

# Analysis of the methodological preferences of Galician Physical Education teachers in Preschool and Primary Education according to gender and years of teaching experience

Análisis de las preferencias metodológicas del profesorado gallego de Educación Física en Educación Infantil y Primaria en función del género y los años de experiencia docente

根据性别因素和教学年限分析幼儿和小学教育阶段加利西亚体育教师的教学方法偏好

Анализ методических предпочтений учителей физической культуры Галисии в дошкольном и начальном образовании в соответствии с полом и стажем работы учителя

**Rubén Navarro-Patón**

Universidad de Santiago de Compostela  
ruben.navarro.paton@usc.es  
<https://orcid.org/0000-0003-2555-0319>

**Víctor Arufe-Giráldez**

Universidad de A Coruña  
v.arufe@udc.es  
<https://orcid.org/0000-0002-6440-048X>

**Marcos Mecías Calvo**

Universidad Europea del Atlántico (Santander, Cantabria)  
marcos.mecias@uneatlantico.es  
<https://orcid.org/0000-0002-4719-7686>

**Joaquín Lago-Ballesteros**

Universidad de Santiago de Compostela  
joaquin.lago@usc.es  
<https://orcid.org/0000-0002-5303-8374>

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## Abstract

Physical Education presents a certain diversity of methodological approaches on the part of the teachers who teach it, given its eminently practical nature. The aim of this study was to determine the possible influence of gender and years of teaching experience on the methodological preferences of Preschool and Primary Education teachers who teach the subject of Physical Education in Galician schools. The sample consisted of 205 schoolteachers, 57 of whom were women (27.8%). Data was collected through the validated questionnaire on teaching styles in Physical Education (EEEEF). The results obtained showed statistically significant differences in the gender factor in the individualizing ( $p < .001$ ), cognitive ( $p < .001$ ) and creative ( $p < .001$ ) styles. In terms of years of teaching experience, statistically significant differences were found in the traditional style ( $p < .001$ ), in the individualizing style ( $p = .006$ ), in the style that encourages student participation and socialization ( $p < .001$ ), in the cognitive style ( $p < .001$ ) and in the creative style ( $p = .045$ ). It is concluded that teachers with fewer years of experience show a greater preference for methods of individualization of teaching, socialization, student participation and methodological approach that encourages creativity. The traditional methods are mostly accepted in all stages of professional experience, being higher when in the band of teachers with 6 to 11 years of experience. For their part, teachers opt more for individualising, cognitive and creative styles than female teachers, although in both cases they use traditional styles. These results help to improve teacher training plans by establishing strategies that address different perspectives and methodological approaches, thus taking advantage of the benefits of each.

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Key words: Teaching style; Teachers; Physical Education.

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## Resumen

La Educación Física presenta cierta diversidad de enfoques metodológicos por parte del profesorado que la imparte, dado su carácter eminentemente práctico. El objetivo de este estudio fue determinar la posible influencia del género y años de experiencia docente en las preferencias metodológicas del profesorado de Educación Infantil y Primaria que imparte la materia de Educación Física en centros educativos de Galicia. La muestra estuvo constituida por 205 docentes de los cuales 57 eran mujeres (27.8%). Se realizó una recogida de datos a través del cuestionario validado Estilos de Enseñanza en Educación Física (EEEEF). Los resultados obtenidos mostraron diferencias estadísticamente significativas en el factor género en los estilos individualizadores ( $p < .001$ ), cognitivos ( $p < .001$ ) y creativos ( $p < .001$ ). En cuanto a los años de experiencia docente, se han encontrado diferencias estadísticamente significativas en los estilos tradicionales ( $p < .001$ ), en los individualizadores ( $p = .006$ ), en los que fomentan la participación y socialización del alumnado ( $p < .001$ ), en los cognitivos ( $p < .001$ ) y en los creativos ( $p = .045$ ). Se concluye que el profesorado con menos años de experiencia muestra una mayor preferencia por los métodos de individualización de la enseñanza, de socialización, participación del alumnado y enfoque metodológico que fomenta la creatividad. Los métodos tradicionales son acogidos mayoritariamente en todas las etapas de experiencia profesional siendo más altos en la franja de profesorado con 6 a 11 años de experiencia. Por su parte, los profesores optan más por los estilos individualizadores, cognitivos y creativos que las profesoras, aunque en ambos casos emplean los estilos tradicionales. Estos resultados ayudan a mejorar los planes de formación de profesorado estableciendo estrategias que aborden diferentes perspectivas y enfoques metodológicos aprovechando así los beneficios de cada uno de ellos.

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Palabras clave: Estilo de enseñanza; Profesorado; Educación Física.

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## 概要

鉴于体育科目的实际性特点,在该科目上体育老师采用不同的教学方法。本研究的目的是确定性别因素和教学经验对加利西亚幼儿园及小学老师在体育科目教学上对教学方法偏好的可能性影响。样本由205名老师组成,其中57名为女老师(27.8%)。我们通过经过验证的体育教学风格问卷(EEEF)收集数据。结果表明,性别因素在个性化风格( $p < .001$ ),认知特点( $p < .001$ )和创意风格( $p < .001$ )方面存在显著性差异。而教学经验年限在传统风格( $p < .001$ ),个性化风格( $p = .006$ ),对学生参与和社交化的促进( $p < .001$ ),认知( $p < .001$ )和创造力( $p = .045$ )方面存在显著性差异。研究结论得出,教学经验较少的教师更愿意采用个性化、社会化、促进学生参与和鼓励创造力的教学方法。传统方法在各教学经验年限阶段的老师中都被广泛接受,在有着6至11年教学经验的教师中对传统方法的应用更为普遍。男老师会比女老师更多地选择个性化、认知和创造力风格的教学方法,尽管两者都普遍采用传统风格的教学方法。研究结果通过建立针对不同观点和教学方法的策略并利用其各自优势,有助于改善教师培训计划。

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关键词: 教学风格; 老师; 体育教学。

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## Анотация

Физическая культура представляет определенное разнообразие методологических подходов преподавателей, которые ее преподают, учитывая ее исключительно практический характер. Целью данного исследования было определение возможного влияния гендерного фактора и опыта преподавания на методологические предпочтения учителей младенческого и начального образования, преподающих предмет «Физическая культура» в школах Галисии. В выборку вошли 205 учителей, 57 из которых были женщинами (27.8%). Сбор данных осуществлялся с помощью утвержденного вопросника «Учебные стили преподавания физической культуры» (EEEF). Полученные результаты показали статистически значимые различия в гендерном факторе при использовании индивидуализующего ( $p < .001$ ), когнитивного ( $p < .001$ ) и творческого ( $p < .001$ ) стилей. С точки зрения опыта преподавания, статистически значимые различия были обнаружены в традиционных стилях ( $p < .001$ ), индивидуализирующих стилях ( $p = .006$ ), стилях, поощряющих участие и социализацию студентов ( $p < .001$ ), когнитивных стилях ( $p < .001$ ) и творческих стилях ( $p = .045$ ). Сделан вывод, что учителя с меньшим стажем работы отдадут большее предпочтение методам индивидуализации преподавания, социализации, участию учащихся и методологическому подходу, способствующему творчеству. Традиционные методы в основном принимаются на всех стадиях профессиональной деятельности, будучи выше в группе преподавателей со стажем работы от 6 до 11 лет. С другой стороны, учителя больше предпочитают индивидуализирующие, познавательные и творческие стили, чем учительницы, хотя в обоих случаях они используют традиционные стили. Эти результаты помогают совершенствовать планы подготовки учителей путем разработки стратегий, учитывающих различные точки зрения и методологические подходы, тем самым используя преимущества каждого из них.

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Ключевые слова: Стиль преподавания; Учителя; Физическая культура.

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## Introduction

International guidelines on education as supported by the United Nations Organization, within the framework of the objectives of the 2030 Agenda for Sustainable Development, indicate that the use of open, contextualized, competency-based meth-

odologies that actively involve students in their learning will contribute to quality Physical Education (PE) (UNESCO, 2015). Therefore, research for the optimization and improvement of the teaching-learning process in school PE continues to arouse great interest among researchers and specialists in this field (Alarcón & Reyno, 2009; Espada, Fernández, & Calero, 2019; Espada & Piñeiro, 2020; Isaza & Henao, 2012; Proios & Proios, 2008; Sicilia-Camacho & Brown, 2008; Som, Muros, Pascual, & Medina, 2008). Among the reasons why its study is important is that the experiences in PE classes (Jang, Kim, & Reeve, 2016), mediated by the teaching style used by a teacher, will set the formative and learning process, and the student's autonomy (Sicilia & Delgado, 2002). This will bring about positive and negative consequences, both behaviorally, cognitively, and affectively (Jang et al., 2016). Other studies point to the pedagogical intervention of the teacher, together with his or her professional attitude and personality traits, as a key factor in defining what is considered a good Physical Education teacher (Villaverde-Caramés, González-Valeiro, & Toja-Reboredo, 2017).

Research in this area can be instrumental in providing teachers with a solid theoretical basis (Parker & Curtner-Smith, 2012) with key tools in providing students with a wide range of teaching-learning situations (Mosston & Ashworth, 2008) in PE didactics. Thus, enabling a more meaningful and lasting learning experience (López & Moreno, 2002). This is a challenge established within the European Higher Education System, together with the teaching-learning models and professional competencies, among others (Calderón Iglesias, 2009).

The concept of teaching style is understood by Delgado-Noguera (1991) as:

the mode or form adopted by the didactic relations between the personal elements of the teaching-learning process at the technical and communicative level, as well as at the organizational level of the class group and its affective relations, depending on the decisions taken by the teacher. (p. 37-38)

The latter author differentiates 6 groups of teaching styles, among which are the traditional, individualizing, participatory, socializing, cognitive, and creative styles, which have gradually evolved over the years from being personal styles, to a structure independent of the uniqueness of each teacher (Cuéllar-Moreno & Caballero-Juliá, 2020). All teachers should, therefore, master them and know how to apply them, since they directly influence all the pedagogical elements present in PE classes (Sicilia & Delgado, 2002).

The literature review on this topic indicates that there is no one teaching style that is better than another (Jaakkola & Watt, 2011; Mosston & Ashworth, 2008; Sicilia-Camacho & Brown, 2008; Sympas & Digelidis, 2014). Although PE teachers are receptive to the use of participative, individualizing, creative, and socializing styles (Alarcón & Reyno, 2009; Espada & Piñeiro, 2020; González-Peiteado & Pino-Juste, 2013, 2014; Isaza & Henao, 2012; Merino-Barreto, Valero-Valenzuela, & Moreno-Murcia, 2017), used for the development of perceptual-motor stimulation contents, in physical activity contents for health and social relations (Fernández & Espada, 2017), it is common for these to use directive and reproductive styles (Aktop & Karahan, 2012; Caglayan, 2012; Duaigües & Giménez, 2010; Espada & Piñeiro, 2020; Guedea, 2009; Jaakkola & Watt, 2011) because they feel more confident employing them (Conte & Moreno, 2000; Jaakkola & Watt, 2011; Kulinna & Cothran, 2003; Sympas & Digelidis, 2014) in sports and physical fitness (Fernández & Espada, 2017), without responding to the requirements of the programming, or the contents, or the interests of the student body (Ince &

Hunuk, 2010). This may be because the faculty tends to teach in the same manner in which they themselves learned (Syrmpas & Digelidis, 2014).

Some works have also addressed the relationship between transformational teaching behaviors and different levels of burnout (low, medium, and high), an emotional disorder linked to work-induced stress, confirming that more transformational PE teachers with greater control over their passion for teaching have lower levels of burnout (Castillo, Álvarez, Estevan, Queralt, & Molina-García, 2017).

Regarding the age of the teaching staff, Merino-Barreto et al. (2017) determined that a faculty younger than 30 years old valued cognitive and social styles more highly. According to age, men under 30 years of age identified more with traditional styles, while women of the same age preferred more cognitive styles. Research on this study variable is not conclusive as there are, on the one hand, works that do not confirm its influence on the use of certain teaching styles (Jakkola & Watt, 2011), while other research point to a possible influence (Syrmpas & Digelidis, 2014).

Regarding the gender of the teaching staff, there are studies that report the significant influence of the female gender on the preference for innovative styles and the male gender more typical toward traditional styles (Aktop & Karahan, 2012; González-Peitedo & Pino-Juste, 2014; Sáenz-López, Sicilia-Camacho, & Manzano-Moreno, 2010) in contrast to other studies that state that this variable does not have any influence (Jakkola & Watt, 2011). For their part, Aktop and Karahan (2012), reported in their study that women were more inclined to use traditional styles such as direct command, this being the most used. In another point, Espada and Piñeiro (2020) indicate that both women and men used direct command more frequently and, consequently, traditional styles.

As a continuation of the efforts made in previous studies, and seeing that the results obtained when analyzing the relationship between gender and years of teaching experience are still inconclusive and require further research, the main objective of the present work is to study the possible influence of gender and years of teaching experience on the methodological preferences of teachers from Early Childhood Education and Primary Education who teach the subject of PE in schools in Galicia.

## Method

A non-experimental, cross-sectional descriptive observational-comparative design (Ato, López, & Benavente, 2013) was used to describe teaching styles (traditional, individualizing, socializing, and participatory, cognitive, and creative) and compared according to gender and years as a Physical Education teacher.

## Participants

The sample consisted of a total of 205 PE teachers with employment ties to 681 educational pre-school and/or primary education centers in the 4 Galician provinces (A Coruña, Lugo, Orense, and Pontevedra), all of them supported with public funds from the Xunta de Galicia (Instituto Gallego de Estadística [Galician Institute of Statistics], 2019).

The study population was the teaching staff of the 681 pre-school and primary schools in Galicia. To determine the sample, multistage cluster sampling was used (consider-

ing the schools as clusters) (Galindo, 1998), since the exact number of PE teachers in these schools is unknown. Depending on the number of units, the number of PE teachers may be one or two teachers. For this reason, the sample size was calculated using the finite population formula (Sierra, 2001), for which 177 teachers would be required for a confidence level of 95% and a margin of error of 3%.

## Procedure

In order to carry out this research, 681 publicly funded pre-school and primary schools of the Xunta de Galicia were contacted (Instituto Gallego de Estadística, *Galician Institute of Statistics*, 2019). This contact was established by sending an e-mail to the schools' administrative staff, who were asked to forward the questionnaire to their PE departments. The objective of this procedure was to have the faculty assigned to this department respond to the questionnaire through a Google Forms link. Teachers were offered a period of one month to reply from the date the e-mail was sent, considering that if they did not reply they did not wish to participate in the research. Participation was voluntary and anonymous and completion of the questionnaire implied consent to participate.

## Instrument

The instrument used for data collection was the Teaching Styles in Physical Education (EEEE, Spanish Acronym) scale validated by Merino-Barrero et al. (2017). The scale was incorporated into a Google Form to be disseminated to the sample under study. Some of the items included in this questionnaire are related to sociodemographic data such as gender, degree, province, and the educational stage where teaching is provided, work experience data, and data related to the didactics and teaching of PE. The scale is composed of 20 items preceded by the statement "As a Physical Education teacher, I think that...". The items use a Likert-type response scale (where 1 means "Strongly Disagree"; 2 is "Somewhat Disagree"; 3 means "Neutral"; 4 means "Somewhat Agree" and 5 means "Strongly Agree").

The scale consists of the following four dimensions or factors: traditional styles (e.g. "Although the group-class is heterogeneous (different levels of ability and/or understanding), I try to have everyone perform the same exercises"); individualizing styles (e.g. "Students should work at their own pace, thus favoring their learning"); participatory and socializing styles (e.g. "Social and affective relationships between observers and performers can be improved if rivalries between them are avoided"); cognitive styles (e.g. "Using a teaching style by searching favors student autonomy") and creative styles (e.g. "I never try to restrict the students' creativity").

## Statistical Analysis

The descriptive values of the variables included in the study were calculated for the characterization of the participants in this research (Table 1), analyzing the mean, standard deviation, and frequencies, as well as the bivariate correlations, using Pearson's correlation coefficient, asymmetry, and kurtosis. The reliability of the different subscales was then analyzed using the Cronbach's alpha coefficient (Table 2).

A MANOVA was then performed for each dependent variable studied, with two inter-subject factors, the first factor being years of experience (less than 5 years; be-

tween 6 and 11 years; between 12 and 17 years; between 18 and 23 years and more than 23 years of experience) and the second factor being the gender variable (male-female). Statistical power was calculated using partial “ $\eta^2$ ”. The main effects and the interaction between variables were also studied using the Bonferroni statistic to evaluate the significance of these and to control for type I error in the a posteriori comparisons. Analyses were performed using the statistical software package for the social sciences (SPSS, v. 22.0 for Windows, Armonk, New York) and the Amos statistical package (SPSS - Amos, v. 24.0, Chicago, US.); the level of statistical significance was set at  $p < 0.05$  with 95% confidence.

## Ethical Aspects

The recommendations of the Declaration of Helsinki and the American Psychological Association (2020) were followed to comply with the ethical and deontological requirements of research based on the collection of information through questionnaires, thus guaranteeing the anonymity of the participants, the confidentiality of the data collected in the questionnaires, and other ethical considerations.

## Results

The questionnaire was answered by 205 PE teachers, of whom 148 were men (72.2%) and 57 were women (27.8%). The characteristics of the participants are shown in Table 1.

Table 1

*Sample characterization*

| Variables                 |   | Frequency (%) |
|---------------------------|---|---------------|
| Mean age (years)          | 42.12 $\pm$ 10.33                           | -             |
| Gender                    | Man   | 148 (72.2%)   |
|                           | Woman                                       | 57 (27.8%)    |
| Degree                    | Degree in Physical Education                | 159 (77.6%)   |
|                           | Graduate with mention in Physical Education | 46 (22.4%)    |
| Years of experience       | Up to 5 years                               | 35 (17.1%)    |
|                           | From 6 to 11 years                          | 43 (21.0%)    |
|                           | From 12 to 17 years                         | 60 (29.3%)    |
|                           | From 18 to 22 years                         | 25 (12.2%)    |
|                           | More than 23 years                          | 42 (20.5%)    |
| Province where they teach | A Coruña                                    | 101 (49.3%)   |
|                           | Lugo  | 53 (25.9%)    |
|                           | Orense                                      | 16 (7.8%)     |
|                           | Pontevedra                                  | 35 (17.1%)    |
| Stage at which they teach | Pre-school                                  | 32 (15.6%)    |
|                           | Primary                                     | 97 (47.3%)    |
|                           | Both  | 76 (37.1%)    |

Note. Quantitative variables are expressed as mean and standard deviation, and qualitative variables as frequencies and percentages.

## Descriptive analysis, reliability analysis, bivariate correlations, etc.

Table 2 shows the descriptive statistics of the variables used, the reliability analysis, and their correlation. The results of the reliability analysis showed adequate values in all the studied dimensions.

In relation to the correlation analysis, a direct correlation was detected between individualizing and socializing, and cognitive and creative styles.

Table 2

*Means, standard deviations, asymmetry, kurtosis, reliability analysis, and bivariate correlations between the EEEF dimensions studied*

| Dimensions      | M<br>(DE)     | A     | K     | $\alpha$ | 1 | 2      | 3      | 4      | 5      | 6      | 7       |
|-----------------|---------------|-------|-------|----------|---|--------|--------|--------|--------|--------|---------|
| Traditionals    | 2.96<br>(.69) | -.005 | -.745 | .714     | 1 | .217** | .322** | .431** | .253** | -.084  | -.225** |
| Individualizing | 1.79<br>(.59) | 1.55  | 4.55  | .803     | - | 1      | .669** | .695** | .762** | .402** | -.008   |
| Socializing     | 1.76<br>(.85) | 2.47  | 6.44  | .703     | - | -      | 1      | .723** | .668** | .096   | -.145*  |
| Cognitive       | 2.27<br>(.60) | 1.66  | 5.58  | .770     | - | -      | -      | 1      | .803** | .222** | -.308** |
| Creatives       | 1.48<br>(.71) | -2.03 | 4.96  | .890     | - | -      | -      | -      | 1      | .212** | -.214** |

Note. M = Mean; SD = Standard Deviation; A = Asymmetry; K = Kurtosis;  $\alpha$  = Cronbach's Alpha; 1: Traditional styles; 2: Individualizing styles; 3: Participatory and socializing styles; 4: cognitive styles; 5: creative styles; 6: gender 7: years of experience. \* Correlation is significant at the .05 level (Bilateral). \*\* Correlation is significant at the .01 level (Bilateral)

## Analysis of factorial variance with respect to years of experience and gender

Table 3 shows the means and standard deviations of the EEEF variables collected in the questionnaires, according to overall years of experience and gender.



Table 3

*Descriptive data of the EEEF variables analyzed. Mean, standard deviation, according to gender and years of experience*

| Dimension       | Years of experience | Total       | Men         | Women      |
|-----------------|---------------------|-------------|-------------|------------|
|                 |                     | M (SD)      | M (SD)      | M (SD)     |
| Traditionals    | Up to 5 years       | 2.96 (.74)  | 3.05 (.82)  | 2.66 (.00) |
|                 | From 6 to 11 years  | 3.40 (.50)  | 3.09 (.43)  | 3.75 (.33) |
|                 | From 12 to 17 years | 2.87 (.77)  | 2.83 (.80)  | 3.00 (.69) |
|                 | From 18 to 22 years | 2.82 (.72)  | 2.87 (.83)  | 2.66 (.00) |
|                 | More than 23 years  | 2.71 (.45)  | 2.87 (.33)  | 2.00 (.00) |
| Individualizing | Up to 5 years       | 2.05 (1.04) | 2.15 (1.15) | 1.66 (.00) |
|                 | From 6 to 11 years  | 1.57 (.33)  | 1.60 (.44)  | 1.54 (.16) |
|                 | From 12 to 17 years | 1.75 (.53)  | 1.99 (.36)  | 1.00 (.00) |
|                 | From 18 to 22 years | 1.74 (.14)  | 1.66 (.00)  | 2.00 (.00) |
|                 | More than 23 years  | 1.89 (.46)  | 2.08 (.21)  | 1.00 (.00) |
| Socializing     | Up to 5 years       | 2.38 (1.40) | 2.60 (1.51) | 1.60 (.00) |
|                 | From 6 to 11 years  | 1.44 (.33)  | 1.31 (.32)  | 1.57 (.29) |
|                 | From 12 to 17 years | 1.77 (.36)  | 1.64 (.31)  | 2.20 (.00) |
|                 | From 18 to 22 years | 1.20 (.14)  | 1.21 (.16)  | 1.20 (.00) |
|                 | More than 23 years  | 1.88 (1.04) | 2.06 (1.05) | 1.00 (.00) |
| Cognitive       | Up to 5 years       | 2.86 (.92)  | 2.93 (1.03) | 2.60 (.00) |
|                 | From 6 to 11 years  | 2.17 (.30)  | 2.15 (.42)  | 2.20 (.00) |
|                 | From 12 to 17 years | 2.20 (.45)  | 2.22 (.51)  | 2.20 (.20) |
|                 | From 18 to 22 years | 1.84 (.26)  | 1.91 (.26)  | 1.60 (.00) |
|                 | More than 23 years  | 2.23 (.52)  | 2.45 (.21)  | 1.20 (.00) |
| Creatives       | Up to 5 years       | 1.96 (1.44) | 2.14 (1.58) | 1.33 (.00) |
|                 | From 6 to 11 years  | 1.37 (.30)  | 1.22 (.32)  | 1.54 (.16) |
|                 | From 12 to 17 years | 1.39 (.38)  | 1.52 (.36)  | 1.00 (.00) |
|                 | From 18 to 22 years | 1.49 (.50)  | 1.64 (.47)  | 1.00 (.00) |
|                 | More than 23 years  | 1.32 (.32)  | 1.39 (.31)  | 1.00 (.00) |

Note. M: Mean. SD: Typical or standard deviation

The results of the MANOVA performed on the traditional styles indicate that there is a significant primary effect from the teaching experience factor [ $F(4, 195) = 10.208, p < .001, \eta^2 = .180$ ] with this style employed more among the faculty with between 6 and 11 years of experience followed by those with less than 5 years. There are also statistically significant differences in the interaction between both factors (teaching experience and gender) [ $F(4, 195) = 6.382, p < .001, \eta^2 = .121$ ], but not in the gender factor ( $p = .243$ ). Regarding individualizing styles, significant primary effects were observed for the teaching experience factor [ $F(4, 195) = 3.692, p = .006, \eta^2 = .074$ ] with teachers with less than 5 years of experience using this style the most, for the gender factor [ $F(1, 195) = 28.299, p < .001, \eta^2 = .132$ ] and employed more by male teachers than by female teachers, with the interaction of both factors being [ $F(4, 195) = 10.003, p < .001, \eta^2 = .177$ ]. As for the participatory and socializing styles, as in the previous two, statistically significant differences were observed in the teaching experience factor [ $F(4, 195) = 6.022, p < .001, \eta^2 = .115$ ], being used the most by teachers with less teaching experience; with the interaction between both factors being [ $F(4, 195) = 7.234, p < .001, \eta^2 = .135$ ], but not in the gender factor ( $p = .053$ ). The analysis of the cognitive styles identified a primary effect of the teaching experience factor [ $F(4, 195) = 14.291, p < .001, \eta^2 = .235$ ], in the gender factor [ $F(1, 195) = 19.191, p < .001, \eta^2 = .094$ ] and in the interaction of the two factors [ $F(4, 195) = 7.425, p < .001, \eta^2 = .138$ ], being mostly used by teachers and by those with less teaching experience (less than 5 years). As for the creative styles, as in the case of the previous style, a primary effect was found for the teaching experience factor [ $F(4, 195) = 2.4941, p = .045, \eta^2 = .051$ ], for the gender factor [ $F(1, 195) = 12.993, p < .001, \eta^2 = .065$ ] and in the interaction of the two factors [ $F(4, 195) = 3.779, p = .006, \eta^2 = .075$ ] again used mostly by male teachers than by female teachers and by those with less teaching experience.

In the pairwise comparisons, with respect to traditional styles, statistically significant differences were found between male and female teachers with 6 to 11 years of experience ( $p = .001$ ) and those with more than 23 years of experience ( $p = .001$ ), with a greater preference for these styles among female teachers with fewer years of experience, and among male and female teachers with more than 23 years of experience. In the pairwise comparisons regarding individualizing teaching styles, statistically significant differences were found among male and female teachers with less than 5 years of teaching experience ( $p = .020$ ), among those with 12 to 17 years of experience ( $p < .001$ ), and among those with more than 23 years of experience, with teachers having a greater preference for these styles. As in the case of traditional styles with respect to styles that encourage student participation and socialization, teachers have a greater preference than their counterparts for this style, with statistically significant differences between those with less than 5 years of experience ( $p = .002$ ) and those with more than 23 years of teaching experience. In contrast, female teachers with 12 to 17 years of teaching experience have a greater preference for this teaching style than male teachers. Statistically significant differences were also found between teachers with more than 23 years of experience ( $p < .001$ ) in terms of cognitive styles, with male teachers having a higher preference than female teachers. Lastly, and with respect to creative styles, male teachers again have more preference for this major style than female teachers among faculty with less than 5 years of experience ( $p = .004$ ), those with between 12 and 17 years of experience ( $p = .009$ ), and those with between 18 and 22 years of teaching experience ( $p = .034$ ).

## Discussion

The objective of this work was to determine the methodological preferences in terms of the teaching styles of PE teachers in Early Childhood and Primary Education from Galicia. The results obtained indicate a notable preference for the more traditional teaching styles, followed by cognitive teaching styles with a significantly higher score than the other styles, if the results are observed overall.

These findings are similar to those confirmed by Cothran et al. (2005), Sáenz-López et al. (2010), Som et al. (2008), Syrrmpas, Digelidis, Watt, & Vicars (2017) and Isaza and Henao (2012). The individualizing, socializing, and creative styles could be included in a second group, with the latter being those with the lowest scores. These are results that coincide with those obtained by Espada and Piñeiro (2020). All this confirms the teachers' preference for the direct instruction that underlies the traditional or more reproductive teaching styles as opposed to the inquiry technique, typical of more innovative styles and which better connect with the students' interests and motivations (Alarcón & Reyno, 2009). This type of style is associated with a greater fear of failure on the part of students, with styles that favor student autonomy being those that produce less fear of action and failure (Hernández, Moreno-Murcia, & Espí., 2020).

The traditional style, like other similar research (Aktop & Karahan, 2012; Caglayan, 2012; Espada & Piñeiro, 2020; Jaakkola & Watt, 2011), is the highest scoring style. The group of teachers who scored them the highest, according to years of teaching experience, are those with between 6 and 11 years of experience. In this case, it was the female teachers who rated this style the highest, results that are in line with Aktop and Karahan (2012). However, it is men who most value these traditional styles when they have less than 5 years of teaching experience as stated by González-Peiteado and Pino-Juste (2014), Merino-Barreto et al. (2017) or Sáenz-López et al. (2010), indicating that teachers give the highest scores to these styles compared to their counterparts.

Regarding cognitive styles, it is the second group of styles most valued by the participants in our research, something similar to other research (Delgado, 1998; Isaza & Henao, 2012), highlighting the fact that teachers are the ones who value these styles the most with respect to their female colleagues, regardless of years of teaching experience. These are results that do not correspond to those found by Merino-Barrero et al. (2017), since their study indicates that male and female teachers are the ones with the worst scoring for this type of styles. The results related to cognitive styles could be due to the existence of a tendency on the part of teachers to use other styles as opposed to the traditional ones, at least in their strictest conception (González & Pino, 2014; Navarro-Patón, Basanta-Camiño, & Abelairas-Gómez, 2017; Navarro-Patón, Rego, & García, 2018). Individualizing styles come in third with the highest overall score given by teachers participating in the study, as in the work of Espada and Piñeiro (2020), but with a low score with respect to the rating scale, by not reaching the average score. These results are in line with Merino-Barrero et al. (2017), indicating that teachers, as is the case in this research, give a lower score to this type of teaching styles, as occurs in the studies of Isaza and Henao (2012).

Regarding participatory and socializing styles, Merino-Barrero et al. (2017), point out that they are the ones that most emphasize student intervention to improve their learning and that of their peers. These are the most highly valued by male teachers with less than 5 years of experience, finding no relevant differences at the general level among the consulted group of teachers. This score may be due to the fact that there is a generalized tendency to employ those styles that enable students to be part of

classroom decisions, paying more attention to their cognitive and affective processes, and coinciding with González and Pino (2014) and Isaza and Henao (2012). In a recent research conducted on teachers who taught dance classes, higher levels of autonomy, relatedness, and self-determination were recorded in the experimental group working with a teacher-centered intervention design compared to participants in the control group (Amado, Molero, del Villar, Tapia-Serrano, & Sánchez-Miguel, 2020). The authors of this work concluded that teacher training is important to increase student motivation towards the contents taught, inviting schools to focus their attention on training teachers in strategies that favor their motivation, thus creating adaptive student behaviors.

Lastly, creative styles, which enable free exploration and the search for novel ways to achieve the objectives without the need for efficiency criteria or restricting the creativity of the students, with teachers transmitting a large part of the decision-making power to the student (Merino-Barrero et al., 2017), are those that received the lowest scores from the teachers who participated in this research. These results follow the same line as the results reported by Cothran et al. (2005), Sáenz-López et al. (2005) and Som et al. (2008) but contrary to Isaza and Henao (2012).

## Limitations and suggestions for improvement

The present study has certain limitations, among them the sample with which we worked, because we did not address a larger number of teachers belonging to different centers of diverse ownership (public, subsidized, and private) and geographic location (urban, semi-urban, and rural). It would also be interesting to establish a relationship between the course in which the faculty teaches and the predominant teaching style of said faculty. Similarly, it is necessary to establish a relationship between teaching style and teacher qualifications (Diploma in Physical Education vs. Graduates with Mention in Physical Education) which was not the subject of this study.

As proposals for improvement of this work, and for future research in this line, it is important to approach a larger sample of teachers and initiate a longitudinal line of research with a control and experimental group, experimenting with different methodological approaches and teaching styles, and analyzing their impact on student learning

## Conclusions

Although more research is needed in this area, we can conclude from the results obtained in this study that PE teachers with fewer years of experience show a greater preference for individualized teaching methods, socialization, student participation, and a methodological approach that fosters creativity.

While teachers with more years of experience opt for traditional methods, especially those with 6 to 11 years of experience. On the other hand, male teachers opt more for individualizing, cognitive, and creative styles than female teachers, although they use traditional styles in both cases.

These results help to improve teacher training plans by establishing strategies that address different perspectives and methodological approaches, thus taking advantage of the benefits of each one of them.

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