required. This determination was based on a careful assessment of the study's design, objectives, and methodologies, which indicated that the research did not involve vulnerable populations, potential for significant risk to participants, or other criteria that typically necessitate IRB review. All study activities were conducted with strict adherence to ethical principles and with respect to participants' rights and well-being, ensuring that the research complied with the relevant ethical standards and guidelines.

Informed Consent Statement: All the individual subjects included in this study provided written informed permission. The University Professional Ethics and Deontology Commission within the National University of Science and Technology Politehnica Bucharest, Pitesti University Center noted the following: 1. the authors requested the consent of the subjects involved in the research before carrying out any procedures; 2. the authors have evidence regarding the freely expressed consent of the subjects regarding their participation in this study; 3. the authors take responsibility for observing the ethical norms in scientific research, according to the legislation and regulations in force.

Data Availability Statement:. Data available on request due to restrictions eg privacy or ethical. The data presented in this study are available on request from the corresponding author. The data are not publicly available due to confidentiality.

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References

Amzar, L. E., & Stefanica, V., (2017). Comparative study between marketing conducted in two volleyball clubs. Journal of Physical Education and Sport, 17, 2274-2278. https://doi.org/10.7752/jpes.2017.s5243

Arikatla, V., & Gregorich, G. (2021). The effect of sports experience and competitive orientation on entrepreneurial priorities, attitudes, and decision making. *Journal of Student Research*, *10*(3). https://doi.org/10.47611/jsrhs.v10i3.2129

Aries, E., McCarthy, D., Salovey, P., & Banaji, M. R. (2004). A comparison of athletes and non-athletes at highly selective colleges: Academic performance and personal development. *Research in higher education*, *45*, 577-602.

Bajçinca-Brestovci, S., Zhushi, G., Krasniqi, B. A., Kryeziu, L., Bağış, M., Lajqi, S., ... & Dedaj, Z. (2023). Sports University Education and Entrepreneurial Intentions: Findings from Kosovo. *Economic Alternatives*, *29*(1), 210-228. https://www.unwe.bg/doi/eajournal/2023.1/EA.2023.1.12.pdf

Boyd, D. E., Harrison, C. K., & McInerny, H. (2021). Transitioning from athlete to entrepreneur: An entrepreneurial identity perspective. *Journal of Business Research*, 136, 479-487. https://doi.org/10.1016/j.jbusres.2021.07.010

Burns, P. (2022). *Entrepreneurship and small business*. Bloomsbury Publishing.

Cantamessa, M., Gatteschi, V., Perboli, G., & Rosano, M. (2018). Startups' roads to failure. *Sustainability*, *10*(7), 2346.

Chifita, T. (2021). *Career intervention programmes for retired elite athletes in Zambia: a phenomenological inquiry* (Doctoral dissertation, The University of Zambia).

Cipu, E. C., & Dragnea, C. (2007). Life tables for Romania survival function. Life expectancy for romanian people. University Politehnica of Bucharest Scientific Bulletin-series A-Applied mathematics and physics, 69(1), 27-36. https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full77186.pdf

da Costa, C. D., Miragaia, D. A., & Veiga, P. M. (2023). Entrepreneurial intention of sports students in the higher education context-Can gender make a difference?. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 32, 100433. https://doi.org/10.1016/j.jhlste.2023.100433

Dheer, R. J., Li, M., & Treviño, L. J. (2019). An integrative approach to the gender gap in entrepreneurship across nations. *Journal of World Business*, *54*(6), 101004. https://doi.org/10.1016/j.jwb.2019.101004

Dörnyei, Z., & Skehan, Z. (2003). Individual differences in second language learning. In C. J. Doughty, & M. H. Long (Eds.), *The Handbook of Second Language Acquisition* (pp. 589-630). Oxford: Blackwell Publishing Ltd. https://doi.org/10.1002/9780470756492.ch18

Eisenmann, T. (2021). *Why startups fail: A new roadmap for entrepreneurial success*. Crown Currency.

Ercan, I., Yazici, B., Sigirli, D., Ediz, B., & Kan, I. (2007). Examining Cronbach alpha, theta, omega reliability coefficients according to sample size. *Journal of modern applied statistical methods*, *6*(1), 27. 10.22237/jmasm/1177993560

Gliga, A. C., Neagu, N., & Băţagă, T. (2018). Multifactorial introspective analysis of the individual impact at the end of an athlete's performance sports career. *Palestrica of the Third Millennium Civilization & Sport*, *19*(4). https://doi.org/10.26659/pm3.2018.19.4.217

González-Serrano, M. H., Valantine, I., Hervás, J. C., Pérez-Campos, C., & Moreno, F. C. (2018). Sports university education and entrepreneurial intentions: A comparison between Spain and Lithuania. *Education+ Training, 60*(5), 389-405. https://doi.org/10.1108/ET-12-2017-0205

Hägg, G., & Jones, C. (2021). Educating towards the prudent entrepreneurial self–an educational journey including agency and social awareness to handle the unknown. *International Journal of Entrepreneurial Behavior & Research*, *27*(9), 82-103. https://doi.org/10.1108/IJEBR-10-2020-0668

Iordache, D. A., Delsanto, P. P., & Apostol, I. (2010). Identification Attempt of the Main Stages of Human Being Growth and of Universe Evolution. Sci. Bull. Univ."Politehnica" of Bucharest, Series A "Applied Sciences, 72(3). https://scientificbulletin.upb.ro/rev_docs_arhiva/full5868.pdf

Johnson, W. D., Burton, J. H., Beyl, R. A., & Romer, J. E. (2015). A Simple Chi-Square Statistic for Testing Homogeneity of Zero-Inflated Distributions. *Open journal of statistics*, *5*(6), 483–493. https://doi.org/10.4236/ojs.2015.56050

Jones, P., & Jones, A. (2014). Attitudes of sports development and sports management undergraduate students towards entrepreneurship: A university perspective towards best practice. *Education+ Training, 56*(8/9), 716-732. https://doi.org/10.1108/ET-06-2014-0060

Jones, P., Jones, A., Williams-Burnett, N., & Ratten, V. (2017). Let's get physical: Stories of entrepreneurial activity from sports coaches/instructors. *The International Journal of Entrepreneurship and Innovation*, *18*(4), 219-230. https://doi.org/10.1177/1465750317741878.

Kohe, G. Z., & Collison, H. (2019). *Sport, education and corporatisation: Spaces of connection, contestation and creativity*. Routledge.

Koning, A.J. & Franses, Ph.H.B.F., 2003. Confidence Intervals for Cronbach's Coefficient Alpha Values, *ERIM Report Series Research in Management ERS-2003-041-MKT*, Erasmus Research Institute of Management (ERIM)

Kurczewska, A. & Mackiewicz, M. (2020). Are jacks-of-all-trades successful entrepreneurs? Revisiting Lazear's theory of entrepreneurship. *Baltic Journal of Management*, *15*(3), 411-430. https://doi.org/10.1108/BJM-07-2019-0274

Lounsbury, J. W., Smith, R. M., Levy, J. J., Leong, F. T., & Gibson, L. W. (2009). Personality characteristics of business majors as defined by the big five and narrow personality traits. *Journal of Education for Business, 84*(4), 200-205. https://doi.org/10.3200/JOEB.84.4.200-205

Łubianka, B., & Filipiak, S. (2022). Personality determinants of value preferences in Polish adolescent athletes and non-athletes. *Journal of Physical Education and Sport, 22*(4), 968-975. DOI:10.7752/jpes.2023.06164

Mahoney, J. W., Gucciardi, D. F., Ntoumanis, N., & Mallet, C. J. (2014). Mental toughness in sport: Motivational antecedents and associations with performance and psychological health. *Journal of Sport and Exercise Psychology*, *36*(3), 281-292. https://doi.org/10.1123/jsep.2013-0260

Miragaia, D. A. M., & Soares, J. A. P. (2017). Higher education in sport management: A systematic review of research topics and trends. *Journal of Hospitality, Leisure, Sports and Tourism Education*, *21*, 101–116. https://doi.org/10.1016/j.jhlste.2017.09.001

Moroianu, M., & Rusu, R. (2023). Psycho-pedagogical benchmarks in the selection and training of 6-8-years-old children in football. Ovidius University Annals, Series Physical Education & Sport/Science, Movement & Health, www.analefefs.ro/anale-fefs/2023/i2supplement/pe-autori/32.MOROIANU%20MIRUNA,%20RUSU%20RĂZVAN.pdf

Narayanasamy, K., Rasiah, D., & Jacobs, C. J. (2011). An empirical study of factors influencing gender differences in entrepreneurship. *International Business & Economics Research Journal, 10*(10), 17-30. https://doi.org/10.19030/iber.v10i10.5976

Ndofirepi, T. M., Dzansi, D. Y., & Rambe, P. (2018). An exploratory study on the gender-based differences in entrepreneurial intention and its antecedents amongst students of a South African university of technology. *Southern African Business Review*, *22*(1), 1–28. https://doi.org/10.25159/1998-8125/4345

Neacşu, M. G., Bucuroiu, F., Tibrian, M., & Samarescu, N. (2023). Optimizing evaluation practices through reconsideration of student assessment strategies in the hybrid university environment. *Journal Plus Education, 34*(2), 115-127. https://uav.ro/jour/index.php/jpe/article/view/1930

Neck, H. M., Neck, C. P., & Murray, E. L. (2023). *Entrepreneurship: The practice and mindset*. Sage publications.

Ramos, A. S., Hammerschmidt, J., Ribeiro, A. S., Lima, F., & Kraus, S. (2022). Rethinking dual careers: success factors for career transition of professional football players and the role of sport entrepreneurship. *International Journal of Sports Marketing and Sponsorship, 23*(5), 881-900. https://doi.org/10.1108/IJSMS-02-2021-0029

Ratten, V. (2018). *Sport entrepreneurship: Developing and sustaining an entrepreneurial sports culture*. Springer.

Rode, J. B., & Ringel, M. M. (2019). Statistical Software Output in the Classroom: A Comparison of R and SPSS. *Teaching of Psychology*, *46*(4), 319-327. https://doi.org/10.1177/0098628319872605

Roşu, D. (2022). Effect of extracurricular interest of students in the field of physical education and sports on the development of entrepreneurial skills. *Journal of Physical Education and Sport*, *22*(8), 1927-1932. https://efsupit.ro/images/stories/august2022/Art%20244.pdf

Rusu, R.G., Ursu V. E., Sfetcu I. A. (2022). *Theoretical and practical aspects concerning the knowledge and self-knowledge processes of football coaches and players*. Risoprint Publishing House

Shane, S., & Nicolaou, N. (2013). The genetics of entrepreneurial performance. *International Small Business Journal, 31*(5), 473-495. https://doi.org/10.1177/0266242613485767

Sherry, E., Schulenkorf, N., Phillips, P., & Rowe, K. (Eds.). (2024). *Managing sport development: An international approach*. Taylor & Francis.

Singh, B., Verma, P., Rao, M.K. (2017). Influence of individual and socio-cultural factors on entrepreneurial intention. In M., Manimala, P. Thomas, (eds) *Entrepreneurship Education*. Springer, Singapore. https://doi.org/10.1007/978-981-10-3319-3_8

Steinbrink, K. M., Berger, E. S., & Kuckertz, A. (2020). Top athletes' psychological characteristics and their potential for entrepreneurship. *International Entrepreneurship and Management Journal*, 16, 859-878. https://doi.org/10.1007/s11365-019-00612-6

Taylor, T., Doherty, A., & McGraw, P. (2015). *Managing people in sport organizations: A strategic human resource management perspective*. Routledge.

Williams, T. A., & Murphy, C. (2022). Ruminating on what you think of me: A grounded model of construed image work. *Academy of Management Journal*, *65*(5), 1541-1570. https://doi.org/10.5465/amj.2020.0963

Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, *36*(2), 381–404. https://doi.org/10.1177/0149206309335187