Beyond Health and Leisure: The Educational Value of Sport for Adult Soft Skill Development

Oltre salute e svago: il valore formativo dello sport per lo sviluppo delle soft skills negli adulti

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Abstract

This study investigates the association between sport participation and soft skills among Italian adults, exploring its potential as a non-formal learning environment. Using a sample of 16,333 individuals (aged 18–64) from the INAPP INDACO-Adults 2022 survey, we apply an OLS regression model controlling for demographic and occupational factors. Overall, sport participation is significantly and positively associated with higher levels of soft skills ($\beta = 0.08$, $p < 0.01$). This relationship is particularly strong among older adults (55+ years, $\beta = 0.30$, $p < 0.01$) and individuals with lower education levels ($\beta = 0.24$, $p < 0.01$), suggesting that sport may serve as a meaningful setting for skill development or maintenance in these groups. These findings highlight the educational value of sport as a complementary pathway for adult competence development, supporting its inclusion in lifelong learning strategies. Key limitations include the cross-sectional design of data, reliance on self-reported measures of soft skills, and the binary nature of the sport variable.

Keywords: Soft Skills, Sport, Adult Education, Lifelong Learning, Non-formal Education.

Questo studio analizza l'associazione tra la partecipazione ad attività sportive e le soft skills in un campione di adulti italiani, esplorandone il potenziale come ambiente di apprendimento non formale. Il campione esaminato, composto da 16.333 individui (di età compresa tra 18 e 64 anni), proviene dell'indagine INAPP INDACO-Adulti 2022. È stato adottato un approccio quantitativo, nello specifico una regressione OLS che controlla per fattori demografici e lavorativi. Nel complesso, la partecipazione sportiva mostra un'associazione positiva e significativa con livelli più elevati di soft skills ($\beta = 0{,}08$, $p < 0{,}01$). Tale legame risulta particolarmente forte e significativo per gli adulti più maturi (over 55, $\beta = 0{,}30$, $p < 0{,}01$) e per coloro con livelli di istruzione più bassi ($\beta = 0{,}24$, $p < 0{,}01$), suggerendo che lo sport possa rappresentare un contesto particolarmente rilevante per lo sviluppo o il mantenimento delle competenze in questi gruppi. I risultati evidenziano il valore formativo dello sport come percorso complementare per il rafforzamento delle competenze degli adulti, a supporto della sua inclusione nelle strategie di apprendimento permanente. I limiti dello studio riguardano il disegno *cross-sectional* del dataset, il ricorso a misure auto-dichiarate delle soft skills e la natura binaria della variabile sportiva.

Parole chiave: Soft Skills, Sport, Educazione degli Adulti, Apprendimento Permanente, Educazione Non Formale.

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DOUBLE BLIND PEER REVIEW

1. Introduction

In an era dominated by sedentary lifestyles and demanding work schedules, engaging in sports has become more important than ever for adult well-being. However, in today's fast-paced world, many individuals struggle to find time for physical activity, often prioritising work and family responsibilities over exercise. Engaging in sports is not merely a recreational pastime; it is a vital component of a healthy lifestyle. Research has shown that adults who participate in sports and regular physical activity experience numerous physical, mental, and social benefits, all of which contribute to overall well-being and longevity (WHO, 2020). Given the rising prevalence of sedentary lifestyles, obesity, and mental health disorders, sports serve as a powerful tool in disease prevention and quality-of-life enhancement.

While these aspects are undoubtedly important, there is another significant dimension of sport that is less investigated: its inherent educational value for adults. The pedagogical merits of sports for children and adolescents— such as fostering teamwork, discipline, resilience, and fair play— are well-established and form a cornerstone of youth development programs (Bailey et al., 2006; Fraser-Thomas et al., 2005; Coco, 2014). However, the potential of sport to function as a continuous learning environment in adulthood, supporting ongoing personal and professional development, is still largely underappreciated and under-researched.

This paper contends that reducing adult participation in sport to a mere health-related activity or leisurely pastime overlooks its powerful role as a dynamic, non-formal context for meaningful learning and skill development. In an era where lifelong learning is increasingly recognised as essential for navigating career transitions, technological change, and societal complexity (UNESCO, 2022; Jarvis, 2010), it is imperative to identify diverse avenues for continued personal and professional growth. A particularly critical dimension of sport's educational value lies in its unique capacity to cultivate essential "soft skills". These non-technical, transferable competencies are fundamental for effective engagement across virtually all areas of adult life (Jackson, Bridgstock, 2018; Succi, Canovi, 2019).

Unlike traditional educational settings, sport offers a rich tapestry of practical, experiential learning opportunities (Kolb, 1984), where soft skills are not just discussed in theory but actively practiced and internalised through cycles of action and reflection. Within the sporting context, adults are regularly exposed to situations that require the real-time application and refinement of these competencies: negotiating team dynamics (Carron, Eys, 2012), communicating effectively under pressure (Davis. Jowett, 2014), adapting strategies to overcome unexpected challenges (Araújo, Davids, 2016), managing emotional responses to both success and failure (Wagstaff, 2017), and exhibiting emergent leadership (Fransen et al.,

2020). The immediacy of feedback, the tangible consequences of one's actions, and the inherently social nature of sport together create a uniquely powerful learning environment.

Based on this foundation, this paper seeks to shift the perspective on adult sport, moving beyond the dominant health-and-leisure paradigm to highlight its substantial educational contributions. It will do that by addressing these research questions:

- Research question 1. Is participation in sport activities associated with higher levels of soft skills among adult individuals?
- Research question 2. Does the effect of sport participation on soft skills vary across different age groups?
- Research question 3. Does the effect of sport participation on soft skills differ by education?

The paper proceeds as follows. Section 2 reviews the existing literature on the relationship between sport and soft skill development in adulthood. Section 3 describes the dataset, while the empirical methodology is presented in section 4. Section 5 presents the results, followed by a discussion and conclusions in Section 6.

2. Literature review

Soft skills, often contrasted with 'hard' technical skills, encompass a broad range of attributes, including communication, teamwork, leadership, problem-solving, adaptability, time management, discipline, and emotional intelligence, among others (Cinque, 2016). In adult life, these competencies are critical for navigating professional environments, maintaining healthy personal relationships, and achieving overall personal growth and socioeconomic success (Heckman, Kautz, 2012). Sport participation, whether recreational or competitive, naturally involves situations that require the application and enhancement of these abilities. The dynamic, often unpredictable, and socially interactive nature of most sports creates experiential learning opportunities that differ significantly from formal educational or traditional workplace training settings. This perspective aligns with theories that emphasise learning through action and reflecting (Kolb, 1984; Schön, 1983).

A key area of soft skill development, particularly in team sports, lies in interpersonal competencies such as teamwork, communication, and leadership.

First and foremost, participation in sports requires active collaboration. Adults must navigate diverse personalities, manage varying skill levels, and prioritise collective goals over individual ambitions (Carron, Eys, 2012). Such experiences stimulate an understanding of roles, foster mutual trust, encourage constructive

conflict resolution, and build a shared sense of purpose (Leo et al., 2019). The practical experience of relying on teammates, coordinating actions under pressure – such as executing a complex play - and sharing both victories and defeats provides concrete lessons in effective teamwork. These lessons are readily transferable to professional projects and community-based initiatives (Erikstad et al., 2018). Moreover, recreational leagues often require players to quickly adapt to new teams, further reinforcing flexibility and collaboration in group settings.

Second, effective functioning within any sporting context demands communication skills. This competence includes not only clear verbal articulation – such as calling plays, discussing strategy, providing encouragement - but also proficient non-verbal communication – e.g. reading body language, interpreting gestures, and maintaining appropriate physical presence. Equally important is active listening, which involves understanding coaching instructions and attending to teammates' concerns (Davis, Jowett, 2014). Sport also teaches adults how to give and receive feedback – often in real time and in public settings—thereby developing skills in constructive criticism and receptiveness to input (Sheridan et al., 2014). Even in individual sports, communication with coaches, training partners, officials, and competitors is crucial for personal development and for navigating the broader sporting environment (Jowett, Shanmugam, 2016).

Sport also provides numerous opportunities for adults to develop and exercise leadership, extending well beyond formal roles such as the team captaincy. Informal leadership often emerges when individuals motivate peers, offer strategic insights, resolve conflicts, mentor less experienced teammates, or lead by example through consistent effort and dedication (Fransen et al., 2020; Loughead, 2017). Taking initiative, making decisions that impact the group, and promoting inclusivity are all leadership practices nurtured through sport. This builds confidence and develops leadership capabilities transferable to professional and community settings (Duguay et al., 2019).

However, the inherent challenges and structured nature of sport provide a powerful context for developing intrapersonal skills, such as resilience, discipline, emotional regulation and problem solving.

From this perspective, sport is intrinsically intertwined with adversity: coping with losses, overcoming performance slumps, managing injuries, facing tough opponents, and pushing through physical discomfort. Regular exposure to such challenges stimulates psychological resilience—the ability to recover from setbacks and sustain performance under pressure (Morgan et al., 2017). Through sport, adults learn and refine coping strategies, develop persistence in the face of obstacles, and adopt a mindset oriented toward growth and learning from failure rather than being overwhelmed by it (Sarkar, Fletcher, 2014). This cultivated resilience is a highly transferable asset, supporting individuals in navigating the inevitable challenges encountered in professional, relational, and personal domains (Bryan et al., 2019).

Furthermore, meaningful sport participation, especially beyond casual engagement, requires a high degree of self-discipline. Setting goals, monitoring progress, and making strategic adjustments teach essential skills in self-regulation and long-term planning (Haugaasen, Jordet, 2012). The iterative process of establishing both short and long-term performance goals, developing action plans, tracking outcomes, and refining strategies builds robust goal-setting and self-management capacities (Swann et al., 2015). Additionally, managing factors such as nutrition, rest, and recovery contributes to the development of holistic self-management skills, which are transferable to broader domains of health, well-being, and lifestyle management (Horton et al., 2018).

In addition, the sporting arena is an emotionally charged environment, encompassing a wide range of feelings such as excitement, joy, frustration, anxiety, anger, and disappointment. Sport participation offers adults repeated opportunities to experience, understand, and regulate these emotions in real time (Wagstaff, 2017). Athletes often develop strategies—either consciously or implicitly—to manage pre-competition anxiety, cope with the frustration of errors, respond constructively to perceived injustices, and maintain composure under pressure (Lane et al., 2012). These experiences contribute to the development of emotional awareness—both self and social—and enhance regulation skills, which are core components of emotional intelligence. Such competencies are essential for effective interpersonal interactions, psychological resilience, and overall well-being (Laborde et al., 2016).

Although sometimes categorised separately, cognitive skills - such as strategic thinking and problem solving - are deeply intertwined with the broader domain of soft skills developed through sport. Athletes are continually required to analyse dynamic situations, anticipate outcomes, adapt strategies 'on the fly', and make rapid decisions under pressure (Araújo, Davids, 2016; Brandbury et al., 2017).

These processes—identifying problems, generating solutions, receiving immediate feedback, and adjusting actions—foster practical, context-sensitive problem-solving abilities. Such cognitive agility is highly transferable and valuable across numerous life domains, including professional, academic, and personal settings (Passarello et al., 2022).

In summary, the multifaceted nature of adult sport participation provides a rich and dynamic context for the development of soft skills. The constant interplay between interpersonal demands, intrapersonal challenges, and cognitive engagement creates a unique experiential learning environment. Within this setting, core competencies such as teamwork, communication, leadership, resilience, discipline, emotional intelligence, and problem-solving are not only required but continually practiced, refined, and reinforced—highlighting sport's powerful potential as a non-formal educational arena for adult skill development.

3. Data

We use data from the 2022 *Survey on Adults' Educational Behaviours* (INDACO-Adults 2022), carried out in Italy by the National Institute for Public Policy Analysis (INAPP), in collaboration with the National Institute for Statistics (ISTAT).

The survey explores a range of areas, including participation in formal and non-formal education and training activities; sociodemographic, cultural, and occupational gaps in access and perceived benefits; skills; barriers to learning; intergenerational learning dynamics; and the impact of the COVID-19 on work and educational behaviours.

Data collection involved a nationally representative sample of 40,000 individuals, stratified by gender, age (18–64), education attainment, and geographic region (Italian regions).

For the purpose of this study, we focus on a specific subset of 16,333 individuals within the larger INDACO-Adults 2022 dataset. Due to the questionnaire's structure and routing logic, only respondents who reported participating in formal or non-formal training during the reference period were asked about sport participation. Consequently, our analytical sample includes only adults who were recently engaged in some form of educational activity. While this enables a more detailed examination of the relationship between sport and soft skills within a potentially more motivated and learning-oriented subgroup, it also limits the generalizability of the findings to the broader adult population in Italy.

Measurement of soft skills

As part of the INDACO-Adults 2022 questionnaire, respondents were asked the following question in reference to skills:

"We now present you with a set of skills. For each one, we ask you to indicate how much you believe you possess and how much you would be interested in strengthening it":

a. Collaboration
b. Problem solving
c. Team-working
d. Discipline
e. Leadership
f. Communication

Each statement required a response using a four-point scale: "*No, I do not own this skill and do not intend to strengthen it*"; "*No, I don't own it, but I would like to*

strengthen it"; "*Yes, I own it, but I would like to strengthen it*"; "*Yes, I own it, and I don't feel I need to strengthen it*". To simplify, we recoded each statement as a binary variable, assuming a value of 0 if individuals did not own the skill and 1 otherwise.

Using responses to the six items that were asked, a continuous 'soft skills' scale is constructed. This has been done via estimation of a one-parameter logistic (1PL) model for binary items. We then standardised the scale to mean zero and standard deviation one, allowing us to interpret the estimates in terms of effect sizes.

Sport

The explanatory variable is a dummy variable with a value of 1 when the individual participates in a sport activity and 0 otherwise.

Background controls

INDACO-Adults 2022 questionnaire also captured a range of other information, which are used as statistical controls within parts of our analysis. These include:

- Female: a dummy variable equal to 1 if the respondent is female and 0 if male;
- Age: a categorical variable divided into 5 groups: 18-24; 25-34; 35-44; 45-54 and 55-64;
- Education: an ordinal variable with three levels: low (from primary education to lower secondary education), medium (upper secondary education and post-secondary non-tertiary education) and high (from bachelor's degree to PhD);
- Country of birth: a binary variable taking the value 1 if the respondent was born in Italy, and 0 if born abroad;
- Citizenship: a nominal variable indicating whether the respondent holds an Italian, EU or extra-EU citizenship;
- Regional Area: a five-categories variable: North-West, North-East, Centre, South, and the Islands;
- Profession: a categorical variable comprising nine groups of professions, based on the CP2011, the official classification of occupations developed by ISTAT (2013);
- Contract: a variable reflecting contractual conditions, with nine categories including permanent contracts, fixed-term contracts, apprenticeships, informal agreements, self-employment, and four other atypical job types;
- Education-Work: A binary assuming value 1 if the respondent's job is consistent with their educational level, and 0 otherwise.
- Training: a binary variable indicating whether the respondent considers training important;

– Satisfaction: a latent variable capturing overall job satisfaction, derived from responses to items related to satisfaction with job content, salary, career development opportunities, job security, work-life balance, working hours, and workload intensity

The following section about methodology describes how these background variables are controlled for within the analysis.

4. Methodology

To estimate the strength of the relationship between sport and adult soft skills the OLS regression is used. This model is specified as:

$$Soft\ Skills_i = \alpha + \beta.Sport_i + \gamma.D_i + \delta.B_i + \theta.W_i + \varepsilon_i \qquad (1)$$

Where:

$Soft\ Skills_i$ = represents the soft skills score of individual i, derived from the IRT model and standardized (mean = 0, SD = 1);

$Sport_i$ = the explanatory binary variable equals 1 if the individual reported participating in a sport activity in the 12 months prior to the survey, and 0 otherwise;

D_i = A vector of controls capturing the demographic characteristics of the respondent, including gender, age and education;

B_i = other aspects related to the individual's background, such as country of birth, citizenship and geographic area of residence;

W_i = a set of work-related variables, such as profession, type of employment contract, education-work match, the perceived importance of training, and job satisfaction;

i = individual i;

ε_i= the error term.

The parameter of interest from this model is β: which captures the association between the sport participation and the adult's soft skills.

Assuming the IRT-derived soft skills score approximates a continuous, interval-level variable, OLS regression provides a suitable method for examining linear associations with sport participation while controlling for covariates.

Some limitations must be acknowledged. First, the cross-sectional nature of the data prevents causal inference. We cannot determine whether sport leads to improved soft skills, or if individuals with higher soft skills are more likely to engage in sports. Second, the measure for sports participation is binary and fails to

capture frequency, intensity, or type of sport activity. These aspects may have a greater influence on the development of soft skills. Third, potential omitted variables – such as personality traits or social capital – could confound the observed relationship.

Moreover, as discussed in the section 3, the analytical sample includes only individuals who participated in recent training activities, which may introduce selection bias and limit the generalisability of the results to the broader population of Italian adults.

5. Results

Table 1 presents the results from four OLS regression models examining the association between sport participation and adult soft skills.

	(1)	(2)	(3)	(4)
VARIABLES	Model I	Model II	Model III	Model IV
Sport	-0.025	0.031	0.030	0.082**
	(0.025)	(0.025)	(0.025)	(0.031)
Constant	0.268***	-0.122***	-0.157***	-0.176*
	(0.006)	(0.022)	(0.044)	(0.074)
Observations	16.333	16.333	16.333	16.333
R^2	0.000	0.047	0.049	0.091

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001
Table 1 – Regression of sport activities on soft skills

Models I, II, III, and IV are sequential. Model I includes no control variables and examines the bivariate relationship between sport and soft skills. Model II adds demographic controls (gender, age group, and education level). Model III includes additional background characteristics (country of birth, citizenship, and region of residence). Model IV is the fully specified model, adding work-related variables – such as occupation, contract type, education-work match, importance of training, and job satisfaction.

Across all models except Model I, the association between sport and soft skills urns out to be positive.

However, the coefficient for sport is statistically significant ($p < 0.01$) only in the full model (IV). Holding all other variables constant, individuals who engage in sports tend to have, on average, higher soft skills than those who do not. The estimated effect, expressed in standard deviations, suggests a moderate yet significant association, supporting the hypothesis that participation in sport fosters

the development of soft skills such as teamwork, time management, communication, discipline, etc.

Among the control variables, education, job satisfaction and the perceived importance of training are also statistically significant, indicating that higher educational attainment, greater job satisfaction, and a positive perception of training are likewise associated with increased soft skills.

In substance, the empirical results of Table 1 indicate that sports participation is a valuable tool for developing soft skills, particularly in work environments where such competencies are increasingly important.

Nonetheless, this effect might be heterogeneous across different groups of individuals. This section also explores this question. In order to investigate the potential heterogeneity of sport effect across individuals, the OLS regression described above was fitted separately with different subsamples of the population. The following variables were used as sources of heterogeneity: age and education levels. The estimates of the sport coefficient, when estimated on subsamples of the population, are reported in the following tables.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	18-24	25-34	35-44	45-54	55-64
Sport	0.081	-0.038	0.070	0.097	0.298***
	(0.096)	(0.064)	(0.057)	(0.064)	(0.089)
Constant	-0.888**	0.121	-0.047	-0.008	-0.197
	(0.348)	(0.173)	(0.151)	(0.123)	(0.156)
Observations	3.008	3.466	3.094	3.820	2.945
R^2	0.160	0.053	0.049	0.091	0.168

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 2 - Regression of sport activities on soft skills among different age groups

Table 2 presents the results of separate multiple linear regressions conducted for each age group to assess how the association between sports participation and soft skills varies with age. Each model included the following control variables: gender (female), education level, country of birth, citizenship, region of residence, occupation, work contract type, education-work match, and job satisfaction.

The results show a statistically significant positive association between sport participation and soft skills only for individuals aged 55–64 (β=0.30; p<0.01). Specifically, holding all other variables constant, participation in sports is associated with a 0.30 standard deviation increase in soft skills compared to non-participants in this age group

In contrast, for younger groups, the association is either not statistically sig-

nificant or negligible, suggesting that older adults may benefit more from the interpersonal and motivational aspects of sports participation.

The same analysis was performed separately for each education level to assess the relationship between sports participation and soft skills across different educational backgrounds. The three educational levels considered were: low, medium, and high.

As shown in Table 3, at the low level of education, the effect of sport turned out to be positive and statistically significant ($\beta = 0.24$; $p < 0.01$). This suggests that among individuals holding no more than a lower secondary education diploma, those who participate in sports have significantly higher soft skills. In this context, sports may serve as an important avenue for personal and social development, compensating for limited access to formal educational resources.

	(1)	(2)	(3)
VARIABLES	Low Education	Medium Education	High Education
Sport	0.241***	0.002	-0.018
	(0.078)	(0.044)	(0.054)
Constant	0.097	-0.044	0.362***
	(0.322)	(0.109)	(0.126)
Observations	5.326	6.172	4.835
R^2	0.089	0.070	0.028

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 3 - Regression of sport activities on soft skills among different education levels

When we consider the medium level of education, the effect of sport was almost null and not significant, indicating a weaker or less clear relationship. Other factors – such as work experience or vocational training – may play a relevant role in soft skill development for this group.

Interestingly, the effect of sport participation appeared slightly negative and not statistically significant ($\beta=-0.02$; $p=0.74$) for individuals with a high level of education, suggesting that for this group, soft skills are likely to be developed through formal education, professional experiences, or rich social environments, thus making sports participation less impactful in this regard.

Overall, based on these findings, we can presume that the benefits of sports participation for soft skills development may be age-dependent. While younger individuals (less than 54) may acquire soft skills through a broader range of life experiences –e.g., education, early career, socialization –, older adults may benefit more from the interpersonal, motivational, and organisational aspects of sport. For the 55+ group, sports may serve as a key context for maintaining or enhancing

soft skills, potentially offsetting declines in other domains of social or cognitive engagement.

Furthermore, the association between sports and soft skills is not uniform across educational backgrounds. The impact is more pronounced between individuals with lower levels of education, possibly suggesting that sport may function as an equalising opportunity for informal learning. Among highly educated individuals, surprisingly, its effect is negative.

6. Conclusion and discussion

This study adds to the literature on sport's educational value by demonstrating its role in adult soft skill development. Drawing on data from the INDACO-Adults 2022 survey, this study explored the relationship between sport engagement and self-reported soft skills among Italian adults who had recently participated in training activities. The analysis revealed a significant and positive association between sport engagement and soft skills. However, the heterogeneity analysis revealed a more nuanced picture. Notably, the benefits, in terms of significantly higher soft skills, were most pronounced among older adults (55-64) and individuals with lower levels of formal education.

These findings underscore sport's potential as an informal learning environment that complements more traditional educational and professional training pathways. In particular, for older adults, sport may provide crucial opportunities for maintaining social connection and associated communication skills (Leo et al., 2019), or for practicing resilience (Morgan et al., 2022) in a context outside of potentially shrinking work or social circles. Whereas, for those with lower education, sport might offer accessible avenues for developing teamwork (Carron, Eys, 2012) and discipline (Haugaasen, Jordet, 2012) that may be less stressed in their formal schooling.

Conversely, the absence of significant effects for younger or more educated adults could indicate that the incremental benefits of sport on soft skills may be less pronounced when individuals are already engaged in environments that foster such skills, such as higher education or demanding early career experiences.

One of the key strengths of this study lies in its use of a large and nationally representative dataset, which allows for a robust analysis of the relationship between sports participation and soft skills across different demographic groups. Second, it addresses a research gap by focusing on adults and considering sport's educational contributions, rather than solely focusing on youth development or the well-established physical health benefits. This study then shifts the perspective beyond the typical health/leisure paradigm. Moreover, instead of relying on single items, the study constructs a continuous soft skills scale using multiple indicators - such as collaboration, leadership, problem-solving, teamwork, discipline, and

communication – and employs the Item Response Theory (1PL model), providing a robust measure for the dependent variable.

Nonetheless, several limitations must be acknowledged. First, the cross-sectional nature of the data does not allow for causal inference. Although the associations are strong, reverse causality cannot be ruled out – it is possible that individuals with stronger soft skills are more likely to choose sport – or confounding variables – e.g., underlying personality traits like conscientiousness influencing both sport participation and skills. Longitudinal data would be needed to disentangle these effects and better understand the direction of the relationship. Second, the measurement of soft skills is based on self-reported perceptions, which may be subject to social desirability bias or inaccuracies in self-assessment. Respondents may overstate their involvement in sports or rate their own skills more favourably, leading to measurement errors. Finally, the analysis does not distinguish between types of sport – e.g., team vs. individual, competitive vs. recreational –, frequency, or duration of participation. These factors may have differential impacts on skill development (Fransen et al., 2016).

Despite these limitations, the findings have meaningful implications for both research and policy. From a policy perspective, they support the integration of sport into adult education and lifelong learning strategies, particularly as a tool for enhancing employability and social inclusion (Council of the European Union, 2018). Programmes that encourage adult participation in sports – especially targeting populations that are older or less formally educated – may yield broader benefits than previously recognised, not only in terms of health but also in the development of key competencies needed in today's labour market and civic life (OECD, 2015).

Future research should address the aforementioned limitations by using longitudinal data to follow diverse adult populations (not just those in training) or experimental designs. These designs could incorporate objective behavioral assessments or multi-rater feedback (e.g., employer ratings) alongside self-report, as well as detailed measures capturing the type (team/individual), intensity, and duration of sport involvement. Moreover, qualitative research could also help illuminate the mechanisms through which sport contributes to soft skill development by capturing the nuanced processes and contextual factors involved (Nicholson et al., 2011).

In conclusion, this study highlights the importance of viewing sport as a multidimensional learning environment with strong educational value. Its potential to nurture essential skills positions it as a valuable complement to more formal educational interventions, particularly in a society that increasingly values adaptability, collaboration, and emotional intelligence across the lifespan.

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