The Version of Record of this manuscript has been published and is available in European Journal of Teacher Education, 08/01/2024. https://www.tandfonline.com/doi/abs/10.1080/02619768.2024.2301974

Intrinsic and extrinsic motivation in pre-service secondary education teachers in Spain

Pablo Palomero Fernández, [a]*, Eva Vicente Sánchez [a] & Jacobo Cano Escoriaza[b]

Department of Psychology and Sociology, University of Zaragoza, Zaragoza, Spain [a]; Department of Educational Science, University of Zaragoza, Zaragoza, Spain [b]

*Corresponding author: Facultad de Educación. C/ Pedro Cerbuna 12, Zaragoza (50009). 976 761000. pabpalom@unizar.es

Abstract

This paper analyses the initial motivations for studying the Master's Degree in Secondary School Teaching in Spain. Participants were 441 university students who filled out a work-related values and motives questionnaire. Cluster analysis revealed four motivational profiles. Three of them display adequate intrinsic motivation, although there are marked differences among them. However, the fourth profile was associated with a low degree of vocation, along with difficulties in adapting to the demands of the role of teacher. The Chi-squared test yielded a better motivational profile in females and among those who had previous experience. These results allow us to make a series of proposals in the educational field. Further research should be conducted in this area; moreover, efforts should be devoted to improving the instructional design of the Spanish Master's Degree in Secondary School Teaching, as well as to revising the procedures designed for selection and orientation of future students.

Keywords

Teacher motivation, pre-service teacher training, secondary education, intrinsic motivation.

Presentation of the research problem

The initial training for secondary school teachers in Spain has undergone a series of profound transformations since Spanish universities were incorporated into the

European Higher Education Area (EHEA). Until 2008, after completing their university degrees, graduates who wished to become teachers had to attend a 300-hour study programme to obtain a "Pedagogical Aptitude Certificate" (known in Spanish as the *Certificado de Aptitud Pedagógica*, or CAP). The CAP model had various drawbacks, such as overcrowding, budget constraints, short duration, low requirement levels, and an overly theoretical approach (Gutiérrez 2011). Most CAP students were dissatisfied, sensing that doing the course was merely a way of "ticking boxes", of complying with the bureaucratic formalities required to become a teacher. All of this led to a devaluation of the image of the teaching profession (Imbernón 2019; Pantoja and Campoy 2000).

Several studies found that most CAP students did not have the right motivational profile for people who want to become teachers. Typically, they felt obliged to redirect their professional career towards teaching because they could not find job openings in the field they had originally studied (Esteve 1997; García and Martínez 2001). As a result, those enrolling at university on a teacher-training course tended to have practical reasons for doing so rather than a strong vocation to work as a teacher (Ariza, Sánchez, and Pontes 2011; Pérez, Gilar, and González 2007).

The Bologna process led to changes in the structure of university education in Spain, which was organized into three levels: Bachelor's Degree, Master's Degree and Doctorate. In this way, the old system of *diplomaturas* (three-year courses) and *licenciaturas* (five-year courses) were replaced with *grados* or Bachelor's Degrees (four-year courses). Master's Degrees (one or two years), which had previously not existed, were also organized. Within this context, from academic year 2008/2009, the CAP was replaced by the Master's Degree in Secondary School Teaching (known in Spanish as the *Máster de Formación del Profesorado de Educación Secundaria*, or

MFPS). Passing this course is an essential prerequisite for all those wishing to become secondary school teachers in Spain. It is a postgraduate course which is studied after first obtaining a Bachelor's Degree in a specific field of knowledge (History, Biology, Physics, etc.). Enrolling on the MFPS marks the beginning of the initial training for secondary school teachers and their first contact with the reality of school life. The course, which lasts for one academic year, consists of 60 ECTS credits and is organized into three modules. The first module offers a general introduction and is taken by all MFPS students. It consists of various subjects aimed at providing the students with a general training in didactics and psycho-pedagogy. The second module is specific to the particular specialist field that they will be teaching at secondary school (additional contents that they may not have covered during their Bachelor's Degrees, didactics for their particular field, etc.). Lastly, the third module involves a period of practical work experience in a secondary school, which is supervised by a teacher from their specialist field.

The introduction of the MFPS has resulted in various additional improvements such as the reduction in professor/student ratios and the organization of the training course around the development of teaching skills, placing much more emphasis on teachers' motivations, attitudes and behaviour in class (Egido, 2011).

All of these changes seem to have contributed toward the general improvement in MFPS students' perceptions of this degree (Martínez, Miguel, and Sánchez 2021), thereby also improving the conditions for developing their motivation for teaching as part of the MFPS syllabus. However, recent studies reveal that problems still seem to exist as regards the initial reasons driving students to enrol on the course. Martínez, Miguel, and Sánchez (2021) found that 20% of MFPS students did not actually want or expect to work as teachers in the future. And although Muñoz, Rodríguez, and Luque

(2019) found that the majority of the MFPS students in their sample group had intrinsic motivational profiles, 25% of them displayed purely circumstantial motivations, with a clear prevalence of extrinsic reasons for entering the teaching profession.

The impact of teacher motivation on the quality of teaching has been highlighted by a number of authors in Spain and at an international level (Day 2006; Fokkens-Bruinsma and Canrinus 2014; Viseu et al. 2016). Bolivar (2013) pointed out that becoming a teacher for vocational reasons led to a high degree of professional commitment when compared for example to those who wished to join the profession because of the working conditions. The right initial motivation has been related to a number of factors including improved teaching quality, higher teacher satisfaction, wellbeing, and perception of self-efficacy, as well as improved performance and readiness to face changes and upheavals in the educational field (Pillen, Den Brock, and Beijaard 2013).

Initial motivation for working in the teaching profession is the first stage in the construction of teacher identity (Bolivar, 2013). An MFPS student's motivational profile also plays a key role in the way they interpret the knowledge and experiences they acquire during teacher training. All of this suggests that it would be a good idea to study the reasons that led MFPS students to enrol on the course in order to try to enhance or develop their motivation during their initial training period (Castañeda et al. 2020; Pontes, Ariza, and Criado del Rey 2010) and in order to select those candidates who have the most appropriate motivational profiles (Esteve 2009).

Educational policies should establish efficient models for attracting, recruiting, selecting and retaining teachers (OECD 2005). The most recent PISA reports (OECD 2016, 2018, 2020) confirm the relationship between teacher motivation and the overall quality of a country's educational system: these reports found that the most highly

performing students were in countries where teachers are highly motivated (e.g., Finland, Japan, and Switzerland). Researchers in Spain have found that one in four students have poorly motivated teachers, a fact that must surely have a negative influence on their academic results (Roa and Fernández 2020).

Motivations for entering the teaching profession

According to Woolfolk (2014), motivation can be defined as the internal state that activates and maintains behaviour within a particular course of action, directing it towards the achievement of a goal. Motivation is a complex psychological process that enables the individual to structure their conduct and respond to environmental stimuli in an organized fashion in order to enable them to adapt properly to their surroundings (Menéndez 2013). This process is associated with the causes of behaviour, which tend to be many and varied (Barberá 2000).

The following theories have served as frames of reference for the study of teacher motivation: Herzberg's two-factor theory (Franco, Vélez, and López 2018), the self-determination theory, or SDT (Deci and Ryan 2008), and the theory of basic human values (Schwartz 1992). We should also mention the factors influencing teacher choice (FIT-Choice) theory (Watt & Richardson, 2007), which is often cited in recent international studies.

Herzberg (2003) postulated that the human mind is of a dual nature, designed to respond to two types of needs. From the vantage point of our animal nature, the mind encourages us to avoid pain, while from the vantage point of our human nature, it encourages us to satisfy needs of a superior nature, and thus to evolve. This approach led Herzberg to distinguish between two types of motivational factors associated with work. Extrinsic motivation is associated with factors relating to the overall hygiene and quality of the workplace (salary, working conditions, institutional policies, etc.).

Sufficient presence of such factors can prevent workers from becoming dissatisfied, although, according to Herzberg, they are not closely related to positive attitudes towards work. Intrinsic motivational factors, on the other hand, are closely associated with the satisfaction inherent in doing a particular job. Within the field of teaching, these factors include the desire to help other people grow and develop, a teacher's personal interest in the subject they teach, a passion for teaching, and the sensation of having succeeded in the task of imparting knowledge. The best profiles for the teaching profession are individuals who display an intrinsic interest in working as teachers (Fokkens-Bruinsma, and Canrinus 2014). Herzberg's two-factor theory has been applied in a series of studies featuring samples of teachers on the job. Thus, for instance, in a study of a sample group of Colombian secondary education teachers, Franco, Vélez and López (2018) found that although the members of their group had sufficient intrinsic motivation, high levels of satisfaction with their job, and satisfactory levels of teaching vocation, they felt that the teaching profession was not highly regarded within society and was poorly paid, thereby indicating low satisfaction with the hygienic aspects of this job.

The self-determination theory (Deci and Ryan 2008) investigates the motives that lead people to pursue a certain goal. In line with Herzberg (2003), Deci and Ryan distinguished between two types of motivation. Intrinsic motivation leads an individual to carry out a task because of the pleasure and natural interest involved, so endowing them with a spontaneous commitment to their profession. Extrinsic motivation, by contrast, is related to the desire to achieve certain secondary rewards associated with the performance of a task, even if they are not its main purpose. Within the context of teaching, aspects such as job security, working hours, vacation periods, and salary conditions can be regarded as extrinsic motivational factors.

Ryan and Deci (2019, 2020) dubbed as ‘autonomous motives’ all those related with personal interests and needs, which lead to self-determined behaviour and a satisfactory level of well-being. ‘Heteronomous motives’, on the other hand, are related to external requirements imposed by the society in which we live, leading to non-self-determined behaviour which, with the passage of time, can have increasingly negative repercussions on motivation and commitment in the workplace. Motivational profiles featuring a higher level of self-determination and intrinsic motivation are therefore more appropriate for the teaching profession, whereas those based merely on achieving job security or on a lack of any better professional alternatives are less suitable (Esteve 2006; García and Martínez 2001; Muñoz, Rodríguez, and Luque 2019). At any rate, extrinsic and intrinsic motivation are not necessarily incompatible in that participants in a number of studies displayed both types (Cortés, Cano, and Orejudo 2015; Heinz 2015; Watt et al. 2012).

The theory of basic human values (Schwartz 1992) regards motivations as internal stimuli that lead people to act and they often serve as the principles that guide their lives. The structure of human values is universal and can be summarized in ten values that capture the main goals and motivations of our species (Arieli, Sagiv, and Roccas et al. 2020). These values have varying subjective importance from one individual to another, which means that we each ascribe different hierarchical priority to certain values.

Schwartz (1992) summarized the ten universal human values in a structure made up of four metavalues. The first metavalue is self-transcendence, and is made up of the individual values of universalism and benevolence; the second, personal enhancement, is made up of the values of power and achievement; the third metavalue, conservation, covers the values of tradition, conformity and security; finally, the fourth, openness to

change, comprises the values of self-direction and stimulation. The value of hedonism has elements associated with personal enhancement as well as with openness to change.

When an individual's personal values coincide with those of the workplace, this tends to stimulate job satisfaction and encourages them to persist in achieving vocational goals (Dubeau, Plante, and Frenay 2016). Many studies have observed that intrinsic and social values are prevalent amongst education students and serving teachers, along with a good level of extrinsic motivation (Cano, Orejudo, and Cortés 2019; Conchado et al. 2012; Cortés 2009; Cortés, Cano, and Orejudo 2015; Heinz 2015; Watt et al. 2012). Along similar lines, Knafo and Sagiv (2004) found that the teachers in their sample group displayed a good fit between the metavalue of self-transcendence (i.e., the values of universalism and benevolence) and the metavalue of conservation (particularly with the motivational goals of security and conformity). This suggests that motivational profiles for the teaching profession should include both intrinsic and extrinsic values, with a prevalence of the former; the wish to help improve the conditions of individuals and groups through education is particularly desirable.

The last theoretical model selected is the FIT-Choice theoretical framework (Watt & Richardson, 2007). According to this model, people choose a teaching career, firstly, because of the influences received from their social milieu and secondly, because of the following four factors: task perceptions, perceived self-efficacy, value attributed to the profession and fallback career. In this way, the model enables us to distinguish between extrinsic, intrinsic and altruistic motivations. Research findings indicate that intrinsic, extrinsic and altruistic motives are well represented in the samples studied, with the order of importance varying according to variables such as cultural context or time spent in the teaching career. For example, Klassen et al. (2011) found that future teachers from Canada considered the social utility value of teaching

more important, while those from Oman gave extrinsic motives higher priority. Relationships were also found between belonging to certain groups underrepresented in teaching, such as non-heterosexuals (Heinz, Keane, and Davison 2017) or ethnic minorities (Su 1997), and the importance they attributed to altruistic motivation.

Taking these theoretical models together, we can conclude that the most suitable motivational profiles for those wishing to study for an MFPS degree are those that combine a high degree of intrinsic motivation and a considerable level of extrinsic motivation. Less suitable profiles include those with a low level of intrinsic motivation, denoting a clear lack of interest in the profession. Hartl and Holzberger (2022) recently identified three motivational profiles in pre-service teachers involved in initial training, distinguishing between those with low, medium, and high motivation. Likewise in Germany, Biermann et al. (2019) found three motivational profiles: intrinsically motivated teachers, extrinsically motivated teachers, and teachers with balanced motivation, while Lohbeck, and Frenzel (2021), again in Germany, found four different motivational profiles: educationally motivated, utility oriented, motivationally balanced, and extrinsically motivated. Divergent motivational profiles have nevertheless been observed in other contexts: in Chile, Franco, Vélez and López (2018) found a profile that combined high intrinsic motivation with low extrinsic motivation.

The main goal of our study was to elicit the initial motivations of students studying toward a MFPS, in order to determine their underlying motivational profiles and to reflect on the degree to which these profiles matched those identified in the theories and research studies described above. We also aimed to relate the motivational profiles elicited in our study with the socio-demographic variables of sex, age, previous studies (Bachelor's and/or Master's Degrees), specialist field, previous teaching experience, and experience in group dynamics techniques. Our ultimate goal was to

provide information that would prove relevant, on the one hand, for improving the syllabus of the MFPS degree and the teaching and learning practices conducted therein (Castañeda et al. 2020), and, on the other, for the drafting of empirically supported proposals designed to improve the procedures for the selection and guidance of those wishing to enrol on MFPS degree courses.

Methods

Participants

The survey group was made up of 441 MFPS students (280♀ and 161♂) at the University of Zaragoza during academic year 2020-2021 with ages ranging from 21 to 55. A purposive sampling method was applied. General information about the sample group is provided in Table 1. The following data are especially worth highlighting: in this sample, 77.78% were aged under 29; the mean age was 27.05 with a standard deviation of 6.67 years. However, significant numbers of students also belonged to some of the older age groups (30-34=10.20%; 34-39= 5.44%; >39=6.58%), a fact that might be related to the difficulties in finding well-paid, stable employment in the Spanish job market or to changes in career direction. A total of 65.08% of participants had not previously studied toward a Master's degree and 70.52% had previous teaching experience. In terms of specialities (the Bachelor's Degrees they had studied), there was a clear prevalence of Arts and Humanities (49.65%), while similar percentages had studied Social/Legal Sciences (16.09%), Engineering and Architecture (15.41%), and Natural Sciences (12.24%); the least represented field in this sample was Health Sciences (6.57%).

Table 1. Characteristics of the sample.

Socio-demographic variables	Frequency
Sex	
Male	161 (36.51%)
Female	280 (63.49%)
Age	
<25	209 (47.39%)
25-29	134 (30.39%)
30-34	45 (10.20%)
35-39	24 (5.44%)
>40	29 (6.58%)
Other Master's Degree studies	
No	287 (65.08%)
Yes	154 (34.92%)
Previous teaching experience	
No	130 (29.48%)
Yes	311 (70.52%)
Previous general area of study	
Arts and Humanities	219 (49.65%)
Natural Sciences	54 (12.24%)
Health Sciences	29 (6.57%)
Social/Legal Sciences	71 (16.09%)
Engineering & Architecture	68 (15.41%)
Specific Bachelor's Degree specialty	
Administration, Marketing, Tourism, Community Services, Job	17 (3.85%)
Biology/Geology	37 (8.39%)
Visual Arts	25 (5.67%)
Business/Economy	29 (6.58%)
Physical Education	21 (4.76%)
Philosophy	15 (3.40%)
Physics/Chemistry	32 (7.26%)
Geography/History	74 (16.78%)
Latin/Greek	03 (.68%)
Spanish Language and Literature	35 (7.94%)
French as a Foreign Language	13 (2.95%)
English as a Foreign Language	44 (9.98%)
Mathematics	22 (4.99%)
Music/Dance	13 (2.95%)
Educational Orientation	13 (2.95%)
Building and Industrial Procedures	13 (2.95%)
Sanitary, Chemical, Environmental, and Agrifood Processes	18 (4.08%)
Technology and Computer Science	17 (3.85%)

Tools

Information was collected via two self-reporting instruments. The first, which was designed to evaluate reasons and motivation, was a questionnaire entitled 'Work-Related Values and Reasons for entering the Teaching Profession' (*Valores laborales-motivos hacia la profesión docente*), drawn up by Cortés, Cano, and Orejudo (2015), which consisted of nine items and two factors (intrinsic motivation and extrinsic motivation). The items had a four-choice response format in which participants were asked to rate how important they thought each reason was in their decision to become teachers: 1=not at all important; 2=not very important; 3= quite important; 4=very important. Although we applied the tool in its original version, the results of its validation (published in Palomero and Vicente 2022) evidenced the need to amend its structure slightly. Items one and nine were removed because they did not meet the psychometric quality criterion. In the end, a reduced version made up of seven items was found to be valid and reliable, and thus became the version we applied in this study (Appendix 1). Results from the validation of the tool (Palomero and Vicente, 2022) show sufficient reliability for its use in research contexts ($\alpha = .670$) and sufficient goodness of fit for a 3-factor model (CFI=.968; TLI=.944; RMSEA=.0629). The first factor, 'intrinsic motivation', is made up of three items that assess the motives that inspired their desire to work as teachers: the match between teaching and the individual's personality, the perception that the teaching profession would enable the future teacher to realize themselves personally and achieve their vocation, defined as an internal inclination and a personal preference for the teaching profession. The second factor, referred to as 'extrinsic motivation', is made up of three items that assess the motives related with extrinsic reinforcements: job stability, working conditions and salary. The third factor, referred to as the 'perception of a lack of alternatives' is made

up of a single item that evaluates the idea of having no other achievable employment alternatives. In spite of the fact that this last factor counts as a single item, we decided to use the three-factor model for two reasons. Firstly, due to its theoretical consistency with the findings of previous research on this subject (Esteve 1997; García and Martínez 2001). Secondly, due to the fact that in a previous study the three-factor model was found to have better goodness of fit than the two-factor model applied in the original instrument (Palomero and Vicente 2022).

The second tool we applied was a socio-demographic questionnaire that gathered information regarding the variables of sex, age, previous Bachelor's Degree specialities, previous Master's Degree studies (if they had any), speciality within the MFPS, and teaching experience. These variables were chosen on the basis of previous studies in this field (Fokkens-Bruinsma and Canrinus 2014; Martín and Molina 2017; Muñoz, Rodríguez, and Luque 2019). For the teaching experience variable, several response alternatives were offered (i.e., experience giving private classes, experience teaching at an extra tuition centre, etc.); participants were able to select the alternatives they found most appropriate. This variable was subsequently recoded as a yes-no alternative, grouping all those who indicated that they had previous teaching experience in one group and all those who indicated they had no previous experience in another (Appendix 2).

Procedure

Data collection took place during class time at university. According to the ethical principles outlined by the American Educational Research Association (2014), participants were duly informed of the goals of the study and of participation conditions. Participation was anonymous, and participants were informed they would receive no benefit for responding to the questionnaires. Informed consent forms and the

questionnaires themselves were presented via Google Forms. Authorization from the Ethical Research Committee of the Autonomous Community of Aragon (CEICA) was obtained (Act 16/2020).

Data analysis

First, we grouped the sample into age groups, we dichotomized the responses to the 'previous teaching experience' variable, and we categorized the Bachelor's Degree specialties into five branches of knowledge (Arts and Humanities, Natural Sciences, Social/Legal Sciences, Health Sciences, and Engineering/Architecture).

We then proceeded to subject the items on the motivations scale to a descriptive analysis and a hierarchical cluster analysis using Ward's method. The centroids were calculated on the basis of the Euclidean squared distance. After analysing the dendrogram, we selected the definitive number of clusters. Motivational profiles were identified by comparing the mean scores obtained on the different variables by the subjects belonging to each cluster. To identify the global associations between the members of a cluster and the socio-demographic variables under study, we conducted the Chi-squared test, replacing it with Fisher's exact test when necessary. We used Fisher's exact test on cells and their p-value to identify significant associations at a local level. As a final step, effect sizes were determined using Cramer's V coefficient.

Analyses were conducted using IBM SPSS 26 and XLSTAT.

All 441 participants completed the entire questionnaires, so there were no missing data, and no missing data treatment was required.

Results

Descriptive analysis

As can be seen in Table 2, mean scores were relatively high, for items related to both extrinsic and intrinsic motivation. In almost all cases, mean values were over 3, with the exception of the vocation item and the 'lack of alternatives' factor.

Table 2. Descriptive statistics: motivations for exerting the teaching profession

Variable	Item	Mean	Deviation	Variance	Asymmetry	Kurtosis
	Work conditions	3.48	.697	.486	-1.207	1.009
Extrinsic	Job stability	3.26	.803	.646	-.945	.425
motivation	Salary	2.85	.788	.622	-.391	-.153
Lack of	Lack of alternatives	2.20	1.059	1.122	.300	-1.182
	Personality	3.12	.767	.588	-.481	-.379
Intrinsic	Self-realization	3.22	.776	.603	-.750	.073
motivation	Vocation	2.99	.904	.818	-.510	-.615

The high mean scores on the 'working conditions' and 'possibility of obtaining a stable job' variables are particularly striking, in that they indicate a relatively high level of extrinsic motivation in this sample group. Regarding intrinsic motivation, high mean scores on Items 6 and 7 suggest that there is an adequate fit between the personalities of the MFPS students and their expectations, on the one hand, and between their personalities and the teaching profession, on the other. Scores on the 'vocation' item are slightly lower and have a more pronounced standard deviation. 'Lack of employment alternatives' has a relatively low mean score, but it is also the variable with the highest standard deviation, thus showing great diversity in response patterns to this item.

Identification of motivational profiles

In order to differentiate a series of clearly defined motivational profiles, we conducted a hierarchical cluster analysis. The solution featured four clusters (Table 3).

The first cluster (MFPS students with balanced motivation and with alternatives) obtained notably high scores for the intrinsic motivation and extrinsic motivation factors, together with very low scores in lack of perceived alternatives, thereby indicating a well-defined interest in the teaching profession.

The second cluster (MFPS students with high motivation and a lack of alternatives) obtained high scores for the intrinsic motivation and extrinsic motivation variables. By contrast with Cluster 1, these respondents gave a high score to the lack of employment alternatives variable. Thus, although they perceived the teaching profession as their only option, their intrinsic motivation was high, and the decision to study towards an MFPS degree was self-determined.

The third cluster (demotivated MFPS students) obtained considerably lower-than-average scores for the intrinsic motivation factor, and particularly for the vocation variable, as well as slightly lower than average scores for extrinsic motivation, combined with a high score for a lack of perceived alternatives. All of this suggests that these respondents have an overall motivational deficit.

The fourth cluster (idealistic MFPS students) obtained low scores for extrinsic motivation, very high scores for intrinsic motivation, and low scores for lack of perceived alternatives. All of this suggests that these respondents' choice of profession was self-determined.

Table 3. Mean scores obtained by each cluster

	Extrinsic motivation			Lack of alternatives	Intrinsic motivation		
Cluster	Conditions	Stability	Salary	Lack of alternatives	Personality	Self-realization	Vocation
Balanced, with alternatives (N=193; 43.76%)	3,55	3,45	2,92	1,41	3,22	3,38	3,13
High motivation, without alternatives (N=101; 22.90%)	3,78	3,55	3,15	3,04	3,39	3,45	3,45
Demotivated (N=107; 24.26%)	3,48	3,08	2,82	3,22	2,48	2,54	2,03
Idealistic (N=40; 9.07%)	2,35	2,03	1,80	1,18	3,68	3,65	3,68
Total mean (N=441; 100%)	3,48	3,26	2,85	2,20	3,12	3,22	2,99

Once each case had been assigned to a cluster, we then conducted Chi-squared tests and found significant relationships between membership of a particular cluster and four of the seven socio-demographic variables being studied (Table 4).

Table 4. Chi-squared and Fisher's exact tests

Crossed variables	χ^2	**Fisher's exact test**	**DF**	***P***	***V***	***p***
Sex / Cluster	8.525	-	3	.036	.139	.036
Age / Cluster	-	18.786	12	.086	-	-
Previous Master's / Cluster	.292	-	3	.962	-	-
Teaching experience / Cluster	15.422	-	3	.001	.187	.001
Previous studies / Cluster	-	22.860	12	.024	.133	.025
Specialty / Cluster	-	71.960	51	.008	.236	.018

χ2=Chi-squared value; DF=Degrees of freedom; *P*= Chi-squared contrast statistic; *V*= Kramer's *V* coefficient; *p*= Kramer's *V* contrast statistic.

Fisher's exact test by cells revealed that there were more females than expected in the 'balanced with alternatives' cluster (χ2=1.267; p=.017) and fewer females than expected in the 'demotivated' cluster (χ2=1.761; p=.015). As regards the male participants, the test found fewer participants than expected in the 'balanced with alternatives' cluster (χ2=2.204; p=.017) and more than expected in the 'demotivated' cluster (χ2=3.062; p=.015).

In terms of previous teaching experience, the Fisher's exact test by cells revealed that in the ‘demotivated’ cluster there were more MFPS students than expected with no previous teaching experience (χ2=7.576; p=.001) and fewer MFPS students than expected with previous teaching experience (χ2=3.167; p=.001).

Significant local relationships were found between the ‘previous studies’ variable and certain clusters. For example, Fisher's exact test by cells revealed more Science MFPS students than expected in the ‘balanced with alternatives’ cluster (χ2=2.963; p=.019) and fewer than expected in the ‘demotivated’ cluster (χ2=3.850; p=.017). The test also found fewer MFPS students than expected from the Arts and Humanities in the ‘balanced with alternatives’ cluster (χ2=1.721; p=.016) and more than expected in the ‘demotivated’ cluster (χ2=4.736; p=.001).

If we turn now to the specialty chosen by the MFPS students, similar tendencies can be observed to those for the ‘previous studies’ variable. To this end, the test revealed that there were more Biology and Geology specialists than expected in the ‘high motivation without alternatives’ cluster (χ2=3.604; p=.039), more Physics and Chemistry specialists than expected in the ‘balanced with alternatives’ cluster (χ2=4.565; p=.015) and fewer Physics and Chemistry specialists than expected in the ‘demotivated’ cluster (χ2=4.279; p=.01). The test also revealed fewer Geography and History specialists than expected in the ‘balanced with alternatives’ cluster (χ2=2.171; p=.39) and more than expected in the ‘demotivated’ cluster (χ2=5.620; p=.004).

Discussion and conclusions

The results enabled us to identify the motivations of participants in an agile, satisfactory way. High mean scores were observed in intrinsic and extrinsic motivation, with a predominance of the former and less relative importance of ‘job conditions.’ These

findings are in line with previous studies (Cano, Orejudo, and Cortés 2019; Conchado et al. 2012; Cortés 2009; Cortés, Cano, and Orejudo 2015; Heinz 2015; Watt et al. 2012).

In the procedure to identify the motivational profiles of the MFPS students, the 'perceived lack of alternatives' factor played a fundamental role. Two profiles (approximately half of the sample group) perceived a general lack of alternatives on the job market, whereas two other profiles felt that other alternatives were available. We were thus able to differentiate between the students who decided to enrol on the MFPS Degree because they believed they had no other professional alternatives and those who considered that there were other options open to them. This information could be used to include new contents in the Master's degree syllabus that try to boost the personal motivations and interest of MFPS students in the profession (Delgado-García and Toscano 2021).

Among those MFPS students who did not view teaching as their only career option, those who had high intrinsic motivation and low extrinsic motivation were grouped together in the idealistic cluster. A possible lack of alternatives in the future did not seem to bother them. The high scores obtained by this cluster for the intrinsic motivation factor indicate that its members had a strong degree of intrinsic regulation. They achieved high scores on items such as 'as a teacher, I can realize my potential', and 'my nature or personality is well suited to teaching at the secondary education level', both of which suggest a predominance of the motivational goals of self-direction and stimulation, which belong to the 'openness to change' metavalue (Ryan and Deci 2000).

MFPS students belonging to the 'balanced motivation with alternatives' cluster displayed a high degree of extrinsic and intrinsic motivation, with a balance between the 'conservation' and 'openness to change' metavalues (Ros, Schwartz, and Surkiss 1999).

The large membership of this cluster (43.76% of the sample group) seems to reaffirm that extrinsic values are particularly important for certain profiles of MFPS students, such as those who have chosen to change direction in their careers and go into teaching (Heinz 2015). At any rate, the fact that the MFPS students belonging to the two latter clusters (idealistic and balanced motivation with alternatives) did not feel that teaching was the only option open to them seems to indicate that their decision to enrol on an MFPS degree was self-determined (Deci and Ryan 2008).

Unlike the two aforementioned clusters, the members of the 'high motivation without alternatives' and 'demotivated' clusters have a similar perception regarding the lack of alternatives on the job market. The MFPS students in the 'high motivation without alternatives' cluster display a strong motivational profile that compensates for their perceived lack of alternatives with a high degree of extrinsic and intrinsic motivation to become teachers. However, the lack of alternatives seems to have spurred the MFPS students in the 'demotivated' cluster (with low scores in intrinsic motivation, and particularly in vocation) to take a decision that does not match their own job expectations. This indicates that their decision is not self-determined and that there are external forces pushing them to act in this way (Ryan and Deci 2020).

After having addressed the issue of the perceived availability/lack of job alternatives, let us now take a closer look at the two motivational profiles marked by self-determination and a high degree of intrinsic motivation, both of which are preferable for those considering entering the teaching profession (Ariza, Sánchez, and Pontes 2011; 2011; Esteve 2006; García and Martínez 2001; Muñoz, Rodríguez, and Luque 2019). In the sample group as a whole, 75.74% of respondents seem to have a suitable intrinsic motivational profile. The only ones who do not are the members of the 'demotivated' cluster (24.26% of all participants), who display a low degree of intrinsic

motivation, combined with a poor match between personal vocation and the teaching profession. These findings are in line with those of Muñoz, Rodríguez, and Luque (2019), who conducted a study in three Spanish universities. The results of the present study could thus eventually be generalized, and could help highlight an important problem in Spanish society, i.e. the large numbers of demotivated teachers. Our results are also in partial agreement with those obtained in Germany by Biermann et al. (2019), who found three motivational profiles in a sample of 801 pre-service teachers: an intrinsically motivated profile (18%), an extrinsically motivated profile (23.2%), and a balanced profile (58.8%).

Another important contribution provided by the present study is the relationships it identifies between membership of a cluster and certain socio-demographic variables.

If we start for example with the sex variable, before going on to analyse its relationship with motivational profiles, it is important to point out that our sample group had a high proportion of women (63.49%). This percentage is similar to the percentage of women currently working as teachers in secondary schools in Spain and other European countries (UNESCO 2020). The feminization of the teaching profession has been linked with gender stereotypes, which transmit the idea that teaching is a more "suitable" profession for women (Heinz, Keane, and Davison 2023; Verástegui 2019). The underrepresentation of men in teaching could fuel this stereotype, by making the occupational hierarchies that characterize the job market and the educational system itself appear "natural" (McGrath et al. 2020). Our analysis of the relationship between the sex variable and belonging to a particular motivational cluster must therefore be framed within this context. Our findings suggest that the women in our sample group tend to have a better motivational profile for becoming teachers than the men. Females displayed a more balanced motivational profile, with perceived job alternatives. These

findings could be related to gender stereotypes, by which men are expected to place more emphasis on extrinsic motivations in their career choices, while women are expected to have more altruistic and intrinsic motivations (Christophersen et al. 2015). A significant association was also found between men and membership of the demotivated cluster, which could also be related to the stereotype of teaching as a "female profession", as well as to other variables such as the perceived lack of employment alternatives. It is important therefore to interpret these results with caution so as not to reinforce gender stereotypes. For this reason, in future research it would perhaps be interesting to take a more dynamic approach to gender (Heinz, Keane, and Davison 2023), exploring the diverse masculinities of MFPS students. It is also important to bear in mind that there is no clear consensus on this matter. Our findings contradict those of certain previous studies in which no gender differences in terms of motivation were observed (Cortés, Cano, and Orejudo 2015; Heinz, Keane, and Davison 2023; Muñoz, Rodríguez, and Luque 2019), while confirming those of other researchers who found women had a more suitable motivational profile (Fokkens-Bruinsma and Jansen 2010; Castañeda et al. 2020; Martín and Molina 2017). In conclusion, more research is needed to understand the relationship between gender and motivational profiles.

We also discovered links between certain motivational profiles and the fields in which the MFPS students had done their Bachelor's Degrees. For example, those with a Bachelor's Degree in Natural Sciences tended to have more suitable motivational profiles, whereas those from the Arts and Humanities showed a higher tendency towards demotivated profiles, particularly those who had specialized in Geography or History. Although many MFPS students with a Bachelor's Degree in the Arts and Humanities field find that teaching can be a stimulating activity, for others the decision

to study the Master's Degree was not self-determined. This means that their future professional lives could eventually be dogged by frustration and poor performance in their work as teachers. It is important for authorities and institutions to begin to address the lack of professional alternatives for certain types of Bachelor's degree graduates. The results obtained in our study coincide with those of previous studies (Ariza, Sánchez, and Pontes, 2011; García and Martínez 2001; Pérez, Gilar, and González 2007). Improvements could perhaps be achieved in this field by reinforcing tutoring during the MFPS, introducing mentoring by peers (former MFPS students and young teachers), and improving relationships with schools so as to be able to organize more teaching practice (thus improving the overall quality of training at the Master's Degree level).

The tendencies associated with the 'previous teaching experience' variable are also of interest. We found for example a significant relationship between a lesser degree of experience in the teaching field and low motivation for teaching, which suggests that experience has a positive influence on motivation to teach, whereas a lack of experience tends to be demotivating (Heinz 2015). However, these data might also be indicating a bidirectional relationship, in that the MFPS students with a strong teaching vocation would also be those most likely to have been keen to obtain the previous teaching experience they mentioned in their responses.

In the current context of debate on the reform of the teaching profession in Spain, one of the issues being considered is the reform of the structure of secondary teacher training at university (Ministerio de Educación y Formación Profesional 2022). The main proposal is that secondary teacher training should not be divided into two consecutive, independent phases as it is now (first, training in the subject matter at the Bachelor's Degree level, and second, psycho-pedagogical and didactic training at the

Master's Degree level). Instead, the subject matter and its associated teaching methods could be taught simultaneously at the different levels of university education.

The consecutive model is also being called into question in other countries, such as Portugal, where it was introduced as part of the Bologna process, replacing the existing simultaneous model. Among other findings, researchers have highlighted that the consecutive model makes the construction of the right kind of teacher identity more difficult (Leite, Fernandes, and Sousa-Pereira 2017). It also enhances the fragmentation of the syllabus and the disconnection between theory and practice (Flores, Fernandes, and Pereira 2014).

Countries such as Austria, Romania and Poland are currently adopting a simultaneous model, whereas Germany and Finland allow universities to choose between consecutive or simultaneous models (Martínez, Miguel, and Sánchez 2021). If a transformation of this kind were applied in Spain, it would mean that didactics courses could be offered as part of the Bachelor's Degree syllabus for each specialty, with for example History students being offer courses on Teaching History. These would later be complemented with further training at the Master's (MFPS) level (Egido 2021; Imbernón 2019; Muñoz, Rodríguez, and Luque 2019). The results of our study provide empirical evidence regarding the advisability of establishing a simultaneous initial training model in which students enrolling on a Master's Degree (MFPS) would already have acquired some knowledge of what teaching involves during their Bachelor's Degree studies. This would improve their motivational profiles and help them take the decision for the right reasons.

One of the limitations of our study is the provenance of the sample group: it would be useful to extend it to other universities. Nonetheless, our results seem to be in agreement with those obtained at other Spanish universities (Martínez, Miguel, and

Sánchez 2021; Muñoz, Rodríguez, and Luque 2019). Another limitation of our study has to do with the socio-demographic variables we analysed and the way some of them were evaluated. It would be interesting perhaps to include further socio-demographic variables such as those featured in previous studies: for instance, the subject's current job situation (Muñoz, Rodríguez, and Luque 2019) or their expectations and preconceived ideas about what kind of training is required in order to become a successful secondary education teacher (Castañeda et al. 2020). Another variable worth including would be the grades obtained by potential MFSP students in their Bachelor's Degrees. It would also be useful to find out not only whether or not the subject has previous teaching experience, but also how much experience they have.

As regards our assessment of the motivations, one of the main limitations was the use of a single item to evaluate the participants' perception of a lack of employment alternatives. As we mentioned in an earlier study, in the future it will be necessary to create additional items to evaluate this factor (Palomero and Vicente 2022). Another limitation worth highlighting is not having evaluated the altruistic motives, which has become normal practice in the literature on this question, especially considering that motivations of this kind are essential for those aspiring to be good teachers (Heinz, Keane, and Davison 2023). At the same time the altruistic and social utility reasons for becoming a teacher have been discussed in previous research studies together with those of a vocational nature (Estola, Erkkila, and Syrjälä 2003; Kung 2013). Although in this research, the vocational motives have been treated as part of the intrinsic motivation construct, it would be a good idea to get a clearer picture of their relationship with altruistic motives. In addition, some research papers have highlighted the tension that some teachers have experienced between the need to satisfy their vocational motives and the need to achieve financial and job security, especially when faced with

precarious working conditions (Rey, Bolay, and Getz 2020). These questions were not specifically explored in this research and it would therefore be advisable to do so in future investigation.

At any rate, there is undoubtedly a need to continue exploring the motivational profile of MFPS students using both quantitative and qualitative methods that could yield more in-depth knowledge about the different types of motivational profiles. The importance of this area of research lies in the relationship between motivation and the quality of the educational system, which means that motivation should be encouraged at all stages of teacher training.

In Spain, as opposed to Finland and other countries (Niemi 2013), the initial motives and attitudes of those considering enrolling on an MFPS degree have not been taken into account during the admission process. Instead, admission is normally based solely on the grade the candidates obtained in their previous Bachelor's Degree. Many authors in Spain have argued that it would be advisable to improve admission procedures in order to select candidates who are better prepared for their future profession (Egido 2011; Escudero 2019; Esteve 2006; Muñoz, Rodríguez, and Luque 2019). Along these lines, authors such as Egido (2021), Manso and Valle (2013), and Tiana (2013) recommend that the number of available study slots should be calculated on the basis of the educational system's future needs, instead of adjusting it to the size of candidate demand (as is currently the case). This would require state universities to implement a more complex and well-coordinated selection procedure. The results of our study provide new empirical evidence that confirms the advisability of evaluating the initial motivations of candidates before they are admitted to the MFPS.

A number of authors suggest that we should not only identify the motivations of potential MFPS students before they start the course but also that the motivation

required to be a good teacher should be encouraged and developed during training (Canrinus and Fokkens-Bruinsma 2014; Castañeda et al. 2020; Heinz 2015; Pontes, Ariza, and Criado del Rey 2010; Watt et al. 2012). Several authors recommend including activities that help MFPS students to become more aware of their own motivations while learning to evaluate the degree to which the teaching profession satisfies their expectations. This would help kindle and stimulate their interest in the profession (Cortés, Cano, and Orejudo 2015; Esteve 2009; Tiana 2013). The results of our study could be used to improve the contents of the MFPS syllabus and the tutoring and guidance offered during the course. With this in mind, the influence of the variables we identified could be taken into account in order to adapt these contents to the particular needs and characteristics of the MFPS students. Thus, for example, we could explore the specific motivational concerns of each specialty or each age group in order to encourage an exchange of opinions between these groups, or to examine the tensions that arise between vocational aspects of the teaching profession and the practical demands faced by teachers in their day-to-day lives in the classroom (Heinz 2015).

In conclusion, these findings are important because they can help improve the contents of the syllabus of the MFPS so as to boost the intrinsic motivation of pre-service teachers. They can also be used to improve selection/tutoring procedures, so as to ensure a better match between the motivational profiles of MFPS students and those required by good teachers. This, in turn, will help improve the quality of their teaching when they first enter the classroom.

Acknowledgments and Funding

This study was funded by the Department of Psychology and Sociology (University of Zaragoza), the Research Group Observatory for Research and Innovation in Social Sciences (Government of Aragon, Ref. S126) and the Research Group EDUCAVIVA

(Government of Aragon, Ref. S57_17R).

Disclosure statement

The authors have no competing interests to declare that are relevant to the content of this article.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

References

American Educational Research Association (AERA), American Psychological Association (APA), and National Council on Measurement in Education (NCME). 2014. *Standards for educational and psychological testing*. Washington D.C: American Educational Research Association.

Arieli, S., L. Sagiv, and S. Roccas. 2020. "Values at work: the impact of personal values in organisations." *Applied Psychology* 69 (2): 230-75. https://doi.org/10.1111/apps.12181

Ariza, L., F.J. Sánchez, and A. Pontes. 2011. "Motivos de interés por la docencia e identidad profesional. Una aproximación a partir de la opinión del futuro profesorado de Humanidades y Ciencias Sociales." *Profesorado, Revista de Currículum y Formación del Profesorado* 15 (1): 241-262.

Barberá, E. 2000. "Marco conceptual e investigación de la motivación humana." *Revista Española de Motivación y Emoción* 1: 23-36.

Biermann, A., L. Dörrenbacher-Ulrich., I. Grassmé, F. Perels, M. Gláser-Zikuda, and R. Brünken. 2019. "Hoch motiviert, engagiert und kompetent: Eine profilanalytische Untersuchung zur Studien- und Berufswahlmotivation von Lehramtsstudierenden." *Zeitschrift für Pädagogische Psychologie* 33: 177–189. https://doi.org/10.1024/1010-0652/a000242

Bolivar, A. 2013. "La formación inicial del profesorado de secundaria y su identidad profesional." *Estudios sobre educación* 12: 13-30.

Cano, J., S. Orejudo, and A. Cortés. 2019. "Work Values of Spanish University Students: a Follow-Up Study." *Vocations and Learning* 12: 425–439. https://doi.org/10.1007/s12186-019-09221-4

Canrinus, E.T., and M. Fokkens-Bruinsma. 2014. "Changes in student teachers' motives and the meaning of teacher education programme quality." *European Journal of Teacher Education* 37: 262-278. https://doi.org/10.1080/02619768.2013.845162

Castañeda, C., A. Pérez, P. Valdivia, and F. Zurita. 2020. "Motivos de interés por la docencia e identidad profesional del futuro profesorado de Educación Física. Análisis en los másteres universitarios de Sevilla, Granada y Jaén (España)." *Revista Interuniversitaria de Formación del Profesorado* 34 (2): 299-314. https://doi.org/10.47553/rifop.v34i2.77534

Chong, S. and F. Low. 2009. "Why I want to teach and how I feel about teaching-formation of teacher identity from pre-service to the beginning teacher phase." *Educational Research for Policy and Practice* 8: 59–72. https://doi.org/10.1007/s10671-008-9056-z

Conchado, A., A. Cortés, J. G. Mora, and J. M. Carot. 2012. "Los valores laborales de los graduados en Educación en España." *Revista de Educación* 359: 274–297.

Cortés, A. 2009. "Work values among teacher training students in a Spanish university. Symbiosis between Schwartz and MOW." *European Journal of Education* 44 (3): 441–453. https://doi.org/10.1111/j.1465-3435.2009.01395.x

Cortés, A., J. Cano, and S. Orejudo. 2015. "Competencias, valores laborales y formación previa antes y después del Prácticum: un estudio con alumnado del Máster de Formación del Profesorado de Secundaria de la Universidad de Zaragoza." *Investigación en la escuela* 85: 19-32.

Christophersen, K. A., E. Elstad, T. Solhaug, and A. Turmo. 2015. "Gender variations in Norwegian pre-service teachers' motivational orientation." Problems of education in the 21stcentury, 63, 17-28.

Day, C. 2006. *Pasión por enseñar*. Madrid: Narcea.

Deci, E. L., and R. M. Ryan. 2008. "Self-determination theory: A macrotheory of human motivation, development, and health." *Canadian Psychology / Psychologie canadienne* 49 (3): 182–185. https://doi.org/10.1037/a0012801

Delgado-García, M., and M. O. Toscano. 2022. "Construcción de la identidad profesional de futuro docente de secundaria." *Profesorado*. *Revista de*

currículum y formación del profesorado 25 (1): 109-130. https://doi.org/10.30827/profesorado.v25i1.8372

Dubeau, A., I. Plante, and M. Frenay. 2016. "Achievement profiles of students in high school vocational training programs." *Vocations and Learning* 10: 101–120. https://doi.org/10.1007/s12186-016-9163-6

Egido, I. 2011. "Dilemas y cambios en la formación de maestros: 50 años de la historia de España en perspectiva europea." *Tendencias pedagógicas* 18: 33-50.

Egido, I. 2021. "Los modelos médicos aplicados al profesorado: la propuesta del MIR educativo a la luz de las experiencias internacionales de iniciación a la profesión docente." *Revista de Educación* 393: 207-229.

Estola, E., Erkkila, R., and Syrjälä, L.2003. "A Moral Voice of Vocation in Teachers' Narratives". *Teachers and Teaching* 9:3, 239-256. https://doi.org/10.1080/13540600309381

Escudero, J.M. 2019. "La profesión y formación docente en discusión: cuál es el estado de la cuestión, qué cambiar y porqué, cómo habría de hacerse". In *Profesión y profesionalidad docente. Una acción educativa comprometida con el desarrollo humano.* edited by J. Moya and J. Manso, *167-178*. Andalucía: ANELE-REDE.

Esteve, J.M. 1997. *La formación inicial de los profesores de secundaria. Una reflexión sobre el curso de cualificación pedagógica.* Barcelona: Ariel Educación.

Esteve, J.M. 2006. "La profesión docente en Europa: perfil, tendencias y problemática: La formación inicial." *Revista de educación* 340: 19-40.

Esteve, J.M. 2009. "Políticas de formación inicial y continua (maestros y secundaria). Crítica y propuestas." In *Profesión y vocación docente. Presente y future*, edited by M. Puelles, 139-162. Madrid: Biblioteca Nueva.

Flores, M., P. Santos, S. Fernandes, and D. Pereira. 2014. "Pre-service Teachers' Views of Their Training: Key Issues to Sustain Quality Teacher Education." *Journal of Teacher Education for Sustainability* 16 (2): 39-53. https://doi.org/10.2478/jtes-2014-0010

Fokkens-Bruinsma, M., and E. P. W. A. Jansen. 2010. "Is the motivation to become a teacher related to pre-service teachers' intentions to remain in the profession?" *European Journal of Teacher Education* 33 (2): 185-200. https://doi.org/10.1080/02619760903512927

Fokkens-Bruinsma, M., and E.T. Canrinus. 2014. "Motivation for becoming a teacher and engagement with the profession: Evidence from different contexts."

International Journal of Educational Research 65: 65-74. https://doi.org/10.1016/j.ijer.2013.09.012

Franco, J.A., F.M. Vélez, and H. López. 2018. "La motivación docente y su repercusión en la calidad educativa. Estudio de caso." *Revista de Pedagogía,* 39 (105): 151-172.

García, S., and C. Martínez. 2001. "Las ideas de los alumnos del CAP, punto de referencia para reflexionar sobre formación docente." *Revista Interuniversitaria de Formación del Profesorado* 40: 97-110.

Gutiérrez, J.M. 2011. "La formación Inicial del Profesorado de Secundaria. Del CAP al Máster." *Participación educativa. Revista Cuatrimestral del Consejo Escolar del Estado* 17: 96-107.

Hartl, A., and D. Holzberger. 2022. "Identifying teachers' motivational profiles and their changes from teacher education into practice: A longitudinal study." *Zeitschrift für Erziehungswissenschaft* 33. https://doi.org/10.1007/s11618-022-01093-0

Heinz, M. 2015. "Why choose teaching? An international review of empirical studies exploring student teachers' career motivations and levels of commitment to teaching." *Educational Research and Evaluation* 21 (3): 258–297. http://dx.doi.org/10.1080/13803611.2015.1018278

Heinz, M., E. Keane, and K. Davison. 2017. "Sexualities of initial teacher education applicants in the Republic of Ireland: addressing the hidden dimension of diversity in teaching." *Journal of Education for Teaching* 43 (1): 99-116. https://doi.org/10.1080/02607476.2017.1251103

Heinz, M., E. Keane, and K. Davison. 2023. "Gender in initial teacher education: entry patterns, intersectionality and a dialectic rationale for diverse masculinities in schooling." *European Journal of Teacher Education* 46 (1): 134-153. https://doi.org/10.1080/02619768.2021.1890709

Herzberg, F. 2003. "One more time: how do you motivate employees? 1968." *Harvard Business Review* 81 (1): 87–96. http://dx.doi.org/10.1007/978-1-349-02701-9_2

Imbernón, F. 2019. "La formación del profesorado de secundaria: la eterna pesadilla." *Profesorado, Revista de Currículum y Formación del Profesorado* 23 (3): 151-163. https://doi.org/10.30827/profesorado.v23i3.9302

Klassen, R. M., S. Al-Dhafri, W. Hannok, and S. M. Betts. 2011. "Investigating pre-service teacher motivation across cultures using the Teachers' Ten Statements

Test." Teaching and Teacher Education 27: 579-588. https://doi.org/10.1016/j.tate.2010.10.012

Knafo, A., and L. Sagiv. 2004. "Values and work environment: Mapping 32 occupations." *European Journal of Psychology of Education* 19 (3): 255–273. https://doi.org/10.1007/bf03173223

Kung, S. 2013. "The teacher's calling: A window to the teacher's motivation to teach." *Te Iti Kahurangi School of Education E-Journal* 1, 20–29.

Leite, C., Fernandes, P., and Sousa-Pereira, F. 2017. "Post-Bologna policies for teacher education in Portugal: tensions in building professional identities." *Profesorado, Revista de Currículum y Formación del Profesorado* 21 (1), 181–201. https://doi.org/10.30827/profesorado.v21i1.10358

Lohbeck, A., and A.C. Frenzel. 2021. "Latent motivation profiles for choosing teaching as a career: How are they linked to self-concept concerning teaching subjects and emotions during teacher education training?" *British Journal of Educational Psychology* 92 (1): 37-58. https://doi.org/10.1111/bjep.12437

McGrath, K. F., S. Moosa, P. Van Bergen, and D. Bhana. 2020. "The Plight of the Male Teacher: An Interdisciplinary and Multileveled Theoretical Framework for Researching a Shortage of Male Teachers." *The Journal of Men's Studies* 28 (2): 149–164. https://doi.org/10.1177/1060826519873860

Manso, J., and J.M. Valle. 2013. "La formación inicial del profesorado de educación secundaria en la Unión Europea." *Revista Española de Educación Comparada* 22: 165-184. https://doi.org/10.5944/reec.22.2013.9328

Martín, A., and E. Molina. 2017. "Motivaciones hacia la formación inicial pedagógica en estudiantes del Master de Educación Secundaria de la Universidad de Granada." *Revista Española de Orientación y Psicopedagogía* 29 (3): 63-81.

Martínez, J.M., D. Miguel, and M. Sánchez. 2021. "Un camino iniciado y parcialmente recorrido: concepciones y expectativas de los futuros docentes sobre el Máster en Profesor de Educación Secundaria una década después." *Revista Interuniversitaria de Formación del Profesorado* 96 (35.2): 137-158. https://doi.org/10.47553/rifop.v97i35.2.88539

Menéndez, F. J. 2013. "Introducción al estudio de la psicología de la motivación." In *Psicología de la motivación. Teoría y Práctica,* edited by M. T. Sanz, F. J. Menéndez, and M. Conde, 1-63. Madrid: UNED.

Ministerio de Educación y Formación Profesional 2022. *Documento para debate. 24 propuestas de reforma para la mejora de la profesión docente*. Madrid: Ministerio de Educación y Formación Profesional.

Muñoz, G.A., P. Rodríguez, and M. Luque. 2019. "La formación inicial del profesorado de educación secundaria en España: perfil y motivaciones del futuro docente." *Educación XX1* 22 (1): 71-92. https://doi.org/10.5944/educxx1.20007

Niemi, H. 2013. "La formación del profesorado en Finlandia. Profesores para la autonomía y la equidad profesional." *Revista Española de Educación Comparada* 22: 117-138. https://doi.org/10.5944/reec.22.2013.9326

OECD. 2005. *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*. Paris: OECD Publishing. http://dx.doi.org/10.1787/19901496

OECD. 2016. *PISA 2015 Results (Volume I): Excellence and Equity in Education. Paris:* OECD Publishing. http://dx.doi.org/10.1787/9789264266490-en

OECD. 2018. *Effective Teacher Policies: Insights from PISA*. Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264301603-en

OECD. 2020. *PISA 2018 Results (Volume V): Effective Policies, Successful Schools.* Paris: OECD Publishing. https://doi.org/10.1787/ca768d40-en

Palomero, P., and E. Vicente 2022. "Revisión de las propiedades psicométricas de la escala valores-motivos laborales para la docencia". In *Avances en Educación Superior e Investigación, Vol. 2,* edited by M. Meléndez-Domínguez, 51. Dykinson.

Pantoja, A., and T. J. Campoy. 2000. "La formación inicial del profesor de educación secundaria: situación actual y perspectivas de futuro." *RIE: Revista de Investigación Educativa* 18 (1): 147-173.

Pérez, A. M., R. Gilar, and C. González. 2007. "Pensamiento y formación del profesorado de educación secundaria." *Revista Electrónica de Investigación Psicoeducativa* 5 (2): 307-324. https://doi.org/10.25115/ejrep.v5i12.1238

Pillen, M.T., P. J. Den Brok, and D. Beijaard. 2013. "Profiles and change in beginning teachers' professional identity Tensions." *Teaching and Teacher Education* 34: 86-97. https://doi.org/10.1016/j.tate.2013.04.003

Pontes, A., L. Ariza, and R. Criado del Rey. 2010. "Identidad profesional docente en aspirantes a profesorado de enseñanza secundaria." *Psychology, Society, and Education* 2 (2): 131-142. https://doi.org/10.25115/psye.v2i2.440

Rey, J., M. Bolay, and Y. Gez. 2020. “Precarious privilege: personal debt, lifestyle aspirations and mobility among international school teachers.” *Globalisation, Societies and Education* 18: 1-13. http://dx.doi.org/10.1080/14767724.2020.1732193

Ryan, R. M., and E. L. Deci. 2000. “Intrinsic and extrinsic motivation: classic definitions and new directions.” *Contemporary Educational Psychology* 25: 54-67. https://doi.org/10.1006/ceps.1999.1020

Ryan, R. M., and Deci, E. L. 2019. “Brick by brick: The origins, development, and future of self- determination theory”. In *Advances in motivation science*, edited by A. J. Elliot, 111–156. Elsevier. https://doi.org/10.1016/bs.adms.2019.01.001

Ryan, R. M., and E. L. Deci. 2020. “Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions.” *Contemporary Educational Psychology* 61. https://doi.org/10.1016/j.cedpsych.2020.101860

Roa, J.M., and C. Fernández. 2020. “La motivación de los docentes en la enseñanza secundaria.” *Revista Reflexión e Investigación Educacional* 2 (2): 66-77.

Ros, R. A., S. H. Schwartz, and S. Surkiss. 1999. Basis individual values, work values, and meaning of work. *Applied Psychology: An International Review, 48*(1), 49-71. https://doi.org/10.1111/j.1464-0597.1999.tb00048.x

Schwartz, S.H. 1992. “Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries.” *Advances in experimental social psychology* 25: 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6

Su, Z. 1997. “Teaching as a profession and as a career: Minority candidates' perspectives.” *Teaching and Teacher Education* 13 (3): 325-340. https://doi.org/10.1016/S0742-051X(96)00021-2.

Tiana, A. 2013. “Los cambios recientes en la formación inicial del profesorado en España: una reforma incompleta.” *Revista española de educación comparada,* 22: 39-58. https://doi.org/10.5944/reec.22.2013.9322

UNESCO Statistics. 2020. “Percentage of Female Teachers by Teaching Level of Education.”. UNESCO Institute for Statistics.

Watt, H. M., and P. W. Richardson. 2007. “Motivational factors influencing teaching as a career choice: Development and validation of the FIT-choice scale.” *The Journal of Experimental Education* 75 (3): 167–202. https://doi.org/10.3200/JEXE.75.3.167-202

Watt, H. M. G., P. W. Richardson, U. Klusmann, M. Kunter, B. Beyer, U. Trautwein, , and J. Baumert. 2012. “Motivations for choosing teaching as a career: An international comparison using the FIT-Choice scale.” *Teaching and Teacher Education* 28 (6): 791-805. https://doi.org/10.1016/j.tate.2012.03.003

Verástegui, M. 2019. “La feminización de la enseñanza en España: ¿un objeto de estudio obsoleto?” *Revista de Estadística y Sociedad* 73: 28-31.

Viseu, J., S. De Jesús, C. Rus, J. M. Canavarro, and J. Pereira. 2016. “Relationship between teacher motivation and organizational variables: A literature review.” *Paidéia* 26 (63): 111-120. https://doi.org/10.1590/1982-43272663201613

Woolfolk, A. 2014. *Psicología Educativa*. México: Pearson Educación

Appendix 1: Work-Related Values and Motives for the Teaching Profession. Questionnaire applied and modified version.

This questionnaire aims to find out your perception of the work values or motives that interest you in the teaching profession. There are no right or wrong answers. Your honest opinions are very important and will be treated anonymously. Thank you for your collaboration.

Select your rating of the importance of the following motives for training as a teacher according to the following scale: 1=very little; 2=little; 3= considerably; 4=a lot.

Work-Related Values and Motives for the Teaching Profession – original version (Cortés, Cano, and Orejudo 2015)	Work-Related Values and Motives for the Teaching Profession – modified version (Author, and Author 2023)
1. Prestige or social status	Removed
2. Working conditions in terms of working hours, holidays, etc.	Working conditions in terms of working hours, holidays, etc.
3. Possibility of access to a stable job	Possibility of access to a stable job
4. Salary	Salary
5. The university degree I studied does not offer better opportunities	The university degree I studied does not offer better opportunities
6. Teaching at the secondary education level goes along well with my way of being or my personality traits	Teaching at the secondary education level goes along well with my way of being or my personality traits
7. As a teacher I can realice my potential	As a teacher I can realice my potential
8. Vocation	Vocation
9. The influence of a teacher or professor who has had an impact on me	Removed

Appendix 2: Socio-demographic questionnaire

Age:

Sex:

Speciality:

Bachelor's degree:

Do you have teaching experience?

If you have teaching experience, choose the option(s) that matches your experience:

(1) Giving private lessons.

(2) Teaching in an academy.

(3) Teaching in a Primary School or in a Secondary School outside school hours.

(4) Teaching during regular school hours in a primary school.

(5) Teaching during regular school hours in a secondary school.

(6) Teaching in a university.

(7) Teaching in the context of training for employment.

Have you taken other Master's courses?

If yes, which ones?