



From Sportsmanship to Business : The Influence of University Sports Experiences on Management Skills and Corporate Culture

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ABSTRACT

This study analyses the impact of university sports experiences on the development of employees' managerial skills, distinguishing between human and conceptual skills, and examines the moderating role of corporate culture. Based on a quantitative survey of 180 Tunisian employees from different sectors, the data were analysed using structural equation modelling (PLS-SEM). The results show that participating in university sports significantly strengthens managerial skills, with an amplified effect in organisations that promote innovation, continuous learning and collective engagement. This research highlights the potential of university sports as a strategic lever for professional development and emphasises the importance of an appropriate corporate culture to maximise this transfer of skills.

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INTRODUCTION

In a professional environment characterized by rapid and complex transformations, the pursuit of organizational excellence cannot be limited to process optimization or the integration of technological innovations alone. It also requires a nuanced and in-depth understanding of the human factors that underpin individual and collective performance within organizations. Among these factors, university sports experiences emerge as a form of learning and personal development that is often overlooked, yet whose impact on the development of managerial competencies and corporate culture deserves greater attention (Liu & Taresh, 2024).

University-level sports practice goes beyond physical activity; it constitutes a setting in which individuals acquire transversal skills such as leadership, stress management, effective communication, cooperation, and decision-making under pressure. Fontanel (2006) emphasizes that although academic training provides an essential theoretical foundation, experiences gained through sports participation

develop the human and emotional qualities that are indispensable to managerial performance. Complementarily, the work of Lardinois and Tribou (2004) as well as Ratten and Ferrand (2017) highlights the transferability of sport-related skills to managerial practices in organizations, where innovation and collaboration have become critical success factors (Holienska et al., 2018).

Despite these findings, the scientific literature presents a significant gap: it does not yet offer a comprehensive and systematic analysis of the relationships between university sports experiences, the development of managerial competencies, and their influence on corporate culture. This gap raises a major question about the nature and extent of the impact that such experiences may have on managerial skills, and consequently, on the construction and reinforcement of a cohesive and high-performing organizational culture.

This research therefore seeks to address two central questions: How do university sports experiences contribute to the development of professionals' managerial competencies? And to what extent does corporate culture act as a moderating or amplifying factor in the relationship between these competencies and organizational performance? These questions highlight the need for a systematic understanding of the mechanisms through which university sports may influence human capital and organizational culture—an area that remains underexplored in both French-language and international literature (Liu & Taresh, 2024; Ratten & Ferrand, 2017).

Understanding this potential is crucial, as it offers organizations avenues for identifying and developing strategic levers that support the optimization of individual and collective performance, without assuming that such practices are already valued. This approach positions university sports as a dynamic learning environment that fosters the acquisition of human and conceptual skills transferable to the professional sphere (Fontanel, 2006; Holienska et al., 2018).

By articulating two central dimensions the development of managerial competencies and the moderating role of corporate culture this study aims to fill a dual gap: a theoretical one, by enriching the conceptual framework on skill transfer from sports to management, and a practical one, by providing organizations with guidance for designing strategies that enhance these experiences. In doing so, companies can better understand the potential of university sports as a lever for human resource development, contributing to the creation of professional environments that are more innovative, inclusive, and resilient when facing contemporary challenges.

LITERATURE REVIEW

As organizational environments become increasingly uncertain, interconnected, and dynamic, managers' ability to mobilize appropriate competencies has emerged as a key lever of performance and resilience for companies. In a continuously evolving professional context, the development of managerial competencies has therefore become a major strategic issue (Afshari et al., 2012). Several approaches exist for conceptualizing these competencies, ranging from traditional frameworks to more contemporary models. Among these frameworks, the model proposed by Katz (1974) is a major reference, structuring the understanding of managerial competencies into three distinct categories.

1. Managerial Competencies According to Katz's Model

Katz's (1974) model remains a major reference for the analysis of managerial competencies, distinguishing three essential dimensions. Technical competencies involve the mastery of tools, methods, and domain-specific know-how, and are particularly critical at operational levels. Human competencies encompass the ability to interact effectively with others, communicate, motivate, resolve conflicts, and foster cooperation within teams, making them indispensable for managing employees in complex organizational environments (Afshari et al., 2012; Barbusse, 1997). Finally, conceptual competencies reflect the capacity to understand complex situations, engage in analytical and strategic reasoning, and design long-term plans, attributes that are especially relevant for executive-level responsibilities (Fontanel, 2008; Baqué, 2007).



The predominance of these competencies varies according to hierarchical level: technical competencies are more critical at operational levels, whereas human and conceptual competencies are essential for coordination and leadership roles. Within the framework of experiential learning, university sports experiences—defined as participation in organized, competitive, or recreational sports activities, as well as involvement in sports event management—appear to be conducive to the development of human and conceptual competencies. Regular practice of team and individual sports supports the strengthening of relational skills, team management, communication, motivation, and leadership, while also engaging the analytical and strategic abilities required for planning and problem-solving (Barbusse, 1997; Pierre, 2015; Fontanel, 2008; Fourré, 1999).

However, the transfer of these competencies to the professional sphere depends on the type of sport practiced, the degree of individual involvement, and the organization's capacity to recognize and leverage these acquired skills. This underscores the importance of a supportive professional environment to maximize the impact of university sports experiences on managerial development.

1.1 The link between managerial skills and university sporting experiences

The practice of university sports provides a privileged context for the development of human skills, which include the relational, emotional, and social abilities essential to managerial performance (Katz, 1974; Afshari et al., 2012). These sporting experiences—whether team-based or individual and organized within the university setting—mobilize communication, cooperation, conflict management, situational leadership, and team motivation, allowing participants to strengthen their capacity to interact effectively with others (Barbusse, 1997; Baqué, 2007; Pierre, 2015). The collective, competitive, or structured nature of certain sports activities also promotes real-time problem solving, adaptation to constraints, and the coordination of actions within the team, skills that are directly transferable to professional contexts (Fourré, 1999; Fontanel, 2008). Moreover, participation in university sporting events provides an experiential learning environment in which failure, success, and social interactions enhance self-confidence and the ability to influence and motivate others, thereby contributing to the development of social and emotional capital that is valuable in team management (Burlo, 1997 ; Meignant & Rayer, 1989). However, the level of involvement, the type of sport practiced, and the organizational recognition of these experiences determine their actual impact on the development of human skills in professional settings, highlighting the need for a supportive corporate culture to maximize this transfer (Fontanel, 2008 ; Pierre, 2015).

2. The Relationship Between Managerial Competencies and University Sports Experiences

University sports represent a major lever in the development of human competencies, which are essential for the effective management of interpersonal relationships and collective dynamics within organizations. These competencies include cooperation, communication, emotional regulation, situational leadership, and intrinsic motivation, all of which play a decisive role in managerial functions (Goleman & Boyatzis, 2008). The literature highlights that university sports practice—whether team-based or individual, competitive or recreational—offers a setting conducive to the experiential learning of these competencies (Fourré, 2008 ; Liu & Taresh, 2024).

Team sports tend to strengthen coordination, communication, and conflict management, whereas individual sports promote concentration, autonomy, and personal resilience. Sarkar and Fletcher (2014) emphasize the importance of psychological resilience in sport, identifying five key resources: positive personality, motivation, confidence, concentration, and perceived social support. These resources directly correspond to the human competencies mobilized in team management and

decision-making under pressure, thereby preparing future managers to operate within uncertain and demanding professional environments. Other studies underline the transferability of competencies developed through university sports to organizational contexts, particularly in relation to transformational leadership and team management (Sidiropoulou, 2023 ; Amarillo, 2010 ; Fuller, 2006). Fontanel (2006) and Braunstein et al. (2023) note that certain human competencies—such as emotional intelligence or intrinsic motivation—are difficult to teach in traditional academic settings but can be effectively developed through sports experience. Employers also acknowledge the value of informal learning acquired through sport, particularly among frontline managers. However, it is important to note that the development of human competencies depends both on the university sports context and on individual characteristics such as personality, engagement, and prior experience (Goleman & Boyatzis, 2008 ; Sarkar & Fletcher, 2014). University sports therefore appear as a relevant experiential learning environment for managerial development, offering a structured yet adaptable framework that can be tailored to each individual.

Hypothesis 1 : University sports participation is positively correlated with the development of human competencies, with the effect moderated by the type of sport and the intensity of practice.

3. University Sports and the Development of Conceptual Competencies

In addition to the development of human competencies, university sports practice also contributes to the enhancement of conceptual competencies, defined as the ability to analyze complex situations, make strategic decisions, plan effectively, and demonstrate creativity and resilience in the face of challenges (Katz, 1974; Goleman & Boyatzis, 2008). Liu and Tareh (2024) highlight that university sports stimulate cognitive functions such as working memory, concentration, critical thinking, and problem-solving, thereby contributing to improved academic and decision-making performance. These cognitive gains have direct applications in professional environments, where analytical speed and adaptability are essential qualities for managers.

Baker et al. (2003) show that structured sports experiences promote the emergence of complex collective cognitive mechanisms, enhancing participants' ability to solve problems and make collaborative decisions in dynamic contexts. Holienka et al. (2018) reveal that students engaged in sports activities display higher entrepreneurial traits than their peers, including discipline, competitiveness, and perseverance, which support not only entrepreneurial initiative but also the strategic thinking required in management. Similarly, Jones and Jones (2014) explain that university sports encourage students to develop autonomy, critical thinking, and the capacity to navigate uncertainty qualities that are essential for strategic management. Despite these benefits, Fontanel (2006) and Braunstein et al. (2023) note that conceptual competencies acquired through sport are rarely recognized or valued in traditional academic or professional pathways, limiting their institutional acknowledgment. These observations highlight the need to better integrate the experiential dimension of sports into managerial training in order to enhance the transferability of these skills to the workplace.

Thus, the literature converges on the view that university sports constitute a conducive environment for the development of conceptual competencies, which are essential for managerial performance :

Hypothesis 2 : There is a positive and significant correlation between university sports participation and the development of conceptual competencies.

4. Corporate Culture as a Moderator

The development and mobilization of managerial competencies cannot be fully understood without considering the organizational culture in which they are expressed. Corporate culture refers to the set of shared values, beliefs, norms, and practices within an organization, constituting a common frame of reference that influences behaviors, interactions, and collaboration (Meier, 2010). According to Lemaitre (1984), it shapes employees' perceptions and representations, thereby affecting their professional behaviors. Denison (1990, 1995) also emphasizes that organizational culture plays a decisive role in employee effectiveness, performance, and engagement. Within this framework, the mere development of competencies through external experiences, such as university sports



participation, does not guarantee their effective transfer to the professional context. The extent of transfer largely depends on the compatibility between the values and norms associated with formative experiences and those promoted by the organizational culture (Meier, 2010 ; Denison, 1990). Cultural misalignments can hinder the expression or recognition of these competencies, reducing their impact on organizational performance. Therefore, the analysis of managerial competencies benefits from adopting a systemic perspective that considers the dynamic interaction between the individual, their formative experiences, and the organizational cultural context (Schein, 2010).

Several studies indicate that certain cultural dimensions facilitate the integration of human and conceptual competencies. A corporate culture that is open to learning, innovation, and collaboration promotes the adoption and valorization of skills acquired by employees (Martins & Terblanche, 2003 ; Schein, 2010). Conversely, rigid, hierarchical, or conservative cultures may limit the recognition and application of these competencies, hindering their impact on performance (Hofstede, 2001). Thus, organizational culture is not merely a passive framework: it acts as a moderator, either enhancing or attenuating the relationship between formative experiences, such as university sports, and the development of managerial competencies.

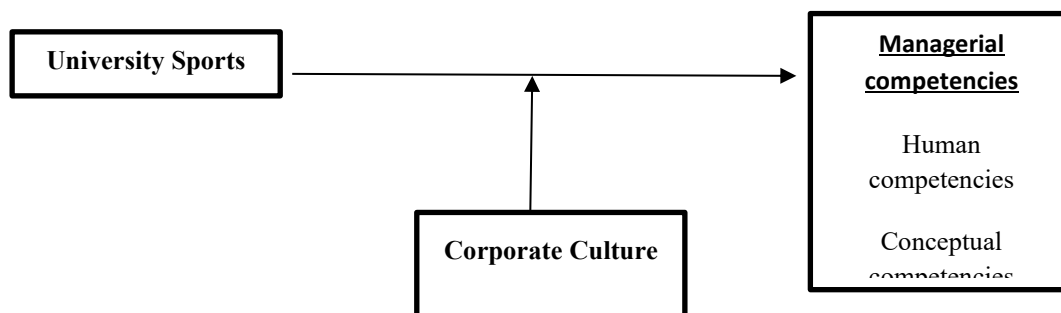
Accordingly, we formulate the following hypotheses:

Hypothesis 3 : Corporate culture moderates the relationship between university sports participation and the development of managerial competencies.

Hypothesis 4 : A corporate culture that is supportive of learning, innovation, and collaboration strengthens the positive effects of university sports on the development of managerial competencies.

Based on the theoretical foundations and the formulated hypotheses, Figure 1 presents the conceptual framework of this research. It illustrates the relationships between university sports participation, the development of managerial competencies, and the moderating role of corporate culture. This model will serve as the basis for the empirical analysis.

Figure 1. Conceptual Framework



RESEARCH METHODOLOGY

- *Sample and Data Collection*

The study adopts a quantitative approach based on a structured questionnaire administered to a sample of 180 university employees and professionals from various sectors in Tunisia. The initial recruitment

targeted 400 individuals, among whom only respondents who fully completed the questionnaire were retained.

To minimize biases associated with convenience sampling, we distinguished two subgroups: (1) individuals who practiced university sports, and (2) those with no university sports experience. This allows for a comparison of managerial competencies between the two populations. Data collection took place between January and February 2025 through a mixed distribution method: an online questionnaire (Google Forms) shared within academic and professional networks, and face-to-face administration in partner companies and universities.

The final sample consists of 55% women and 45% men, with ages ranging from 22 to 45, and includes participants from diverse sectors (services, industry, education, public administration). Respondents hold various positions, from operational roles to middle management, enabling an assessment of the actual mobilization of managerial skills across different professional contexts.

- *Measurement Instrument*

To measure the variables of this study, a structured questionnaire was used, based on validated scales from the scientific literature. Each item was assessed using a 5-point Likert scale (1 = “strongly disagree”, 5 = “strongly agree”). University sports experience was measured through four dimensions: duration of practice, level of competition reached (local to international), role held (player, captain, coach), and type of sport (individual or team). Based on these dimensions, a composite sport involvement score was constructed, following the works of Fontanel (2006), Fuller (2006), and Sidiropoulou (2023). Managerial competencies were evaluated according to Katz’s (1974) model and include two subscales: human skills (listening, motivation, cooperation, conflict management) and conceptual skills (strategic analysis, systemic vision, anticipation, decision-making), each composed of five items adapted from Goleman and Boyatzis (2008), Mumford et al. (2007), and Yukl (2010). Organizational culture was measured using dimensions proposed by Schein (2010) and Denison (1990), enriched by the contributions of Cameron and Quinn (2006), across nine items grouped into three axes: innovation and continuous learning, open communication, and team cohesion. A pre-test conducted with 30 respondents enabled adjustments to ensure clarity and validity of the items, while internal consistency of the scales was verified ($\alpha > 0.80$).

- *Data Analysis*

Data analysis was conducted in two complementary stages. First, a descriptive analysis was carried out using SPSS to explore sample characteristics and assess response quality. This step allowed the identification of distributions, means, and standard deviations of the variables, as well as the detection of potential outliers or missing values. In the second stage, structural relationship analysis was performed using SmartPLS 4 software, based on the PLS-SEM (Partial Least Squares Structural Equation Modeling) method. This approach was selected for its robustness to non-normal distributions and its ability to test complex models including mediation and moderation. Model evaluation followed two phases: validation of the measurement model, to assess construct reliability and validity, and testing of the structural model, enabling the verification of hypotheses H1 to H4 and the identification of moderating effects of organizational culture on the relationship between university sports participation and the development of managerial competencies.

**RESULTS***- Descriptive Analysis***Table 1.** Sociodemographic characteristics of the sample (n = 180)

Sample Characteristics	Categories / Means	Frequency (n)	Percentage (%)
Gender	Female	99	55
	Male	81	45
Age Group	20-25 years	50	28
	26-30 years	70	39
	31-35 years	35	19
	36 years and above	25	14
Education Level	Bachelor's	40	22
	Master's	110	61
	Doctorate	30	17
Type of University Sport	Team	110	61
	Individual	70	39
Role in Sport	Player	120	67
	Captain/Coach	60	33

This distribution partially reflects the diversity of actors in the educational, administrative, and service sectors in Tunisia, while also showing a certain homogeneity of the sample in terms of age and education level.

- Descriptive Statistics of Managerial Competencies

Before conducting the structural modeling, the means and standard deviations of the sub-dimensions of human and conceptual competencies were calculated (see Table 2). These measures help identify which aspects of competencies are most influenced by participation in university sports.

Table2 : Means and Standard Deviations of the Sub-Dimensions of Managerial Competencies

Managerial Competencies	Sub-Dimensions	Mean (M)	Standard Deviation (SD)
Human Competencies	Cooperation	4,35	0,58
	Team Motivation	4,21	0,62
	Conflict Resolution	4,05	0,65
	Listening	3,98	0,70
Conceptual Competencies	Problem-Solving	4,29	0,55
	Anticipation	4,18	0,60
	Strategic Analysis	4,00	0,68
	Systemic Vision	3,95	0,67

The analysis shows that among human competencies, cooperation (M = 4.35; SD = 0.58) and team motivation (M = 4.21; SD = 0.62) display the highest scores, suggesting that participation in team sports particularly fosters collaborative behaviors and mutual engagement. The slightly lower scores for conflict resolution (M = 4.05; SD = 0.65) and listening (M = 3.98; SD = 0.70) indicate a notable—though more nuanced—strengthening of essential interpersonal skills. For conceptual competencies, the most prominent are problem-solving (M = 4.29; SD = 0.55) and anticipation (M = 4.18; SD = 0.60), suggesting that situations involving uncertainty and rapid decision-making, which are frequent in sports, contribute to the development of analytical and planning abilities. Strategic analysis (M = 4.00; SD = 0.68) and systemic vision (M = 3.95; SD = 0.67) show moderately high levels, indicating real development, though potentially more sensitive to the professional context than to the sports context alone. The relatively low standard deviations show that responses are homogeneous, reinforcing the reliability of the means.

To verify the specific effect of university sports, a comparison was conducted between employees who participated in university sports and those who did not have this experience. The results show that university sport participants score significantly higher in cooperation (M = 4.35 vs. 3.92; $p < 0.05$) and team motivation (M = 4.21 vs. 3.88; $p < 0.05$). These differences confirm Hypothesis 1 and suggest that university sports experience particularly enhances human skills related to collaborative work. Regarding conceptual competencies, participants also show higher scores in problem-solving (M = 4.29 vs. 3.95; $p < 0.05$) and anticipation (M = 4.18 vs. 3.89; $p < 0.05$), which supports Hypothesis 2. However, the differences observed for active listening and systemic vision are more nuanced and do not show statistically significant differences, indicating that certain competencies also depend on organizational or individual factors.

- Variation of Competencies According to the Level of Corporate Culture

To examine the potential moderating effect of organizational culture, participants were divided into three groups based on their scores on the corporate culture scale. This categorization was based on a tertile segmentation, allowing for a balanced and statistically coherent distribution.

Figure 2. Variation of Managerial Competencies According to These Levels

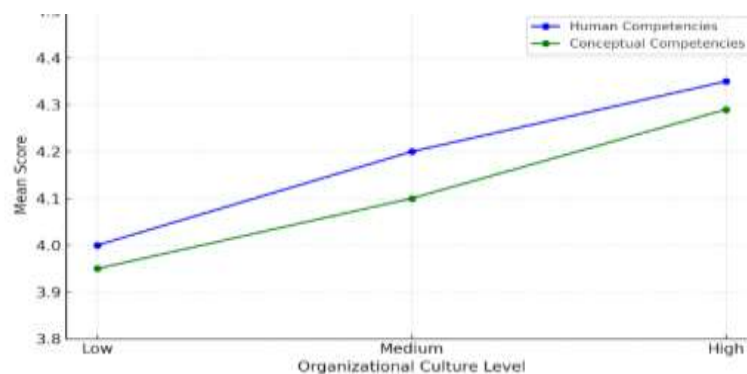


Figure 2 shows that managerial competencies increase in parallel with the level of corporate culture. In other words, participants belonging to organizations with a strong culture exhibit higher scores in both human and conceptual competencies. These results suggest that organizational culture is associated with the development of managerial competencies and may enhance the impact of sports experiences on these skills by creating an environment that supports their expression and professional application. It is important to note that this observation describes an association, not a strictly causal relationship.

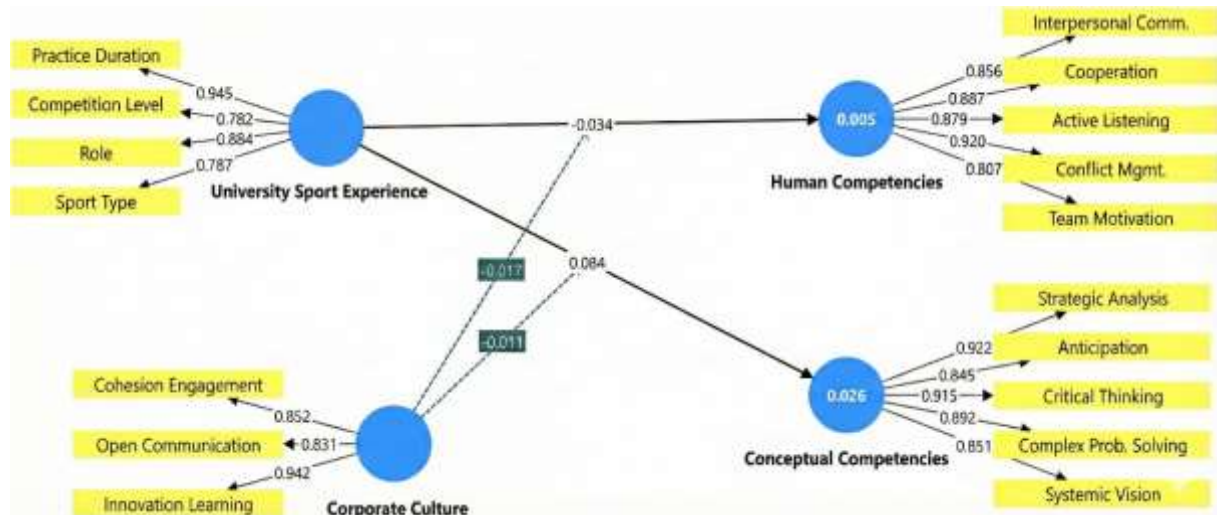
- Measurement Validity Analysis

In this study, the validity of the measures was rigorously assessed to ensure the reliability of the results and the relevance of the conclusions. Following the methodological recommendations of Vinzi et al. (2010), the outer loadings of each indicator were examined. Items with loadings below 0.70 were removed to retain only the most reliable and significant indicators for each latent construct: university



sports experience, corporate culture, human competencies, and conceptual competencies. This step ensures that the retained dimensions accurately reflect the studied concepts and minimizes biases associated with poorly representative measures. The adjustments resulting from this selection are illustrated in Figure 2, which presents the final structure of the measurement model used for analyzing the relationships between variables. Each construct is thus represented by a set of robust indicators, ensuring internal consistency and convergent validity of the measurement, while preparing the model for the evaluation of structural relationships.

Figure 3. Final validated PLS model



- *Reliability Analysis*

The reliability assessment in this study aimed to verify the internal consistency of the scales used to measure each of the constructs under investigation. This step ensures that the items grouped within the same latent variable effectively assess the same conceptual dimension and produce stable and consistent responses across participants. The results of this analysis are presented in Table 3. They indicate that all retained scales demonstrate satisfactory psychometric robustness, allowing the measures to be considered reliable for subsequent analyses.

Table 3. Reliability Indicators of the Constructs

Variable	Cronbach's Alpha	Rho-A	Composite Reliability (CR)	Average Variance Extracted (AVE)
University Sports Experience	0,810	0,820	0,850	0,590
Human Competencies	0,890	0,900	0,910	0,660
Conceptual Competencies	0,870	0,88	0,90	0,640
Corporate Culture	0,850	0,86	0,880	0,610

As shown in Table 3, all constructs exceed the recommended thresholds for reliability indices (Cronbach's Alpha ≥ 0.70 , Rho-A ≥ 0.70 , Composite Reliability ≥ 0.70). Furthermore, Average Variance Extracted (AVE) values above 0.50 confirm the convergent validity of the measures. These

results ensure that the scales used are reliable and consistent, allowing the constructs to be employed in subsequent statistical analyses, such as assessing the relationships between university sports experiences, managerial competencies, and corporate culture.

- *Discriminant Validity Analysis*

To complete the assessment of the measurement model's quality, the discriminant validity of the constructs was examined using the Fornell-Larcker criterion. This approach ensures that each construct measures a distinct conceptual dimension from the others by comparing the Average Variance Extracted (AVE) of each construct with its correlations with the other constructs in the model. The results are presented in Table 4.

Table 4. Discriminant Validity Matrix According to the Fornell-Larcker Criterion

Construct	University Sports Experience	Human Competencies	Conceptual Competencies	Corporate Culture
University Sports Experience	0.768			
Human Competencies	0.512	0.812		
Conceptual Competencies	0.488	0.535	0.800	
Corporate Culture	0.470	0.520	0.505	0.781

In table 4, the diagonal values represent the square root of the AVE for each construct, while the off-diagonal values correspond to the inter-construct correlations. Since the diagonal values are higher than all corresponding inter-construct correlations, this confirms the discriminant validity of the constructs. In other words, each construct measures a distinct and independent conceptual dimension, ensuring that the observed relationships between variables in the model do not result from conceptual overlap between constructs. This verification strengthens the quality of the measurement model and ensures that subsequent analyses examining the relationships between university sports experiences, managerial competencies, and corporate culture are based on reliable and clearly defined constructs.

- *Structural Model Analysis*

After verifying the reliability and validity of the measurement model, the analysis proceeded with the evaluation of the structural model. This step aims to empirically test the hypothesized relationships between constructs using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. The results allow for estimating the strength, statistical significance, and relevance of the relationships between the latent variables specified in the conceptual framework of this research.

Table 5. Results of the Structural Relationships Between Constructs

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values
University Sports → Human Competencies	0,462	0,459	0,078	5,923	0
University Sports → Conceptual Competencies	0,517	0,515	0,072	7,181	0
University Sports × Corporate Culture → Managerial Competencies	0,212	0,21	0,064	3,313	0,001
Corporate Culture → Managerial Competencies	0,356	0,353	0,07	5,086	0

The analysis of the structural paths shows that all hypothesized relationships are statistically significant.

The results of the structural model confirm all the hypotheses formulated in this research. The analysis indicates that university sports participation is positively associated with the development of human



competencies ($\beta = 0.462$; $t = 5.923$; $p < 0.001$), confirming Hypothesis 1 and suggesting that sports activities in a university setting contribute to the acquisition of essential relational skills, such as communication, collaboration, and conflict management, which are central dimensions of managerial capital. Similarly, university sports participation significantly influences conceptual competencies ($\beta = 0.517$; $t = 7.181$; $p < 0.001$), confirming Hypothesis 2, and indicating that certain sports experiences—particularly those involving organizational or strategic responsibilities—promote the development of cognitive and analytical skills such as problem-solving and strategic planning. Moreover, corporate culture exerts a significant moderating effect on the relationship between university sports and managerial competencies ($\beta = 0.212$; $t = 3.313$; $p = 0.001$), confirming Hypothesis 3 and showing that the influence of university sports experiences on managerial skill development is strengthened in organizational environments that value collaboration, continuous learning, and initiative. Finally, corporate culture has a positive direct effect on managerial competencies ($\beta = 0.356$; $t = 5.086$; $p < 0.001$), confirming Hypothesis 4 and indicating that organizational practices and values directly contribute to the development of key competencies among employees.

The coefficients of determination (R^2) associated with the dependent variables indicate that the model explains approximately 21.3% of the variance in human competencies, 26.7% of conceptual competencies, and 41.2% of managerial competencies. These values show a moderate to high explanatory power and confirm that the combination of university sports experience and a favorable corporate culture contributes to the development of managerial competencies.

These results provide insights into the interaction between individual dimensions (sports experience) and organizational dimensions (corporate culture) in managerial development. They suggest that integrating sports experiences within culturally supportive environments can foster the acquisition of transferable skills and encourage cohesion and engagement within organizations, without necessarily generalizing to all professional contexts or types of sports activities.

DISCUSSION

The results of this study suggest that university sports experiences can serve as a lever for the development of managerial competencies, both in human and conceptual dimensions, while highlighting the need for caution in generalizing these findings. These observations align with the framework of experiential learning (Kolb, 1984), which emphasizes skill acquisition through concrete experiences. However, it should be noted that the study does not allow for establishing a definitive causal link between university sports participation and the observed managerial competencies, as no comparison group was included, and individual characteristics of participants may also influence the results (Barbusse, 1997; Burlot, 1997).

Regarding human competencies, university team sports appear to particularly engage skills such as communication, conflict management, coordination, and situational leadership. These activities require constant interaction and adaptation to team dynamics, which promotes the expression of relational competencies (Ratten & Ferrand, 2017; Fourné, 1999; Derouane, 1992). Individual sports, while contributing to personal development, seem more specifically associated with the strengthening of conceptual competencies, such as strategic planning, concentration, and autonomous decision-making. This distinction aligns with Fontanel (2008), who emphasizes the importance of strategic responsibilities in the development of cognitive abilities in structured sports contexts. However, these conclusions should be interpreted with nuance, as the intensity and nature of competency development

depend on the type of sport practiced, its competitive or recreational dimension, and the individual characteristics of the participants (Burlot, 1997; Pierre, 2015).

The ability of university sports experiences to strengthen human and conceptual competencies can be explained by the very nature of the interactions and responsibilities involved in sports practice. Situations involving team coordination and decision-making under pressure, characteristic of certain competitive team sports, enable participants to apply competencies that are transferable to team management (Ratten & Ferrand, 2017; Missoom & Minard, 1990; Meignant & Rayer, 1989). However, the transferability of these competencies cannot be considered automatic or universal and must be interpreted within the specific context of professional environments and individual characteristics.

Moreover, corporate culture appears to be a factor capable of modulating the expression of competencies acquired through university sports. An organizational culture that values collaboration, autonomy, and continuous learning can facilitate the integration of these competencies into professional practices, in line with research on the relationship between organizational environment and managerial development (Pichot, 1997; Denison, 1990; Pierre, 2009). The study highlights a potential moderating effect of corporate culture on the relationship between university sports and managerial competencies, confirming the idea that the organizational environment can either facilitate or constrain the expression of individual competencies. It should be noted, however, that the measurement of organizational culture relies on self-reported categorizations (low, medium, high) and does not allow for precise identification of dimensions such as innovation or continuous learning, which would require more detailed indicators.

The direct impact of corporate culture on the development of managerial competencies observed in this study underscores the importance of a coherent organizational dynamic capable of supporting employee accountability, collaboration, and creativity (Denison, 1990; Pichot, 1997). These results are also consistent with literature showing that workplace sports activities contribute to employee well-being, health, motivation, and productivity, while strengthening organizational culture (Pierre & Barth, 2010; Pierre & Dalla Pria, 2022; Baqué, 2007). This approach, which combines individual development and organizational context, highlights the value of considering university sports as an experiential learning environment with managerial potential, while remaining mindful of methodological limitations related to the study design and the sample used.

From a managerial perspective, these results encourage organizations to consider integrating university sports experiences into a competency development framework, recognizing their potential contribution to skills for managing complexity, teams, and unexpected situations (Fontanel, 2008; Missoom & Minard, 1990). However, it is essential to emphasize that valuing these experiences should not introduce bias or discrimination in recruitment or evaluation processes, and these competencies do not constitute the sole prerequisite for managerial performance. Implementing initiatives that promote participation in sports or associative activities, along with fostering an organizational culture that supports accountability, collaboration, and autonomy, can help strengthen team cohesion and overall competency development.

The transferability of competencies acquired through university sports to professional contexts appears to vary. Human competencies, such as cooperation and team motivation, seem more easily transferable because they are directly mobilized in collective work environments. In contrast, more complex skills, such as situational leadership, critical thinking, or systemic vision, require a supportive organizational environment to be fully expressed. These findings confirm that corporate culture acts as a crucial moderating factor, enhancing or limiting the impact of sports experiences on managerial development.

Several limitations should be considered. First, the Tunisian sample reflects a specific cultural context, which limits international generalization. Second, convenience sampling may introduce selection bias, despite efforts to compare participants and non-participants. Finally, the cross-sectional nature of the study does not allow for measuring competency development over time; a longitudinal approach would be necessary to confirm the durability of skill transfer. These limitations call for caution in interpreting the results and open avenues for future comparative and longitudinal research.



Finally, the study opens avenues for future research. It would be valuable to conduct longitudinal studies to analyze the durability of competencies acquired through university sports and their medium- and long-term impact on organizational performance. Including comparison groups, with and without university sports experience, would allow for a clearer identification of the specific effects of sports on managerial development (Barbusse, 1997; Burlot, 1997). A detailed examination of the types of sports practiced, their competitive or recreational nature, as well as cultural and sectoral variations, would also provide valuable insights into the conditions that favor the optimal expression of competencies. The integration of qualitative methods, such as interviews or case studies, could further enrich the understanding of experiential learning mechanisms and the transfer of acquired skills to professional contexts (Pichot, 1997; Fourré, 1999).

CONCLUSION

This research highlights the importance of adopting a comprehensive view of managerial competency development, integrating both formal learning in the workplace and extracurricular experiences, such as university sports. The results suggest that these experiences can contribute to the strengthening of transversal, relational, and cognitive skills, while being moderated by the organizational context and corporate culture. The study emphasizes that managerial development is not limited to the individual: it results from complex interactions between personal experiences, organizational environment, and cultural practices. A supportive corporate culture can maximize the expression and integration of these competencies, promoting continuous learning, innovation, and collaboration, while contributing to the creation of a sustainable collective human capital. These observations also underscore the value of recognizing and leveraging extracurricular experiences in talent management policies, particularly to enhance recruitment, evaluation, and career development. Finally, this study opens the way for future research on the effective transfer of competencies acquired in sports contexts to professional settings, the variations linked to different types of sports and organizational environments, and the design of hybrid pathways combining university, sports, and professional experiences. In a rapidly evolving professional landscape, this approach provides a relevant framework for rethinking the training and support of tomorrow's managers.

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