

Sport and social integration of immigrant students: Validation of a questionnaire for Greek higher education

SARAFΟΥDIOURANIA¹, MATSOUKA OURANIA², ALBANIDIS EVAGGELOS³, OLGA KOULI⁴
^{1,2,3,4}School of Physical Education & Sport Sciences, Democritus University of Thrace, GREECE,

Published online: August 31, 2026

Accepted for publication: August 15, 2026

DOI:10.7752/jpes.2026.08155

Abstract

Integrating first- and second-generation immigrant students into higher education remains a significant challenge for modern Greek universities. Although physical education and university sport programmes are widely recognised as effective means for fostering social bonds, a significant gap persists in the availability of valid and reliable instruments to assess this phenomenon within the Greek academic environment. This study aimed to assess the validity and reliability of the Allen, Drane, Byon & Mohn (2010) questionnaire using Greek data and to utilise it to measure the social integration of immigrant students in physical education and sport programmes in higher education. Specifically, this research examined how university sport programmes affect the social integration of enrolled immigrant students. The sample comprised 43 students, of whom 23 were men and 20 were women, enrolled in departments of the International University of Greece in Kavala and Serres, with their own or their parents' (second-generation immigrants) origins in other countries. The students were members of the university gyms, and their participation was voluntary. Statistical analysis of the results confirmed that the adapted questionnaire is a valid and reliable instrument for measuring social inclusion in physical education and university sport. In conclusion, the Greek adaptation of the Allen et al. (2010) questionnaire effectively addresses a significant methodological gap in the domestic literature. University sport programmes can serve as effective integration tools, and researchers are now equipped with a scientific instrument to assess, monitor and optimise these programmes to better support immigrant students.

Keywords: sport, cultural identity, immigrants, tertiary education, social integration

Introduction

The modern era is characterised by globalisation, a historic socio-economic change that has led to unprecedented interdependence among states worldwide (IMF, 2008). This mutual dependence extends beyond the economy and trade and is rapidly expanding into the technological, institutional and cultural sectors. This historical phenomenon is based on the perception that the world must be organised as a unified whole (Kyriakidis, 2003). One trend that has emerged or significantly strengthened in recent years and is associated with globalisation is increased migration (Kostakis, 2018). In fact, historically, whenever a wave of globalisation emerged, labour mobility increased (Rakkas, 2011).

As a result of the intense movement that emerged across countries and social classes, and of concerns about the cultural dimension of globalisation, the structures of society, family, religious groups and cultural elements have changed (Vergidis & Prokou, 2005). One characteristic of globalisation is an emphasis on heterogeneity and multiculturalism. Historically and sociologically, multiculturalism is directly and indirectly associated with globalisation (Rakkas, 2011). According to Lavdas (2015), the term multiculturalism refers to the coexistence of different cultural groups within a state's boundaries. The phenomenon denotes significant changes in societal structure resulting from the coexistence of population groups with different traditions, values and ways of life (Karamanou, 2016). As a descriptive term, it indicates the existence of culturally heterogeneous human societies or groups. In this sense, the phenomenon of multiculturalism has preoccupied people since ancient times. The Histories of Herodotus can be considered a work that aimed not only to record cultures and their customs but also to compare them (Paparrigopoulos, 1999).

The multicultural societies of the past differ from those of today because the social and historical factors that shaped them have changed (Zamba, 2018). In the contemporary era, the term multiculturalism refers to a series of practical political dilemmas in pluralistic societies (Lavdas, 2015). As the multicultural character of modern societies is constantly reinforced, unprecedented problems arise. Although population movements and the coexistence of diverse cultures in the same space are not modern phenomena, modern societies are called upon to address the challenges of integrating immigrants into local communities while preserving their diversity and uniqueness (Zamba, 2018).

In recent decades, there has been a surge in immigration in both Greece and the European Union. It is reasonable to question the extent to which immigrants can integrate harmoniously into host countries that are

undergoing demographic and institutional transformations. The escalation of the immigration wave towards Greece has created new realities, which, among other things, tend to change the image of tolerance that Greeks had of themselves when Greece was a country of emigration rather than immigration (Karydis, 1996).

The long-term consequences of immigration flows are primarily determined by the integration of second-generation immigrants. Many children of immigrants attend Greek schools and universities and enter the job market. Their integration, both educational and occupational, is one of the most complex socio-economic problems in Greek society. Evaluating a country's immigration policy and the successful integration of immigrants into society appears to be directly related to the success or failure of the education of foreign students in schools (Moussourou, 2006).

Recent research in the Greek educational context shows that second-generation immigrant students continue to face significant textbook and structural barriers, yet they also demonstrate high levels of resilience and academic aspiration (Motti-Stefanidi, 2014). The challenge for the modern educational system has shifted from simply providing access to schooling to ensuring equal opportunities for enrolment in higher education and for social mobility. Therefore, assessing how higher education institutions respond to cultural diversity is key to understanding contemporary integration outcomes (OECD, 2021).

As Taylor (1993) states, the problems of multiculturalism mainly arise in education as new generations are educated through the system and as a society's culture and way of life are cultivated. In recent decades, Greece has been experiencing the consequences of these developments, particularly the large waves of migration it has received over the years. At the end of the 19th century, it was a traditional country of immigration, but today it has become a transit country, mainly for people from the Middle East and Africa. A decade ago, immigrants entering Greek territory were mainly from the Balkan countries, with more than half coming from neighbouring Albania, while the second-largest group came from former socialist countries.

(Aspridis & Petrelli, 2011). In recent years, Syria has been the leading country of origin for refugees, followed by Iraq, Afghanistan, Eritrea and Somalia, due to the conflicts in these regions (Crawley, 2016).

In the years that followed, migration flows towards Greece and the Mediterranean route became structurally more complex, shifting from an acute crisis to a long-term management challenge (UNHCR, 2022). Recent data show that although the countries of origin vary with global geopolitical conflicts, the European and Greek institutional frameworks are under continuous pressure to shift from temporary reception strategies to permanent integration policies (Eurostat, 2024). This ongoing reality makes the question of how host societies welcome and integrate these populations more urgent than ever. However, is the country sufficiently prepared to make radical changes at all levels of education to address the various problems faced by 'minority' students?

In the sport psychology literature, the idea that sport can foster positive youth development is often discussed (Fraser-Thomas, Côté, & Deakin, 2005). Sport can contribute to positive youth development. Morela (2016) notes that many studies identify socially desirable outcomes, such as socialisation and cooperation (Wuest & Lombardo, 1994); positive peer relationships (Evans & Roberts, 1987); and empathy, responsibility and citizenship (Eley & Kirk, 2002; Côté, 2002), which are attributed to individuals' participation in sport. Additionally, a positive association is reported between young people's participation in sport and adults' participation in community activities, as young athletes gain valuable social skills, such as emotional control, teamwork and initiative (Larson, Hansen, & Moneta, 2006), which contribute to the smooth functioning of the community. Several European countries promote and support the value of sport for the seamless integration of minority groups into host societies (Sagatun, Kolle, Anderssen, Thoresen & Sogaard, 2008).

More recent studies continue to support this view, showing that organised physical activity and campus sport programmes offer a safe 'social space' where cultural barriers can be lowered (European Commission, 2022). Participating in sport helps immigrant and minority students build social capital via two paths: 'bonding' with peers from the same background for emotional support and 'bridging' with the host culture to create wider social networks (Spaaij, R., Oxford, S., & Jeanes, R., 2014). Consequently, sport is increasingly recognised by European educational policies not only as physical exercise but also as a practical means of improving social cohesion and intercultural communication in multicultural universities.

Materials and Methods

Participants

The study sample comprised students at the International University of Greece in Kavala and Serres whose own or their parents' origin (second-generation immigrants) was from other countries and who participated in sport programmes offered by the university gymnasiums. The participants answered the questions voluntarily.

Procedure

Sport and Cultural Identity Scale

The questionnaire was developed by Allen et al. in 2010 and assesses two dimensions of cultural identity: assimilation (10 questions, e.g. Through sport, I have socialised with people from different cultures on campus) and cultural preservation (10 questions, e.g. I usually participate in sporting activities that are traditionally popular in my country). Responses are rated on a 4-point scale, with 1 = completely untrue, 2 = slightly untrue, 3 = slightly true, 4 = completely true and I don't know = 0.

The validity and reliability of the specific questionnaire are validated in the study by Allen et al. (2010), but in a different sampling framework. After the translation of the 'Sport and Cultural Identity Scale' questionnaire by Allen, Drane, Byon & Mohn (2010) into Greek and the re-opening of university gyms in accordance with the joint ministerial decision 119847/GD6/23.9.2021, the questionnaire was sent to members of the university gyms of the International University of Greece in Kavala and Serres for a pilot study.

The translation was checked using the back-to-back method. This translation quality control method comprises three steps: a) translating the questionnaire into the original language, b) comparing the new translation with the original text and c) checking for any significant differences between the two. The aim was to confirm that the questionnaire translation was accurate. It is an additional tool for accuracy control that strengthens the questionnaire translation process.

The research was conducted between October and December 2021, and the questionnaires were distributed in person to students participating in the sport centres' programmes in the University Cities of Kavala and Serres. A total of 43 students participated voluntarily in the research (23 boys and 20 girls), with the majority in the 2–24 age group (55.8%). Of the respondents, 9.3% were >30 years of age, 18.6% were aged 18–20 and 16.3% were aged 25–30. On average, students were in their 4th year of study (mean = 4.2, standard deviation [SD] = 1.47). The respondents completed the questionnaire, which, in addition to the first part comprising basic demographic information and information on sport and participation in activities, included the following sections: questions about cultural identity and the Sport and Cultural Identity Scale.

Data Collection and Analysis

For data analysis, the statistical programme SPSS-20.0 (Statistical Package for the Social Sciences) was used, and the level of statistical significance was set at $p < 0.05$. Descriptive statistics were used to characterise the research sample, and factor and reliability analyses were conducted to assess the validity of the conceptual framework of the translated questionnaire.

Results

Descriptive Statistics

Initially, to characterise the pilot study sample, descriptive statistics were presented on the sport preferences of the surveyed male and female students. Regarding their first preference in sport, 18.6% preferred 'volleyball', and the same percentage chose 'Greek traditional dances'. While 16.3% named 'football' as their first choice, 14% chose 'basketball'. As for the second preference in sport, 18.6% answered 'volleyball', 'Greek traditional dances' and 'classic sport'. For the third-preferred sport, 14% cited 'Greek traditional dances' and 'table tennis', while 11.6% chose 'classic sport' and 'volleyball'. The vast majority of respondents (74.4%) stated that they do not actively participate in sport competitions but only engage in sport as a hobby.

Regarding the time respondents dedicate to sport, they reported participating on average 10 times a month (mean = 10.046, SD = 7.60), while they train on average 3.86 times a week (mean = 3.86, SD = 3.66), or, as they stated, 4.76 hours per week (mean = 4.767, SD = 3.79).

Validity and Reliability Analysis

Next, to assess the validity of the translated questionnaire's conceptual structure, factor and reliability analyses were conducted. To determine the optimal number of factors, parallel analysis (Horn's parallel analysis) was initially performed. This analysis is used to determine the optimal number of factors to retain or extract in an exploratory factor analysis (Dinno, 2009). The results of the parallel analysis are presented in Table 1 and Figure 1.

Table 1: Results of parallel analysis (Horn's parallel analysis)

Raw Data Eigenvalues and Mean and Percentile Random Data Eigenvalues			
Root	Raw Data	Mean	Percentile
1.000000	8.108855	3.252284	3.713805
2.000000	4.557316	2.735958	3.033392
3.000000	2.222324	2.371103	2.606621
4.000000	1.501293	2.063094	2.288755
5.000000	0.939860	1.793492	1.981959
6.000000	0.759480	1.566676	1.742902
7.000000	0.725693	1.353604	1.508062
8.000000	0.489027	1.168604	1.320678
9.000000	0.446328	0.994086	1.147178
10.000000	0.328530	0.837356	0.968294
11.000000	0.276483	0.700951	0.822684
12.000000	0.224574	0.577487	0.685975
13.000000	0.191008	0.462412	0.559937
14.000000	0.110236	0.359822	0.454299
15.000000	0.064377	0.272969	0.354570
16.000000	0.040512	0.198937	0.270369
17.000000	0.010147	0.135347	0.191106

18.000000	0.003148	0.084462	0.129938
19.000000	0.000811	0.046646	0.079677
20.000000	0.000000	0.019947	0.043293
21.000000	0.000000	0.004764	0.014138

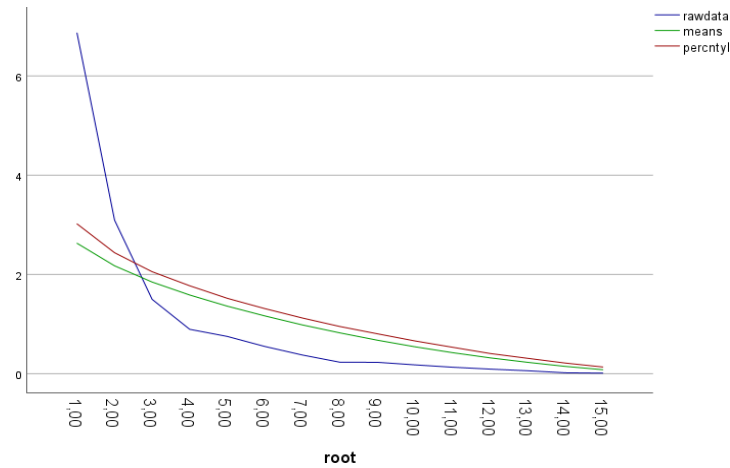


Figure 1. Graphical determination of the optimal number of factors in a factor analysis

As shown in Table 1, parallel analysis suggests four factors, as this is the number of questions with a percentage (percentile column) above 2. Alternatively, the corresponding value in the raw data column is above unity. Similarly, in Figure 1, four distinct slopes of the dashed line correspond to the raw data and are located below the other two curves.

Following the parallel analysis, factor analysis was conducted on all questionnaire items in the first phase. The desired number of factors was set at four. The anti-image analysis indicated that question 4 (4: I usually participate in sport activities that are traditionally popular in my country) had a very low anti-image index ($0.420 < 0.5$) and was therefore excluded from the analysis. Subsequently, factor analysis was performed without this question, and the results showed that questions 5 and 6 had low loadings (< 0.4) (5: My sport gives me opportunities to socialise with people from different cultures and 6: My sport allows me to gain acceptance in my new environment) and were therefore excluded from the analysis. The final factor analysis was performed with the final set of 21 questions. The results are summarised in Table 2.

Table 2

Factor Name	Items	Factor Loadings	Cronbach's Alpha
Socialising with people of the same cultural identity	Q1	0.531	0.875
	Q7	0.895	
	Q10	0.661	
	Q13	0.759	
	Q17	0.679	
	Q19	0.726	
	Q23	0.693	
Developing relationships with individuals of different cultural identities	Q2	0.604	0.910
	Q3	0.624	
	Q14	0.608	
	Q18	0.597	
	Q20	0.804	
	Q21	0.634	
	Q22	0.736	
	Q24	0.790	
Development of friendly/social relationships	Q11	0.818	0.855
	Q12	0.723	
	Q15	0.797	
	Q16	0.662	
Knowledge of a new environment	Q8	0.593	0.748
	Q9	0.829	
Kaiser–Meyer–Olkin = 0.772 Bartlett's Test of Sphericity: $X^2 = 391,3$ ($p < 0.001$) Total Variance Explained: 69.888%			

After extracting the factors, an internal consistency reliability analysis was conducted. Accordingly, Cronbach's alpha was calculated for each group identified by the factor analysis. Table 2 shows that all extracted factors have high reliability (Cronbach's alpha > 0.7).

Discussion

This study sought to examine the validity and reliability of the Greek adaptation of the Sport and Cultural Identity Scale developed by Allen et al. (2010) and to assess its suitability for measuring the social integration of immigrant and second-generation immigrant students in university sport programmes. The findings provided strong support for the instrument's use in the Greek higher education context. The exploratory factor analysis revealed a four-factor structure comprising the following: (a) socialising with people of the same cultural identity, (b) forging relationships with individuals from different cultural identities, (c) developing friendly and social relationships and (d) knowledge of a new environment. This multi-dimensional structure reflects the complexity of social integration and highlights that integration is not limited to interaction with the host culture but also involves maintaining connections with one's cultural background. These findings align with the theoretical framework proposed by Allen et al. (2010), who argued that sport serves as both a mechanism for cultural preservation and for intercultural adaptation.

The reliability analysis further strengthened the instrument's validity. All extracted factors demonstrated satisfactory to excellent internal consistency, with Cronbach's alpha coefficients exceeding the recommended threshold of 0.70. These results confirm that the questionnaire items measure coherent underlying constructs and can reliably evaluate various dimensions of social integration in immigrant students. Furthermore, the satisfactory Kaiser-Meyer-Olkin value and the statistically significant Bartlett's test of sphericity indicate that the data are suitable for factor analysis and support the robustness of the measurement model. A key implication of the findings is the recognition of university sport programmes as potential settings for fostering intercultural communication and social cohesion. Sport participation appears to facilitate both bonding relationships among students with similar cultural backgrounds and bridging relationships between individuals from varied cultural groups. This dual role is particularly significant in multicultural university settings, where successful integration requires both a sense of belonging and opportunities for intercultural interaction. The findings therefore support previous research that emphasises the contribution of sport to socialisation, citizenship development, teamwork and community engagement.

Despite the positive findings, this study has several limitations that should be acknowledged. The research was conducted with a relatively small sample of 43 students from only two campuses of the International University of Greece. Consequently, the generalisability of the results to the broader population of immigrant students in Greek higher education remains limited. Future studies should employ larger, more diverse samples drawn from multiple universities and geographic regions. Additionally, longitudinal research designs could offer valuable insights into how participation in sport programmes affects social integration over time. The findings suggest that the Greek adaptation of the questionnaire is a valuable methodological tool for researchers and university administrators seeking to evaluate integration outcomes in immigrant students. Furthermore, the results reinforce the view that organised sport can play a meaningful role in promoting inclusion, intercultural understanding and social participation in higher education institutions.

Conclusions

The purpose of this study was to validate a reliable measurement tool for evaluating social integration in the Greek context, within the framework of physical education and sport in tertiary education. This research analysed the validity and reliability of a questionnaire administered to university students who are immigrants or second-generation immigrants and who participated in sport programmes offered by their university gyms. The results of the exploratory factor analysis showed that the 'Sport and Cultural Identity Scale' questionnaire comprises four factors:

- 1) Association with people of the same cultural identity
- 2) Forging relationships with people of different cultural identities
- 3) Developing friendly social relationships
- 4) Knowledge of a new environment

In addition, the confirmatory factor analysis affirmed that this four-factor model fits the real data very well, within a 95% confidence interval. These results align with the original theory and hypotheses of Allen et al. (2010), indicating that the questionnaire performs well in the Greek university setting. The reliability analysis also showed that the tool is stable and accurate. All factors had Cronbach's alpha coefficients >0.70, the standard threshold in research. This finding suggests that the questions are clear and consistently measure the same ideas.

Overall, the adapted questionnaire is a valid and reliable tool for measuring the social integration of immigrant students. On a practical level, the study highlights that university sport is not only for exercise but also an important means of social inclusion, helping students from diverse backgrounds connect, feel a sense of belonging and better understand one another. Finally, this tool can help university managers and researchers evaluate sport programmes and design activities that better support all immigrant students in higher education.

Funding This research received no external funding.

Conflicts of Interest

The authors declare that this manuscript is original, has not been published and is not under consideration for publication elsewhere. All sources have been properly cited and referenced in accordance with academic standards.

CRedit Authorship Contribution Statement

Ourania Sarafoudi: Conceptualisation, Methodology, Literature Review, Formal Analysis, Writing – Original Draft, Writing – Review and Editing

Matsouka Ourania: Conceptualisation, Methodology, Literature Review, Formal Analysis, Writing – Original Draft, Writing – Review and Editing

Albanidis Evaggelos: Conceptualisation, Methodology, Literature Review, Formal Analysis, Writing – Original Draft, Writing – Review and Editing

Olga Kouli: Conceptualisation, Methodology, Literature Review, Formal Analysis, Writing – Original Draft, Writing – Review and Editing

Declaration of Competing Interests

The authors declare that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The datasets generated and/or analysed in the current study are available from the corresponding author upon reasonable request. The original data were obtained from publicly available sources cited in the manuscript.

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