



## Regular Article

## Intercultural training and attitudes of physical education teachers towards immigrant students in Chile: A multi-stakeholder perspective

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## ABSTRACT

The number of immigrant students has significantly increased in Chile over the past decade; this has posed new challenges for teacher education in the field of Physical Education (PE), especially in the southern macrozone of the country, where there have historically been tensions related to the recognition of cultural diversity within schools. The present study was conducted in three university campuses in the southern macrozone of Chile. The study aimed to answer the following questions: (a) What are the attitudes towards immigrant K-12 students of pre-service PE teachers, their university professors and the PE teachers who guide their practicum experiences in the placement schools?; (b) What are the perceptions of immigrant K-12 students and their parents regarding the attitudes toward foreign pupils of pre-service (who undergo practicum experience in schools) and PE in-service school teachers (who guide and give feedback on the practicum)?; (c) What are the differences and similarities between the perceptions of all stakeholders (PE in-service and pre-service teachers, their professors, immigrant K-12 students and their parents) about the effectiveness and appropriateness of university strategies preparing future PE teachers to engage with in intercultural contexts? University professors, pre-service PE teachers, and in-service PE teachers display positive attitudes towards interculturality, defined as the presence of K-12 immigrant students in schools. However, significant differences in attitudes exist between those responsible for their teacher education (university professors and in-service PE school teachers). Some K-12 immigrant students and their parents hold a critical perspective toward in-service PE school teachers (both pre-service and in-service), primarily because they perceive a lack of cultural inclusion within the classroom. There is a consensus among the majority of participants regarding the necessity to enhance teacher education concerning interculturality.

## 1. Introduction

Currently, there are over 280 million international immigrants worldwide, a figure equivalent to 3.6% of the global population (IOM-NU, 2022). These ongoing migratory flows, characteristic of a globalized era, generate interactions among different cultures, which in turn shape new social relationships (Barnett & Nam, 2024; Bretell, 2022). These interactions foster processes of exchange, new forms of inequality, diverse discourses, stereotypes, discriminatory situations,

and new modes of coexistence in social spaces (Chen & Borsari, 2024; Zapata-Barrero & Hellgren, 2023). It is an undeniable fact that current migratory processes lead to societies that are culturally more heterogeneous than in the past, and this phenomenon can be perceived and addressed from various perspectives (Banks, 2016). In this context, the development of interculturality based on the recognition of mutual differences, horizontal dialogue, respect for identities, and the cultivation of positive attitudes towards diversity, appears to be essential in overcoming ethnocentric views and advancing towards reciprocal

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understanding (Biradzem, 2021; El-Hani & Ludwig, 2024).

According to the latest official measurement, the immigrant population in Chile stands at 1,482,390 individuals, representing 7.5% of the country total population (INE, 2022). This total number and percentage of the total population are significantly higher when compared to previous decades: 1992 ( $n = 114.597$ ) (0.8%), 2002 ( $n = 184.464$ ) (1.2%), 2012 ( $n = 339.536$ ) (2.0%) (CEPAL, 2009; INE, 1993, 2003, 2020). The noted increase can be attributed to the migration of women, men, and children from various Latin America and the Caribbean regions. In most instances, they come due to political crises, poverty, persecution, armed conflicts, and other unstable humanitarian situations prevailing in their origin countries (Carter-Thuillier et al., 2021; Trujillo & Tijoux, 2016).

The number of K-12 immigrant students in the Chilean school system has also significantly increased in recent years (Gómez & Sepúlveda, 2022; Guthrie et al., 2019). This has directly impacted on the enrollment numbers of students from other countries from 2015 to 2018, which has quadrupled (MINEDUC, 2021), and since then, have continued to rise (Tapia & Tour, 2022). Currently, there are 178,806 students from other nationalities that have recently arrived to Chile, accounting for 4.95% of the total volume of K-12 students in the country (MINEDUC, 2021). Additionally, since the Chilean government has not developed a planned strategy for accommodating immigrant students (Valdés et al., 2022), school administrators and teachers have implemented integration strategies without specific experience or training in this area (Stefoni et al., 2016). This has often resulted in outcomes contrary to expectations, such as increased inequities for immigrant students (Eyzaguirre et al., 2019; Román, 2021).

Furthermore, a significant portion of K-12 immigrant students in Chile live in impoverished conditions (Román, 2021; SJM, 2021) and face daily experiences of racism, particularly among Afro-descendants, along with other forms of social marginalization (Alaracón, 2020; González & González, 2020). Therefore, the educational system needs to address the inequalities and discrimination affecting the immigrant population (Pavez-Soto et al., 2019). However, in most cases, immigrant students reside in segregated urban areas that are often stigmatized by poverty and crime (Córdoba-Calquín et al., 2022; Imilan et al., 2021; Razmilic, 2019); they are more likely to attend schools with up to 50% of foreign students, further exacerbating their isolation and social segregation (Eyzaguirre et al., 2019; Salas et al., 2021). In fact, various studies confirm that immigrant students in Chile frequently experience school segregation, harassment, prejudice, and racism, whether from peers, teachers, or school administrators. Additionally, they often encounter teachers without intercultural training and non-existent or ineffective reception policies (Caqueo-Urizar et al., 2019; Castillo et al., 2018; Morales et al., 2017; Moyano et al., 2020; Pinto-Cortez et al., 2022; Salas et al., 2017).

In the southern macrozone of Chile (which encompasses the regions of La Araucanía, Los Ríos, and Los Lagos), the growth of the immigrant population has transformed the social fabric of schools and reconfigured the sociocultural relationships within them. This transformation has also introduced new educational needs for Physical Education (PE) teachers (Carter-Thuillier et al., 2022). Currently, teachers specializing in PE must contend with even more complex and culturally heterogeneous educational contexts than in the past (Stefoni et al., 2016); this is despite the fact that the southern macrozone of Chile has historically been a region inhabited by multiple cultural identities, and coexistence among them has been marked by conflicts (González et al., 2016). Specifically, the existence of several cultural identities in this territory can be attributed primarily to the following reasons: (a) the ancestral presence of the Mapuche people in that part of the country (Atallah, 2016); (b) successive processes of European colonization that occurred between the 16th and 20th centuries, involving Spaniards, Germans, Swiss, Italians, among others (Green, 2018); (c) ongoing migration from neighboring countries and other nations with a historical connection to the macrozone (such as Spain and Germany) (González et al., 2019); (d) the recent arrival of “new immigrants” who continue to arrive in the

country, mainly from Colombia, Ecuador, Haiti, the Dominican Republic, and Venezuela (INE, 2022).

Some of the issues described above imply that PE teachers in the southern macrozone of Chile must work in classrooms where diverse cultural identities converge (Oyarzún et al., 2022; Rodríguez, 2019). As a consequence, these are places where different interpretations of the body and human movement coexist (Carter-Thuillier et al., 2022; Min & Peñaloza, 2019). This difference of interpretation is because within most cultural systems, there are representations, identity symbols, stereotypes, and traditions directly related to core elements of PE: body, movement, games, sports, competition, and cooperation, among others. (Lenneis & Pfister, 2017). Various authors (Besnier & Brownell, 2012; Markula, 2019; Parlebas, 2020) point out that while all cultures construct different meanings around these elements. It is also true that physical and sports activities (PSA) are present in most of them and, therefore, represent a universal phenomenon. Building upon this notion, an educational use of PSA can help PE become a meeting point for members of different cultures, foster intercultural relationships, and promote the learning of educational values related to diversity (Flensner et al., 2021; Smith et al., 2019; Spaaij et al., 2019). However, various studies indicate that this is only possible if PE teachers receive specific training in this regard; otherwise, PSA can lead to conflicts, especially where existing rivalries exist which can then be exacerbated (Ko et al., 2015; Lleixà & Nieva, 2020; Siljamäki & Anttila, 2021).

Additionally, according to Self-Determination Theory (Deci & Ryan, 2015), the intrinsic motivation and attitudes of PE teachers towards working with immigrant students could be influenced by how competent they perceive themselves to be in culturally diverse contexts. This may affect their interest and capacity to build positive relationships with immigrant students at school and, consequently, their professional autonomy in understanding, addressing, and managing classroom situations involving immigrant students (Barker et al., 2014; De Benedetto & De Paola, 2022).

In fact, various studies conducted in different countries, related both to the field of Physical Education (PE) and other educational areas, declare that it is essential to train both pre-service and in-service teachers in intercultural matters. This is particularly important because it generates changes in the attitudes of future teachers towards cultural diversity (Grimminger, 2011; Romijn et al., 2021), increasing their sensitivity and empathy towards cultures different from their own (Fernández-Corbacho et al., 2024; Landler-Pardo et al., 2022). Additionally, it improves their capacity to act as agents of integration (Anttila et al., 2018; Sharkey, 2018), create intercultural environments, and foster the development of all cultural identities present in the classroom (Leseth & Engelsrud, 2019; Martorana et al., 2021).

However, currently, universities do not offer PE Teacher Education (PETE) programs in the southern macrozone of Chile that include specific subjects for developing intercultural competence (Carter-Thuillier et al., 2022). This lack of professional training for teachers, is concerning and contradictory. As schools in this territory previously experienced a high volume of cultural identities before the current migration phenomenon, with existing difficulties and tensions in implementing intercultural education (Arias-Ortega et al., 2019; Carter-Thuillier et al., 2022). Therefore, the arrival of “new immigrants” has further increased the socio-cultural complexity of the entire educational process.

To-date, no studies have in the southern macrozone focused to know whether university professors, on their initiative, address topics related to PE and interculturality within their courses. Additionally, no research reports have provided insights into the impact of the practical internship training that future PE teachers receive in schools within this context (where they complete their practicum and teach immigrant students) on their ability to teach in culturally diverse contexts.

Furthermore, there is also a lack of studies that shed light on what both pre-service PE teachers (PPETs) and those involved in their initial training (i.e., university professors and in-service PE school teachers who guide and give feedback to the practicum to PPETs), believe

regarding cultural diversity and the necessity for PE teachers to receive training in this area. It would also be valuable to understand the perceptions of K-12 immigrant students and their parents regarding how well-prepared PE teachers work in contexts inhabited by students from diverse cultures and nationalities. Ultimately, developing studies that connect PETE university programmes, immigration, and interculturality in the southern macrozone of Chile is crucial, as there is currently a knowledge gap in this area.

## 2. Study purposes

This study was conducted on three university campuses located in different cities within the southern macrozone of Chile. Its objective was to address three research questions and, thereby, respond to previously identified knowledge gaps, using the framework proposed by Leong (2008). According to this framework, to understand attitudes, perceptions, and interactions related to immigration, it is essential to examine three central aspects: (a) intergroup relations (e.g., between immigrants and nationals of the host country); (b) individual-level differences (identifying differences that may exist at the individual level and that escape collective interpretations); (c) cultural-level differences (detecting whether there are differences in customs, beliefs, and values that positively or negatively affect attitudes towards immigration). The research questions are presented below:

- i. What are the attitudes towards immigrant K-12 students of pre-service PE teachers, their university professors and the PE teachers who guide their practicum experiences in the placement schools?
- ii. What are the perceptions of immigrant K-12 students and their parents regarding the attitudes toward foreign pupils of pre-service (who undergo practicum experience in schools) and PE in-service school teachers (who guide and give feedback on the practicum)?
- iii. What are the differences and similarities between the perceptions of all stakeholders (PE in-service and pre-service teachers, their professors, immigrant K-12 students and their parents) about the effectiveness and appropriateness of university strategies preparing future PE teachers to engage with in intercultural contexts?

## 3. Methodology

### 3.1. Context and design

This collective case study (Stake, 2010) aimed to analyze the reality of three university campuses located in different cities within the southern macrozone of Chile, where PE teachers are trained. This type of design has been chosen because it allows for a holistic understanding of socio-educational phenomena by examining multiple cases within a common context, thereby making it possible to identify similarities and differentiating elements among them (Yin, 2009). For this purpose, a mixed design (quantitative and qualitative) was employed, along with an interpretive research paradigm (Willis, 2007), to address the Study purposes from different perspectives and mutually complementing techniques and instruments. Quantitative techniques and instruments allow us to work with larger samples and gain a broader view of the various populations involved in the study. Conversely, qualitative techniques and instruments help us understand the studied realities and results, emphasising the perceptions and subjective meanings constructed by the participants.

It should be noted that for this research, the study focused on the training provided by universities in the southern macrozone of Chile to future Physical Education teachers, with an emphasis on their attitudes, strategies, and perceptions. This is considered the central case of the study, as this region of the country, due to its unique characteristics, can

be considered a case in itself. Additionally, this case was composed of three micro-cases, since each campus where the research was conducted has a different curriculum, as well as distinct faculty and student bodies, among other differences. For this reason, it is a collective case study.

### 3.2. Participants and data collection

Data collection took place in three different cities and was divided into two stages, with quantitative data collected initially, followed by qualitative data. Both stages were related. In fact, following the recommendations of Creswell and Creswell (2017), the qualitative stage (developed after the quantitative stage) aimed to provide participants with the opportunity to deepen their quantitative responses, thereby allowing the research team to achieve a more profound understanding.

*Stage 1 (quantitative):* In this study 255 participants took part ( $n = 160$  males and  $n = 97$  females; ages  $26.20 \pm 9.70$  years). Among them, 212 were PPETs from university campuses located in three different cities in the southern macrozone of Chile ( $n = 131$  males and  $n = 83$  females; ages  $22.34 \pm 3.29$ ), 28 were university professors who taught PPETs ( $n = 21$  males and  $n = 8$  females; ages  $44.53 \pm 10.50$ ) and 14 were PE school teachers who guided the practicum for PPETs participating in this study. These PE school teachers were affiliated with three different educational institutions (one in each city) with immigrant student populations ( $n = 8$  males and  $n = 6$  females; ages  $39.60 \pm 10.59$ ).

These three schools were selected based on the following inclusion criteria: (a) being among the top 10 schools with the highest number of immigrant students in their respective cities; (b) officially serving as a practicum site for one of the participating universities in the project; (c) obtaining authorization from the school principals to conduct the study.

In this first stage, the "Scale of Attitudes toward Intercultural Education" (Rodríguez et al., 1997), was administered. This instrument was specifically developed to assess teachers' beliefs and representations regarding the presence of immigrant students in schools. Structurally, it consists of 24 statements and 8 dimensions. Participants are asked to express their level of agreement with various statements using a five-point Likert scale (1 = strongly agree; 2 = agree; 3 = undecided, no formed opinion; 4 = disagree; 5 = strongly disagree). The statements address various aspects of the educational effects of interculturality, understood as the presence of immigrant students in the school context. The instrument has been previously validated ( $\alpha = 0.88$ ) and used in the Chilean context (Navas & Sánchez, 2018). It should be noted that this instrument contains, in its first section, some identification questions (gender, age, professional or student context, among others), which are self-reported by each participant.

*Stage 2 (qualitative):* Group interviews were conducted in this stage, with 151 PPETs ( $n = 105$  males and  $n = 46$  females; ages  $22.46 \pm 3.34$ ), 19 university professors ( $n = 13$  males and  $n = 6$  females; ages  $44.15 \pm 10.70$ ) and 14 PE school teachers ( $n = 8$  males and  $n = 6$  females; ages  $39.60 \pm 10.59$ ) serving as key informants. For this stage, only the participants who took part in Stage 1 (quantitative) were involved, and all of them were contacted and invited. However, since participation was completely voluntary, some informants chose not to participate and others did not show up on any of the scheduled dates. During the qualitative stage, 11 K-12 immigrant students ( $n = 4$  males and  $n = 7$  females; ages  $13.27 \pm 2.45$ ) from the same three schools where the PE school teachers worked participated. Their parents (or legal guardians) also participated ( $n = 12$  females; ages  $41.53 \pm 7.16$ ). When parents were invited, only the mothers of the immigrant students attended, with one grandmother present as well. In most cases, fathers justified their absence due to work-related reasons, or mothers indicated they were the exclusive legal guardians responsible for their children's education at the family level.

The group interviews were conducted following the recommendations of Taylor and Bogdan (2000), which means they were structured as open, flexible, dynamic, and non-standardized conversations. The

priority was to facilitate a dialogue and exchange that would allow for understanding the informants' perspectives on the research topic. The interviews were designed to qualitatively delve into the quantitative results, and participants were encouraged to highlight critical issues and provide proposals regarding situations they considered problematic. In total, 24 interviews were conducted (8 in each city: 4 con PPETs separated by their year of enrollment at the university, one with university professors, one with PE school teachers, one with K-12 immigrant students, and one with parents of K-12 immigrant school students).

### 3.3. Data analysis

Quantitative data were analyzed using the SPSS software (version 26.0). Descriptive analyses were performed for each group, followed by non-parametric analyses since the data did not meet the assumptions of normality. The Kruskal-Wallis test was conducted, to analyze the mean differences between groups, followed by paired differences analysis using the Mann-Whitney *U* test.

Qualitative data were organized and examined through "content analysis" to develop valid inferences applicable to the study's context (Krippendorff, 2002) and formulate analytical categories. The categorization process followed the three-phase method by Taylor and Bogdan (2000): (a) discovery; (b) coding, and (c) data relativization. The dimensions of the scale used in the quantitative stage and the emerging topics in the interviews served as references throughout the process. After this process, four categories were defined as the: (a) impact of interculturality on children in PE class, (b) impact of interculturality on PE teachers at school, (c) effects of interculturality on the classroom environment and teaching-learning processes in PE class; and (d) school strategies to address interculturality.

### 3.4. Ethical considerations

All participants voluntarily agreed to participate in the study and provided their signed written informed consent. Participants under the age of majority also signed a personal document of informed assent and received a signed authorization from their legal guardian. The principals of each school and the PETE university programs provided authorization documents. The protocol was approved by the scientific ethics committee of the University (approval number: 74/2020) and was conducted following the guidelines of the Declaration of Helsinki.

## 4. Results

We have organized the results into two major sections: (a) quantitative data analysis and (b) qualitative data analysis.

### 4.1. Quantitative results

Initial descriptive analysis shows that all three groups seem to be in

clear agreement (to varying degrees) with statements that view interculturality as something positive in the classroom (see Table 1). However, there are clear differences between the three groups, with university professors generally showing a higher degree of agreement with these statements, followed by PPETs, and finally, PE school teachers. The inferential data analysis is organized into two consecutive steps. Firstly, we check which of the eight dimensions of the instrument have statistically significant differences in inter-group means (dimensions 2-5-6-7-8) (see Table 1). Secondly, the Mann-Whitney *U* test is applied to determine which specific groups have significant differences (see Table 2).

In dimension 2 ("Interculturality harms children"), significant differences exist between PPETs ( $M = 3,9$ ) vs. university professors ( $M = 4,5$ ), with university professors showing a higher level of disagreement with this idea. In dimension 5 ("Interculturality enhances my classroom teaching"), significant differences are found between PPETs ( $M = 1,6$ ) and PE teachers ( $M = 2,5$ ), with PPETs showing a higher degree of agreement with the idea. In dimension 6 ("Interculturality hinders my classroom teaching"), significant differences are observed between PE school teachers ( $M = 3,6$ ) and university professors ( $M = 4,4$ ), with university professors showing a higher degree of disagreement with this idea. In dimension 7 ("The school should comprehensively address Interculturality"), significant differences are found between PE school teachers ( $M = 2,6$ ) and university professors ( $M = 1,3$ ), with university professors showing a higher degree of agreement with this idea. Finally, in dimension 8 ("The school should not consider Interculturality"), significant differences exist among the three groups: university professors ( $M = 4,5$ ), PE teachers ( $M = 3,6$ ) and PPETs ( $M = 3,9$ ). Although all three groups tend to disagree with this idea, university professors show the highest level of disagreement, followed by PPETs and PE school teachers.

Therefore, the analysis of these five dimensions shows clear significant differences among the three groups. University professors tend to show a higher degree of agreement with attitudes in favor of interculturality in the classroom (understood according to the scale as the presence of immigrant students), followed by PPETs and, finally, PE Teachers. It's important to note that, in general, all three groups tend to agree to varying degrees with these types of statements.

### 4.2. Qualitative results

A content analysis of the qualitative data has been conducted using a system of 4 categories that emerged from the data categorization process. These categories are as follows: (a) impact of interculturality on children in PE class; (b) impact of interculturality on PE teachers at school; (c) effects of interculturality on the classroom environment and teaching-learning processes in PE class; (d) school strategies to address interculturality.

The description of the results includes some excerpts from the interviews. To protect the identity of the key informants, each of them was

**Table 1**

Means and SD. Attitudes towards intercultural education by dimensions (Likert scale: 1 "strongly agree" – 5 "strongly disagree") for university professors, PE school teachers and PPETs. Mean differences between groups using the Kruskal-Wallis test.

Dimensions	Dimension description	University professors		PE school teachers		PPETs		K	Sig.
		M	dt.	M	dt.	M	dt.		
1. Effects on children (positive).	Interculturality benefits children.	2.0	0.70	2.6	1.16	2.0	0.77	5.05	0.080
2. Effects on children (negative).	Interculturality harms children.	4.5	0.58	4.1	0.97	3.9	0.85	13.97	<b>0.001*</b>
3. Effects on the teacher (positive).	Interculturality benefits me as a teacher.	1.8	0.85	2.7	1.69	1.7	0.91	4.04	0.132
4. Effects on the teacher (negative).	Interculturality harms me as a teacher.	4.0	0.86	3.7	1.39	3.9	0.91	4.04	0.132
5. Effects on classroom work (positive).	Interculturality enhances my classroom teaching.	1.5	0.66	2.5	1.65	1.6	0.90	7.93	<b>0.019*</b>
6. Effects on classroom work (negative).	Interculturality hinders my classroom teaching.	4.46	0.76	3.68	1.73	4.06	0.89	4.50	<b>0.005*</b>
7. Role of the school (positive).	The school should comprehensively address Interculturality.	1.3	0.54	2.4	1.79	1.6	0.92	7.61	<b>0.022*</b>
8. Role of the school (negative).	The school should not consider Interculturality.	4.5	0.55	3.6	1.33	3.9	0.84	13.30	<b>0.001*</b>

Note: K=Kruskal-Wallis; M = Means; SD. = Standard Deviation; \* =  $p \leq 0.05$ .



**Table 2**

Pairwise comparisons for dimensions that showed significant differences on the Kruskal-Wallis test, for university professors, PE school teachers and PPETs. Analysis of mean differences between groups using the U Mann-Whitney test.

Dimensions	Dimension description	Compared groups	U	Sig.
2. Effects on children (negative).	Interculturality harms children.	University professors - PE school teachers	25.427	0.6
		University professors – PPETs	48.539	<b>0.001*</b>
		PE school teachers – PPETs	23.112	0.452
5. Effects on classroom work (positive).	Interculturality enhances my classroom teaching.	University professors - PE school teachers	–33.11	0.235
		University professors - PPETs	9.31	1.0
		PE school teachers – PPETs	42.42	<b>0.016*</b>
6. Effects on classroom work (negative).	Interculturality hinders my classroom teaching.	University professors - PE school teachers	32.898	<b>0.04*</b>
		PPET – University professors	26.13	0.54
		PE school teachers - PPETs	6.769	1.0
7. Role of the school (positive).	The school should comprehensively address Interculturality.	University professors - PE school teachers	–48.892	<b>0.028*</b>
		University professors – PPETs	–29.253	0.067
		PE school teachers - PPETs	19.639	0.592
8. Role of the school (negative).	The school should not consider Interculturality.	University professors - PE school teachers	50.327	<b>0.034*</b>
		University professors – PPETs	48.904	<b>0.001*</b>
		PE school teachers - PPETs	–1.423	1.0

Note: U=U de Mann Whitney; \* =  $p \leq 0.05$ .

assigned an identity protection code (see Table 3).

**Category 1: impact of interculturality on children in PE class.** As the quantitative data also show, informants often perceive the presence

**Table 3**

Abbreviations and identity protection codes.

Code	Meaning
PPET-XX	Pre-service Physical Education teacher – number assigned to each informant.
UP-XX	University professor – number assigned to each informant.
PEST-XX	Physical Education school teacher - number assigned to each informant.
IKS- XX	Immigrant K-12 student - number assigned to each informant.
PIKS-XX	Parent Immigrant K-12 student - number assigned to each informant.

of culturally diverse contexts as a positive educational phenomenon, with the interaction of children from different cultures during PE class seen as a learning opportunity.

*“It’s a significant cultural enrichment for everyone to have such great diversity” (PEST-08).*

*“With this (referring to immigration), we are going to have our classrooms filled with diversity (...) it will be very enriching” (UP-12).*

However, both PPETs and PE school teachers who work in schools with immigrant children also express doubts about the educational benefits of interculturality, pointing out that it can also lead to negative situations, such as discrimination, forced acculturation, and the weakening of some identities. At times, some informants also associate immigration with crime and other social threats, although they clarify that this does not necessarily represent a threat to the school, as, according to their accounts, this aspect would be mainly related to specific groups of foreigners during adulthood. Likewise, parents and K-12 immigrant students mention that foreign students sometimes go through complicated adaptation processes in PE class (and in school in general) during their first weeks in Chile because they are victims of discriminatory situations by some students. However, some K-12 immigrant students explain that after those first weeks, they do manage to integrate and make friends.

*“They (referring to K-12 immigrant students) quickly lose their accent and start speaking with our accent (...) they gradually become Chileans” (PEST-08).*

*“It brings good and bad things (referring to immigration) (...) they come (from their home countries) with more aggressive behaviors (...) not long ago, in this area of the city, there were many Colombians who were deported to their country (...) although, with the little ones, there shouldn’t be any problems because they don’t bring the ‘bad habits’ of the adults” (PPET-01).*

*“At first, it was difficult; (PE classmates) mocked his accent, and there were many other problems. There was a time when he (referring to his son) didn’t want to go to school” (PIKS-02).*

*“At first, it was quite challenging for me, mainly because of the conflicts with other kids, discrimination, fights (...), but now everything is going well; I have good friends” (IKS-06).*

#### Category 2: impact of interculturality on PE teachers at school.

In general terms, there is consensus among the informants about the educational benefits of working in culturally diverse contexts, recognizing that the presence of students from other countries can be a learning opportunity for teachers.

*“At this school, I’ve had children from other countries, and we should take advantage of these opportunities to learn (...) I always ask the kids about games and dances from their countries” (PEST-01).*

This perspective aligns with what university professors also understand - cultural diversity is seen as a positive educational phenomenon, and it is essential that future PE teachers have an open attitude towards it and receive professional training that includes intercultural knowledge and tools to educate against racism.

*“The challenge lies with us, those who are shaping (...) trying to make our students open up to this cultural diversity” (UP-16).*

*“In teacher education, there’s the challenge of implementing programs to train non-racist teachers (...) who can deal with interculturality (...), but many teachers haven’t received training for this” (UP-12).*

However, there is no consensus among the informants regarding the relevance and quality of the training provided to PE teachers in PETE university programs on these topics. University professors and PPETs frequently agree that training on interculturality is insufficient in

universities, especially considering the current volume of foreign students in schools. This was also noted by parents and K-12 immigrant students, who express that PE teachers do not recognize the different cultures in the class or do not know how to incorporate them into the classroom. Additionally, parents express that their children have experienced exclusionary situations with some PE school teachers.

*"We have a pending issue regarding integration (in relation to not being trained for it)" (UP-02).*

*"PE teachers should incorporate other cultures, take into account that there are other nationalities in the school, include games from other countries. But apparently, they are not aware of them (...) in my son's case, the PE teacher has not been open to the possibility of including games or dances from our country in the classes" (PIKS-02).*

*"(PE teachers should) ask foreign students if they would like to share something from their country"*

(IKS-02).

*"Some PE teachers, in extracurricular sports activities (...), do not accept foreign children in their classes. My son was not allowed to participate" (PIKS-02)".*

However, there is no agreement among school teachers. Some consider that they received insufficiently specific training, while others feel prepared to work in such contexts thanks to their university education. PE teachers state that they are trained for "integration", while university students and foreign students use the concept "inclusion". It is worth noting that, as previously shown, some university professors also talk about "integration" and the need to address cultural diversity from that perspective during teacher training.

*"We have been trained in integration (...) that has prepared us for good experiences (...) but we have not had specific training on immigration (...) and PE students (PPETs) during their practice either" (PEST-11).*

*"We are prepared for integration" (PEST-12)"*

*"(PE teachers) should know about inclusion and consider the beliefs and customs of people who come from outside the country." (PPET-51).*

Additionally, interviewees emphasize that communication problems between PE teachers and foreign students who do not speak Spanish (Chile official language) are rare during PE class. Given its nature, this challenge is because the subject allows for other forms of communication based on bodily movement and human motricity, which can overcome language barriers and facilitate socialization processes in the classroom.

*"Through bodily movement and exercise, language biases can be overcome. I believe that through play (...), regardless of where we come from or our language, we can come together (...) in one way of moving and communicating" (PPET-66).*

*"The language of sports and physical activity is universal (...) that's why PE is the subject that can expedite inclusion processes" (PPET-100).*

**Category 3: effects of interculturality on the classroom environment and teaching-learning processes in PE class.** PE teachers express that they promote the development of equal relationships within their class groups, treating all students, whether Chilean or foreign, without discrimination. They also state that intercultural coexistence is easier to manage in classes with younger students (1st to 4th year of primary school, aged 6–9 years). It's essential to note that these teachers consider diversity as an intrinsic characteristic of human beings, a natural trait of all students, rather than a problem or negative attribute for PE class.

*"It's not a problem (working with children from different nationalities). I work with the younger levels at school (...) children adapt more easily to change (...)" (PEST-08).*

*"We are all different (...) so, in the end, we're so alike (...) the only difference is the accent (when speaking), the way they express themselves (referring to foreign children) (...) that's the only difference" (PEST-11).*

University professors, PPETs, and PE school teachers agree that the sudden influx of a significant number of immigrant students in a short period of time (due to the abrupt increase in the foreign population in the country) poses an unexpected professional challenge, especially in the context of PE classes. They believe that this new scenario necessitates reflecting on teaching methods and activities used in PE class, particularly the need to incorporate all cultures into the classroom to promote learning based on cultural exchange and ensure a positive environment. K-12 immigrant students and their parents also share this perspective but express that these intentions do not translate into real changes in the PE class. Elements related to their cultures (sports, games, dances, etc.) are still not genuinely considered, causing frustration among foreign children.

*"With the presence of foreign children, one begins to rethink things, we have to leave our comfort zone. We have to study and learn again" (PEST-01).*

*"The biggest challenge (...) is to use an appropriate methodology for work" (UP-12).*

*"Most of the time when I'm in class, we don't (referring to not incorporating elements of their culture into PE class) (...) we dance the 'cueca' (a typical Chilean dance) but nothing from our countries" (IKS-04).*

*"I don't feel the inclusion of my culture (in PE class). We work on things that are Chilean (...) some are similar but not the same as those in my country" (IKS-04).*

The informants agree that PE class can be a favorable time and space for promoting socialization among students from different nationalities and cultures within the classroom. However, they emphasize the need for this to happen without imposing stereotypes and bodily practices from the predominant Chilean culture on immigrant students. Therefore, they express the need for more in-depth training in these matters.

*"PE is the subject that offers the greatest possibilities to get to know and integrate other cultures (...) we can get to know other cultures, their games, and dances (...) PE has many advantages" (PPET-35)*

*"Sports are universal. Sports are the same here (in Chile), in China, Saudi Arabia, Venezuela, or Colombia. Football, volleyball, baseball, tennis are the same in all countries, so PE and sports are universal" (PIKS-07)".*

*"There are elements that will be common, but there are other aspects regarding how the body and movement are understood or the sociocultural aspects of the game. Perhaps they have some games or motor manifestations that would be important to incorporate into PE class, as long as the teacher doesn't impose the cultural perspective of their country" (UP-17).*

**Category 4: School strategies to address interculturality.** The interviewees believe it is necessary for schools to harness the educational potential of interculturality by promoting respect and mutual learning among students from different cultures. PE school teachers also express that their schools have developed some activities (outside of PE class) to facilitate the adaptation process of immigrant children, where the exchange of practices and knowledge among all cultural identities is encouraged. The informants positively value these experiences. However, PE students report having some negative experiences in their practice schools, stating that some schools exclude the cultures of foreign students.

*"Perhaps this is the reality in our school (in relation to the positive approach to cultural diversity), unlike other places where the arrival of children from other countries is more massive and there may be some differences" (PEST-11).*

*"In this school, integration is always lived: students are all equal, and everyone is treated with the same respect as individuals"* (PEST-08).

*"When we celebrated the 'Chilean Week' at school during September (Chilean national holiday celebrations), they asked if they could include their games from their country (...), and they presented their games for everyone, and that's how we learned about their games, and they learned about ours"* (PEST-14).

*"My daughter has always felt supported by the school; I am very grateful as a mother"* (PIKS-12)"

*"Nothing was ever done, even though they knew she (referring to a Peruvian student) had a different culture from ours. But in other schools (referring to other places where she previously did her teaching practice), they did consider the inclusion of her culture"* (PPET-109)".

Several informants point out that currently, schools do not have specific protocols to resolve or mediate conflicts between students from different cultures or nationalities. Therefore, it is something that teachers (in training and in-service) must learn to solve autonomously. However, it is worth noting that, according to Chilean regulations, each school must have a general coexistence plan that establishes rules and procedures for all students, regardless of their nationality or cultural characteristics. In the same vein, it is important to note that while the interviewees discuss the absence of an intercultural approach to conflicts between students from different backgrounds by schools (which considers the cultural perspectives that may exist about the problematic situation on an equitable basis), they never refer to foreign students as "troublesome".

*"We need to address conflicts through conversation and work on them through pedagogical strategies, but we are not yet prepared"* (UP-04).

*"In schools, the teacher is key (in preventing conflicts); they can counteract ideologies based on prejudices against migrants and prevent problems in this regard. It is our responsibility as teachers if schools do nothing about it"* (PPET-103).

## 5. Discussion

In relation to the first research question, quantitative results show that, in general, all three groups have positive attitudes towards interculturality, although significant differences exist among them (university professors, PPETs, and PE school teachers) in five out of the eight dimensions of the questionnaire. The general trend is that university professors exhibit a higher degree of agreement with these perspectives, followed by PPETs, and finally, PE teachers. Based on descriptive statistics, the overall view indicates that, in general, all three groups have high or very high degrees of agreement with these perspectives. Three possible explanations for this phenomenon are identified: (a) there may indeed be a positive attitude towards interculturality in classrooms among the three studied populations; (b) participants may, to some extent, be influenced by the "politically correct" discourse, which emphasizes the need for a positive attitude towards interculturality in classrooms; (c) the sample may be biased since participants volunteered and provided consent, making it possible that individuals with a more neutral or negative attitude towards interculturality chose not to participate in the study.

Although significant differences between PE school teachers and university professors do not imply that either group holds negative attitudes towards interculturality, it does demonstrate disparities between them. University professors (who do not work daily in culturally diverse educational settings) display even more positive attitudes towards interculturality than PE school teachers, who work in schools with K-12 immigrant students. This situation may potentially be explained by the challenges that school teachers face when working daily in classrooms inhabited by students from different nationalities and cultures

(Papageorgiou et al., 2021; Sánchez et al., 2023), or because they do not always perceive themselves as sufficiently competent to work in these realities (Deci & Ryan, 2015), affecting their disposition and attitude towards intercultural situations, while the position of university professors may be rooted in the theoretical knowledge that these professionals typically possess regarding the educational opportunities offered by cultural diversity (Leiva & Bracons, 2019).

These significant differences between those guiding the teacher education process (university professors and PE school teachers) may hypothetically affect PETE. Since PPETs could receive non-homogeneous views on interculturality, its educational benefits, the role of teachers in immigration, and other practical suggestions from both actors. In this regard, previous research (Carter-Thuillier et al., 2022; Halpern et al., 2021; Lleixà & Nieva, 2020; Morales et al., 2017; Siljamäki & Anttila, 2021; Tapia & Tour, 2022) highlights the importance of those leading the training process (e.g., university professors and PE school teachers) providing consistent, congruent, and consensus-based training to PPETs regarding these topics, to prepare them to be agents that promote inclusion and interculturality in the future. This premise is generally met within the present study, as university professors and PE school teachers share a positive view of interculturality in schools, despite their differences. Therefore, although there may be nuances in what they convey to PPETs, this does not imply that university professors and PE school teachers impart negative ideas about immigrant students or question the educational relevance of cultural diversity, as also evidenced in the qualitative data, where both groups perceive cultural diversity as a learning opportunity.

Since both groups are composed of those who lead the training process for PPETs, it is important that they share this similar vision and engage in coordinated efforts; otherwise, confusion may arise (Cavendish et al., 2021) which could hinder the learning process of future PE teachers regarding intercultural competence and the acquisition of other professional skills to work in culturally plural contexts (Wyant et al., 2019). In this context, several authors (Culp, 2020; Hanna, 2023; Hinojosa & Lopez, 2018; Lautenbach & Heyder, 2019) warn of the social, cultural, and educational risks of teacher education not adequately addressing these topics during university studies because it could lead to new teachers not knowing how to overcome (or even exacerbate) situations of discrimination, marginalization, and segregation, among other issues, which affects the school coexistence, students' rights, and negatively impact teaching and learning processes.

Regarding the second research question, while PE school teachers report having a positive view of foreign students and believe that their presence can have a positive impact on the entire educational community, some K-12 immigrant students and their parents perceive that this does not translate into concrete actions that enable the effective inclusion of their cultures in classes. Specifically, they indicate that, from their perspective, some PE school teachers do not consider it relevant to incorporate identity elements from their countries (e.g., games, dances, among others) into PE sessions. Additionally, they believe that this happens mainly because some teachers are unaware of or uninterested in learning about the cultures of immigrant students, despite working in schools that host different cultural identities. This situation forces immigrant children to learn about Chilean hegemonic culture but denies them the opportunity to strengthen their own cultural identity. Furthermore, it does not encourage Chilean children to learn about the cultures of their foreign classmates.

The above partially aligns with the results of other studies (Barker, 2019; Coronel & Gómez-Hurtado, 2015; Medor et al., 2022; Thorjussen & Sisjord, 2020) conducted in Chile and abroad, which describe how during PE classes, many teachers do not include elements related to the cultures of foreign students, either due to ignorance, lack of preparation, or curriculum limitations in each context. According to the literature (Flores et al., 2019; Landi et al., 2020), sometimes these situations are interpreted by the environment of immigrant students as attitudes of prejudice, discrimination, exclusion, rejection, or lack of interest on the

part of the teaching staff. Although, in other cases, it is assumed to be an obvious situation due to their foreign status. Regardless of the reasons, the non-inclusion of the cultures of immigrant students contradicts what has been pointed out by previous Research (Carter-Thuillier et al., 2023; Puente-Maxera et al., 2020; Smith et al., 2021) where it is shown that when activities with different cultural origins are added to PE class, students value the experience positively (whether they are immigrants or locals), learn about other cultures thanks to PE class, and perceive that they become more culturally competent.

Therefore, the marginalization or lack of knowledge of the cultures of foreign students poses an obstacle to promoting the encounter and interaction of cultures and prevents the development of genuinely intercultural education (Dreamson, 2017; Lourenço, 2018; Salgado-Orrellana et al., 2019). Additionally, this increases the risk that students belonging to minority cultures will experience negative socio-emotional situations due to acculturation stress (Karim, 2021), forced assimilation (Hajisoteriou & Angelides, 2016) and the impossibility of developing their own cultural identity due to ethnocentric logics (Akkari & Radhouane, 2022).

However, it is worth noting that PE teachers trained in the universities of the southern macrozone of Chile, the context in which this study was conducted, do not have specific training to work in intercultural contexts related to immigration (Carter-Thuillier et al., 2022). This adds to the sudden nature and exponential growth of the country's migratory phenomenon and the lack of specific guidelines from the Chilean government on how to address this situation in schools (Valdés et al., 2022). These factors may help explain why PE teachers, both in-service and pre-service, do not incorporate the culture of their students into classes, despite having positive attitudes towards interculturality and considering, as shown in the qualitative data, that the presence of immigrant students represents a learning opportunity for all.

Finally, concerning the third research question, there is consensus among the interviewees regarding the relevance of PE teachers in promoting intercultural education that fosters non-discrimination and enables positive coexistence among students from different cultures. Furthermore, they believe that PE, due to its connection to a global phenomenon such as sports, it also offers the opportunity to build relationships between people from different cultures through the universal language of human movement and bodily expression. Furthermore, PE is a subject with significant potential to act as a common meeting point, as Carter-Thuillier et al. (2023) suggested when referring to the supra-cultural characteristics of PE lessons. However, with the exception of some PE school teachers, the interviewees agree that the initial training provided by universities in the southern macrozone of Chile does not offer specific and effective preparation for working in culturally diverse contexts. According to the interviewees' perspective, this results in the absence of concrete strategies to address conflicts or lead teaching processes considering the different cultures in the classroom. Previous studies (Lleixà & Nieva, 2020; Papageorgiou et al., 2021; Sánchez et al., 2023) have also expressed similar situations, meaning that actors often recognize the intercultural potential of PE but acknowledge that the lack of specific training in this regard is frequently an obstacle for teachers to perform optimally.

In fact, other works (Anttila et al., 2018; Papageorgiou et al., 2023; Siljamäki & Anttila, 2021) highlight the importance of incorporating intercultural competence into teacher training to enable future educators to promote the development of skills for global citizenship in their students, including the ability to build positive relationships with members of other cultures based on non-discrimination and mutual recognition. It is highly unlikely that future citizens will develop such competencies in school if teachers lack knowledge in this area (Carter-Thuillier et al., 2022; Hinojosa & Lopez, 2018).

However, in the current study, PE school teachers express feeling prepared to work with immigrant students due to the training they received at university. Nevertheless, when questioned about it, they mention that they did not receive any specific preparation related to

cultural diversity during their university education, only general preparation for addressing diversity and promoting social integration in the classroom, which they consider sufficient. This contrasts with existing literature (Lleixà & Nieva, 2020; Papageorgiou et al., 2021; Sánchez et al., 2023), as previous studies in Chile and abroad often show that teachers in this area do not typically consider themselves prepared to work in culturally diverse contexts. This marks a difference between the perceptions of PE school teachers in the southern macrozone of Chile compared to their counterparts in other contexts. This difference could be related to various factors: (a) that, due to their experience working with K-12 immigrant students in recent years, PE school teachers have developed specific professional skills that, combined with their general university education regarding diversity, allow them to perceive themselves as competent in working in intercultural environments; (b) that due to the unique characteristics of the southern macrozone of Chile, a region historically inhabited by multiple cultural identities (González et al., 2016; Green, 2018), some teachers are already accustomed to working with students from different cultures; (c) that the teachers' impression may not be entirely accurate, and although they perceive themselves as competent in this area because they manage to get K-12 immigrant students to participate in the proposed PE activities, they may not actually be creating inclusive environments that allow for the development and equal dialogue of all cultures, as some K-12 immigrant students and their parents have pointed out.

Therefore, various studies (Coronel & Gómez-Hurtado, 2015; Halpern et al., 2021; Hanna, 2023) emphasize the need to provide specific training related to interculturality and educational inclusion to teachers who are being educated in contexts with a high volume of cultural identities, such as the southern macrozone of Chile (Carter-Thuillier et al., 2022). In doing so, universities not only recognize the sociocultural characteristics of the regions where they are located but also reduce the likelihood of future teachers having gaps in training in this area.

## 6. Conclusions

This study presents unprecedented data regarding the training of PE teachers for intercultural contexts with K-12 immigrant students in the southern macrozone of Chile. It describes the attitudes of various actors involved in the training process and their perceptions of the effectiveness and relevance of the preparation that universities in this context provide to future PE teachers in relation to interculturality.

PPETs, university professors, and PE school teachers exhibit positive attitudes toward interculturality, understood as the presence of K-12 immigrant students in schools. While there are statistically significant differences between those leading the training process for future teachers (university professors and PE school teachers), this does not imply the existence of negative beliefs and representations about cultural diversity among those responsible for the training process. However, some K-12 immigrant students and parents have a critical view of PE in schools because, in their personal experience, some PE school teachers do not incorporate elements from all cultures into the classroom. Likewise, most actors have a broad consensus regarding the need to improve teacher training for working in intercultural educational contexts (except for some PE school teachers).

This research demonstrates the need to enhance specific training related to interculturality and inclusion in PE teacher education (PETE) university programs in the southern macrozone of Chile. Therefore, these findings may interest universities, faculty responsible for such training, and researchers specializing in the field. Given that this is the first study of its kind in the southern macrozone of Chile, conducting further research in this context addressing interculturality, immigration, and PE teacher education is essential to gain a deeper understanding of each facet. Specifically, conducting studies focused on analyzing the effectiveness of strategies used by PETE university programs to prepare teachers in this area would be valuable. Additionally, research into



specific intervention proposals related to the development of intercultural competence in PETE university programs and in-service training processes with PE teachers through action research cycles would be relevant. Improving PE teacher education in the southern macrozone of Chile (both pre-service and in-service) in this area could have a significant sociocultural impact.

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## Approval of the submitted version of the manuscript

Please check this box to confirm that all co-authors have read and approved the version of the manuscript that is submitted. Signatures are not required.

## CRediT authorship contribution statement

**Bastian Carter-Thuillier:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization. **Víctor López-Pastor:** Writing – review & editing, Writing – original draft, Investigation, Formal analysis, Conceptualization. **Francisco Gallardo-Fuentes:** Writing – review & editing, Writing – original draft, Supervision, Resources, Conceptualization. **Rodrigo Ramirez-Campillo:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization. **Cyntia del Río-Soto:** Writing – review & editing, Supervision, Conceptualization. **Andrew Sortwell:** Writing – review & editing, Visualization, Conceptualization.

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

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