
Sex differences across teacher's motivation, teaching satisfaction, loneliness and affects during COVID-19

Diferencias de sexo en la motivación docente, la satisfacción con la enseñanza, la soledad y los estados afectivos durante COVID-19

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Abstract: Motivation, teaching satisfaction, loneliness and affects are significant variables concerning the quality of teaching performance. Nevertheless, the presence of the homebased teaching during COVID-19 could have influenced these variables. As such, the goals of this research were to examine whether there are sex differences in teacher's motivation, teaching satisfaction, loneliness and affects; and if there is any association of age on teacher motivation, teaching satisfaction, loneliness and affects. A sample of 315 teachers (Mage=41.95; SD=10.18) participated in the study and fulfilled a series of self-report questionnaires during COVID-19 homebased teaching. Results revealed significant sex differences in identified regulation, loneliness, and balance of negative affects. In particular, female teachers reported significantly higher scores in identified regulation and balance of negative affects and men reported higher scores in loneliness. In conclusion, it should be considered to create interventions to help teachers to reduce the negative consequences of loneliness and negative affects on teaching performance and to enhance motivational profiles, especially among men teachers.

Keywords: Gender, Cultural factors, Teaching variables, Teaching performance.

Resumen: La motivación, la satisfacción docente, la soledad y los estados afectivos son variables significativas en el rendimiento docente. No obstante, la presencia de la docencia en casa durante la COVID-19 puede haber influido en estas variables. Por ello, los objetivos de esta investigación fueron examinar si existen diferencias de sexo en la motivación del docente, la satisfacción docente, la soledad y los estados afectivos; y si existe alguna asociación entre la edad y la motivación del docente, la satisfacción docente, la soledad y los estados afectivos. Una muestra de 315 docentes (Mage=41.95; DT=10.18) participó en el estudio y cumplimentó una serie de cuestionarios de autoinforme durante el periodo de COVID-19 de docencia en casa. Los resultados revelaron que existen diferencias de sexo en la regulación identificada, la soledad y el equilibrio de los afectos negativos. En particular, las docentes obtuvieron puntuaciones significativamente más altas en regulación identificada y equilibrio de los afectos negativos y los docentes reportaron puntuaciones más altas en la variable soledad. En conclusión, se debe considerar crear intervenciones para ayudar a los docentes a reducir las consecuencias negativas de la soledad y los estados afectivos negativos sobre el rendimiento docente y mejorar los perfiles motivacionales, especialmente entre los docentes hombres.

Palabras clave: Género, Factores culturales, Variables de la enseñanza, Rendimiento en la enseñanza.

INTRODUCTION

Motivation, teaching satisfaction, loneliness and affects are four variables with a proven predictive capacity regarding the quality of job performance (Abós et al., 2019; Baleghizadeh and Gordani, 2012; Bruinsma and Jansen, 2010; Chamundeswari, 2013; Fokkens-Bruinsma and Canrinus, 2013; Gumbert and Boyd, 1984; Gyeltshen and Beri, 2018; Hein *et al.*, 2012; Judge, Weiss, Kammeyer-Mueller and Hulin, 2017; Tabanali, 2016; Yilmaz and Aslan, 2013). Previous literature on teaching performance has vaguely analyzed the influence of sex on teacher's affective state (Burns-Glover and Veith, 1995; Nelson, Garver and Niskodé-Dossett, 2011), which is one of the most significant variables concerning teaching performance (Tabanali, 2016). To contribute to redressing this lack of research, the current work focuses on the study of the relationship between sex and

four variables with a proven predictive capacity regarding the affective states and the quality of job performance: teaching motivation (Baleghizadeh and Gordani, 2012; Bruinsma and Jansen, 2010; Fokkens-Bruinsma and Canrinus, 2013; Hein *et al.*, 2012), teaching satisfaction (Abós *et al.*, 2019; Chamundeswari, 2013; Taban-cali, 2016), loneliness (Gumbert and Boyd, 1984; Yilmaz and Aslan, 2013) and affects (Abós *et al.*, 2019; Gyeltshen and Beri, 2018; Judge *et al.*, 2017). On the other hand, this work also examines the association of motivation, teaching satisfaction, loneliness and affects on aging. This research was conducted during COVID-19 period, which might have had an impact on the analyzed variables due to changes in working conditions. Thus, the current research is intended to unravel the relationship among the aforementioned variables in a situation in which work performance may be influenced by home-based teaching.

“Gender” is a term formulated to refer to cultural elements associated with the biological fact of belonging to one of the two sexes (Solé Blanch, 2020). Culture influences both sexes through the concept of gender. Also, gender affects the perception of everything else: the social, political, religious, and everyday world (Lamas, 2000). Through the use of the gender concept, the division of labor, the rites, the possession of power and moral, and the psychology and affectivity issues are defined (Vera, 2020). In this sense, historically different roles have been attributed to men and women in society, circumscribing men to the public sphere and limiting women to the private domain (Weiner, 2009). Therefore, the ascription of gender has placed men and women in different positions of power throughout history and this perspective has continued to date (Giddens, 2020). Subsequently, the concept of sex, which is out of the social construction raised in gender concept, is prioritised in this research.

Nowadays, it is still often considered that men show better spatial, numerical and mechanical skills and women develop stronger and earlier verbal skills (knowing how to listen, speak, read and write) (Frijters, Brown and Greenberg, 2019). This conservative perspective on sex differences influences education through the different socializing agents, exerting an effect on socialization according to “natural” roles (Fuentes and Renobell, 2020). Sex is a factor that has been recurrently examined during the last decades concerning students’ achievement. It is a crucial factor in the explanation of the differences reported in the academic performance of students in all levels and subjects (Clares and Gómez, 2019; Carmona Rodríguez, Sánchez Delgado and Bakieva, 2011; Rodríguez-Mantilla, Fernández-Díaz and Jover, 2018).

Regarding the first variable, teacher motivation is a key factor closely related to student motivation, teaching practice and teachers’ psychological fulfillment

and well-being (Jiyang and Hongbiao, 2016). However, as far as we know, no study based on the Self-determination Theory (SDT) has assessed sex differences in teaching motivation. As such, the importance of the current study is particularly salient because it may help to compare and understand the teaching differences in motivation between both sexes and guide future studies grounded on this theory. Moreover, this work examines sex differences in motivation during a period of a pandemic, in which the outcomes of teaching could differ in both sexes.

According to the self-determination theory, the fact of being motivated involves different degrees of engagement ranging from autonomous motivation (recognizing the value and importance of doing something) to amotivation (do not expect results from efforts) (Chang, Huang and Lin, 2015; Deci and Ryan, 2000; Ryan, Huta and Deci, 2008). Controlled motivation would be placed at an intermediate level and can be explained by the pressure coming from an external or internal source (Deci and Ryan, 2015). Consequently, autonomous teachers choose this career because they wish to teach or to prove their teaching skills. Nonetheless, controlled teachers may choose this profession because they feel the pressure from others or from themselves to demonstrate that they are competent. Usually, teachers are amotivated when they do not understand why they continue teaching and consider that the activity they do is not useful (Abós *et al.*, 2018).

In line with SDT, sex differences in motivation would be linked to social-contextual factors that promote or hamper people's quality of motivation (Kaersgaard, Christensen, Søndergaard and Naukkarinen, 2020; Valenzuela, Codina and Pestana, 2020). Markedly sex differences in motivation profiles have been identified among musicians, in which more pronounced levels in amotivation and lower perceived competence have been referred to in women in comparison to men (Valenzuela *et al.*, 2020). Sex differences have also been described in the case of dentists. In the study performed by Kaersgaard *et al.* (2020), differences in motivational profiles between both sexes in financial incentives and the prospect of their professional career were observed. Particularly, male students were more interested in working in private companies whereas women were more interested in working in the public field. Moreover, women were more motivated to help, whilst men were more prone to loaf and to be particularly interested in their careers. Therefore, there are differences between sexes in motivation in other related working areas, which may indicate the possibility to find differences in the educational context.

Job satisfaction is one of the most assessed job attitudes in the last decades (Judge *et al.*, 2017). Its efficacy in predicting effectiveness in organizations and well-being in workers has been broadly confirmed (Judge and Kammeyer-Mueller, 2012). Research has associated job satisfaction with determined aspects

of the workplace such as work engagement (Saks, 2006), satisfaction with the supervisor, work, payment, advance opportunities and coworkers (Snipes, Oswald, LaTour and Armenakis, 2005), service quality (Hartline and Ferrell, 1996; Schneider and Bowen, 1985), life satisfaction (Ho and Au, 2006), performance, demographic and personality characteristics (Miller *et al.*, 2009). In the case of teachers, the evaluation of teaching satisfaction involves a cognitive and judgmental process (Ho and Au, 2006). Klassen and Chiu (2010) analyzed in their work the relationships between job satisfaction and teacher's sex in a sample of 1,430 practicing teachers. Female teachers reported greater workload stress, greater classroom stress from student behaviors, and lower classroom management self-efficacy. Another work conducted by Oshagbemi (2000) described no differences between sexes in job satisfaction among university teachers (in a sample of 1,102 university teachers). However, in the same study, female academics at higher ranks reported higher levels of job satisfaction than male academics of comparable ranks. A work that analyzed the same variable in 4,943 secondary teachers revealed a significant effect of sex on a global level and in four of the five variables evaluated in the study. In this case, female teachers reported higher scores in job satisfaction (Nieto and López-Martín, 2015). Regarding primary teachers, in a work conducted with a sample of 362 teachers, slightly higher satisfaction among female teachers was described (Gligorović, Terek, Glusac, Sajfert and Adamovic, 2014). Nevertheless, the analysis of teaching satisfaction during the COVID-19 pandemic is needed due to the significant changes in working conditions that teachers have faced during this period. Subsequently, this study will report if there are differences in job satisfaction between sexes in a period with different working conditions.

On the other hand, Perlman and Peplau (1982) demonstrated that people feel alone when they expect more from social relationships than what they obtain. Feeling loneliness is more related to the quality of social relationships than the number of social relationships that a person maintains (Neto, 2015). Due to its estimated high prevalence rate, loneliness has received increased levels of attention in the last two decades (Șîrbu and Dumbravă, 2019). Loneliness would affect at a biological and cognitive level, deteriorating the person's ability for self-regulation (Cacioppo and Hawkey, 2009; Cacioppo and Patrick, 2008) and leading to stress, reduced physical activity and worse sleep quality. In severe cases, loneliness is involved in mental illnesses such as depression and alcoholism (Segrin and Domschke, 2011; Segrin and Passalacqua, 2010). Moreover, it has been described that high levels of loneliness in teachers conduct to weaker beliefs about professional competence (Neto and Barros, 1992).

Sex differences in loneliness have been usually evaluated without a clear prior hypothesis. Sex differences were detected in early childhood in a study performed with a sample of 139 children. Besides, loneliness was found to be positively associated with anxiety, aggression, and peer exclusion (Coplan, Closson and Arbeau, 2007). Another study revealed that sex influenced loneliness levels in university students, in which male students had significantly greater emotional loneliness than female students (Azimeh, 2011). However, a recent meta-analysis revealed that the mean levels of loneliness are similar for males and females (Maes, Qualter, Vanhalst, Van den Noortgate and Goossens, 2019). The preventive measures taken to avoid the spread of COVID-19, which included isolation and social distancing, may lead people to feel greater levels of loneliness. As such, it is significant to assess the loneliness levels among teachers in this period of homebased teaching to determine if there are significant differences between sexes.

Finally, affects are a critical factor in human decisions and behaviors that are closely related to feelings, moods and emotions. They are considered as a fundamental facet of human beings that possesses an influence on reflexes, cognition, perceptions, social judgments and human motivation (Zhang, 2013). Particularly, affects are the valence (pleasant or unpleasant) of a certain situation that may occur in a context (Ekkekakis and Petruzello, 2000; Lazarus, 1999, 2000). Following Bradburn (1969), affects might be divided into positive and negative. Positive affects are the feeling of pleasurable engagement, whereas negative affects are the perception of displeasure and unpleasant engagement (Warr, Barter and Brownbridge, 1983). Research has determined the role of positive affects on performance and motivation. Happy teachers are supposed to show better job performance and a more adapted motivational profile (Abós *et al.*, 2018). Happiness triggers a knock-on effect on the productivity in a teaching institution and for individual teachers' well-being (Gyeltshen and Beri, 2018). The situation of COVID-19 pandemic might modify the balance of negative affects in individuals, due to the possibility of experiencing higher levels of negative affects. Finally, aging has been positively associated with motivation for generativity related tasks, but not for growth related tasks (Stamov Roßnagel and Biemann, 2012). Furthermore, age does not seem to maintain a linear relationship with job satisfaction among academics (Stamov Roßnagel and Biemann, 2012) and has not been shown to impact men and women differently on loneliness levels (Maes *et al.*, 2019). Concerning the variable affects, older adults have been described to report lower levels of average negative affects (Piazza, Charles, Stawski and Almeida, 2013). Therefore, aging seems to impact motivation, job satisfaction and negative affects. It is particularly crucial to assess differences in aging during

an epidemic situation with homebased teaching because of its likely impact on loneliness, teaching satisfaction, motivation and affects.

As far as we are concerned, to date no study has been conducted to understand the mechanisms underlying sex and these four teaching variables (teaching motivation, teaching satisfaction, loneliness and affects). Moreover, the changes at different levels originated as a result of the COVID-19 lockdown are important to examine in order to see how the aforementioned variables could be related to in this period. In the same sense, there would be no previous literature about the effects of aging on these variables among teachers. Based on the previous research, the following goals were proposed for this work: 1) To examine whether there are sex differences in teachers' motivation, teaching satisfaction, loneliness and affects. 2) To examine the age relationship with teachers' motivation, teaching satisfaction, loneliness and affects. Subsequently, in line with the goals and the existing research, the following hypothesis were established: 1) Among women teachers, high or moderate intrinsic motivation will be predominant and more adaptive profiles regarding loneliness, teaching satisfaction and positive/negative affects will be identified in comparison to men teachers (Gligorović *et al.*, 2014; Nieto and López-Martín, 2015; Oshagbemi, 2000). 2) Aging will negatively affect teaching motivation, job satisfaction, the feeling of loneliness and affects in both sexes (Cacioppo and Patrick, 2008; De Nobile and McCormick, 2008; Maes *et al.*, 2019; Saner and Eyupoglu, 2012; Sears, Peplau and Taylor, 1991).

METHOD

Participants

A sample of 315 Spanish teachers voluntarily participated in the study (211 women and 124 men), with an age range from 22 until 68 years old ($Mean=41.95$; $SD=10.18$). The teaching experience was: 30.2% fewer than five years, 17.8% between six and ten years, 14% between ten and fifteen years, 14.3% between fifteen and twenty years and 23.5% more than 20 years. Regarding the type of teaching: 9.5% worked online exclusively, 40.3% online and face and 50.2% face exclusively. The degree of teaching was: 36.4% University, 24.5% Secondary School and Professional Education, 16.8% Primary School and 22.3% others. To increase the reliability and generalizability of the results, the amplest wide of teaching levels were chosen.

Measures

Sociodemographic questionnaire *ad hoc*. To examine the demographic variables an *ad hoc* questionnaire was made for the study. The scale was made up of 15 items in which were examined: sex, number of children, type of teaching (online, face, mixed), years in teaching, hobbies and interests, among others. The questions were open, dichotomic, polytomic and Likert. To cite some examples of items: “*What is your sex?*”. “*Number of children?*”. “*How long are you enrolled into teaching?*”, etc.

Loneliness Evaluation. To the evaluation of loneliness, the UCLA Loneliness Scale (Russell, 1996) was used. This scale consists of 10 items with four response options (from 1=Usually I feel like that to 4=Never I feel like that), designed to examine loneliness in populations of different kinds. Furthermore, the scale is made up of a single factor for the measurement of loneliness. To cite some examples of items: “*How often do you feel unhappy doing things alone?*”, “*How often do you feel that you have no one to talk to?*”, etc. The scale has shown appropriate levels of reliability and validity in previous works (Russell, 1996; Velarde-Mayol, Fragua-Gil and García de Cecilia, 2015). Furthermore, in this work a Cronbach’s alpha coefficient of .80 was obtained.

Assessment of Teaching Motivation. To examine teacher motivation, the Work Tasks Motivation Scale for Teachers (WTMST) by Fernet *et al.* (2008) was used. This scale is made up of 18 items preceded by the statement: “*I get involved in teaching....*” and distributed in five subscales of three items each: intrinsic motivation, identified regulation, introjected regulation, external regulation and amotivation. Responses are scored on a Likert scale with seven response options (from 1=Does not correspond at all to 7=Corresponds completely). Furthermore, previous studies have tested the reliability and validity of the aforementioned scale (Ángel-Alvarado, Wilhelmi and Belletich, 2020; Ruiz-Quiles, 2015). In this work, the following Cronbach’s alpha were obtained in the different subscales: intrinsic motivation ($\alpha=.86$), identified regulation ($\alpha=.81$), introjected regulation ($\alpha=.87$), external regulation ($\alpha=.60$) and amotivation ($\alpha=.84$).

Evaluation of Teaching Satisfaction. Teaching Satisfaction Scale (ESD; Ruiz-Quiles, Moreno-Murcia and Vera Lacárcel, 2015). The scale was made up of 5 items grouped into a single factor (i.e., “*I am satisfied with my teaching work*”). The answers were valued through a Likert-type scale that ranged from 1=Totally disagree to 7=Totally agree. The outcomes obtained in the confirmatory factorial analysis for the authors (Ruiz-Quiles *et al.*, 2015) were suitable in teaching satisfaction ($\chi^2/df=2.1$; CFI=.92; IFI=.92; RMSEA=.08; SRMR=.06). The Cronbach alpha obtained in the present study was .84.

Affective Balance. The Affective Balance Scale (EBA; Warr *et al.*, 1983) with the Spanish version of Godoy and Godoy-Izquierdo (2001) was used. The scale is made up of 18 items, in which the participants must indicate whether they have experienced the states listed in the last week. The scale is a Likert-type with 3 response alternatives (1=Little or never, 2=Sometimes, 3=A lot or generally). The instrument directly measures both the experimentation of positive affects (9 items) and negative affects (9 items). The Cronbach alpha obtained in the study scales were .71 in negative affects and .86 in positive affects.

Procedure

The work followed international ethical guidelines and anonymity was preserved. The participation in the study was voluntary and it was confirmed in the informed consent. The informed consent was obtained from participants before beginning with the study. The sample taking was carried out through google forms software. Furthermore, in informed consent was highlighted that anonymity was preserved and that the study complied with ethical statements. A cross-sectional study was designed to meet the goals of the study. To call for participants the researchers contacted with teachers through social media and in face. Nevertheless, the surveys were completed by the teachers in their free time. Firstly, the participants completed the informed consent, then, they began with the whole survey to fulfil all questionnaires: Sociodemographic scale, UCLA, WTMST, EBA and ESD. Once they have completed the questionnaire, the surveys were recorded in google drive database. Finally, the data collection was carried out during COVID-19 period from 26/03/2020 to 27/07/2020 in which teaching was homebased in Spain due to the epidemic. No information related to COVID-19 was requested from participants.

Data Analyses

The SPSS 20 was the software used to conduct the different analysis. The descriptive analysis of average, minimum, maximum, frequencies, percentage and standard deviation were used to assess the sample characteristics. The MANOVA test was used to assess the mean differences when the variables were quantitative. Linear regressions were performed to estimate the predictive value of age and the quantitative variables of the sample. Binary logistic regressions were used in order to predict the power of classification of gender in all quantitative variables. In all statistical analyses a confidence interval of 95% was used. The Eta² was used to

analyse the effect size. Following Cohen's (1988) criteria, the effect size results were considered as: $\eta^2=.01$ (small), $\eta^2=.06$ (medium), $\eta^2=.14$ (large).

RESULTS

Differences in sex in teacher's motivation, loneliness, affects and teaching satisfaction

The descriptive statistics of the study variables are presented in Table 1. Results of MANOVA analyses revealed significant differences across teacher variables: identified regulation, loneliness, and balance of negative affects (Wilk's Lambda=.85; $F(9)=305.00$; $p<.001$; $\eta^2=.14$). In particular, results showed that female teachers reported significantly higher scores in identified regulation and balance of negative affects. Besides, men reported higher scores in loneliness (Table 2).

Table 1. Descriptive analysis of the psychological variables

VARIABLES	M	SD	SKEWNESS	KURTOSIS
Intrinsic Motivation	6.12	.97	-1.63	3.53
Identified Regulation	6.02	1.05	-1.52	3.02
Introjected Regulation	3.28	1.74	.46	-.81
External Regulation	3.55	1.33	-.08	-.60
Amotivation	1.98	1.30	1.51	1.57
Loneliness	2.99	.43	-.57	.64
Teaching Satisfaction	5.61	1.07	-1.16	1.44
Negative Affects	1.75	.36	.12	-.51
Positive Affects	2.26	.44	-.41	-.39

Note. M=Mean; SD=Standard deviation.

Table 2. Gender differences in teacher's motivation, loneliness, work satisfaction and affects

VARIABLES	WOMEN (n=211) M (SD)	MEN (n=104) M (SD)	F (5.81)	η^2	CRONBACH α
Intrinsic Motivation	6.17 (.92)	6.03 (1.06)	1.27	.00	.86
Identified Regulation	6.13 (.96)	5.79 (1.17)	7.46**	.02	.81
Introjected Regulation	3.37 (1.82)	3.08 (1.57)	1.98	.00	.87
External Regulation	3.49 (1.33)	3.36 (1.34)	1.17	.00	.60

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Table 2. Gender differences in teacher's motivation, loneliness, work satisfaction and affects

VARIABLES	WOMEN (n=211) M (SD)	MEN (n=104) M (SD)	F (5.81)	<i>Eta</i> ²	CRONBACH α
Amotivation	1.89 (1.28)	2.15 (1.31)	2.75	.00	.84
Loneliness	2.94 (.42)	3.08 (.44)	7.63**	.02	.80
Teaching Satisfaction	5.65 (1.05)	5.53 (1.09)	.85	.00	.84
Negative Affects	1.82 (.34)	1.59 (.35)	30.42**	.08	.71
Positive Affects	2.24 (.43)	2.31 (.46)	1.69	.00	.86

Note. ** $p < .01$.

To analyse the power of classification of the psychological variables on sex there were performed a binary logistic regression. In the analysis, it was obtained a Nagelkerke R of .31 and the model was statistically significant ($p < .01$; $X^2 = 84.76$). The regression analysis revealed that the more the identified regulation is, the more likely it is to be a female teacher. Besides, the lower the amotivation is, the more is likely it is to be a male teacher. Finally, the greater the loneliness is, the more likely it is to be a male teacher (Table 3).

Table 3. Binary logistic regression to predict the effect of the psychological variables on gender

VARIABLES	B	E.T	WALD	p	OR	I.C. 95% OR	
						INFERIOR	SUPERIOR
Intrinsic Motivation	-.14	.22	.41	.51	.86	.55	1.35
Identified Regulation	.39	.19	4.09	.04*	1.48	1.01	2.16
Introjected Regulation	-.03	.08	.13	.71	.97	.82	1.14
External Regulation	-.09	.10	.84	.35	.90	.73	1.11
Amotivation	-.26	.11	5.27	.02*	.76	.61	.96
Loneliness	-.84	.34	6.17	.01**	.42	.22	.83
Teaching Satisfaction	.15	.18	.73	.39	1.16	.81	1.67
Negative Affects	1.64	.34	23.05	.00**	5.20	2.65	10.20
Positive Affects	-.37	.36	1.03	.30	.68	.33	1.41

Note. ** $p < .01$; * $p < .05$.

The role of age in male and female teacher's motivation, loneliness, affects and teaching satisfaction

A linear regression was performed to obtain the predictive value of age in the psychological variables examined in the study. Subsequently, the predictive model was significant ($F=574.22$; $p<.01$). In addition, the model showed high predictability ($R^2=.94$). The results showed that loneliness ($B=8.14$; $t=5.72$; $p<.01$) and amotivation ($B=2.62$; $t=4.97$; $p<.01$) were positively related with the increase of age.

To analyze if there were a replication of the results between sexes the sample was split up in men and women teachers. First, a linear regression was performed with the male of the sample. As such, the predictive model was significant ($F=196.08$; $p<.01$). In addition, the model showed high predictability ($R^2=.94$). The results showed that balance of negative affects ($B=7.17$; $t=2.67$; $p<.01$) and amotivation ($B=2.81$; $t=2.54$; $p<.05$) were positively related with the increase of age in men teachers. Finally, to see if there were replication of the results in women teachers a linear regression was performed. The predictive model was significant ($F=385.05$; $p<.01$). In addition, the model showed high predictability ($R^2=.94$). The results showed that amotivation ($B=2.36$; $t=3.88$; $p<.01$), identified regulation ($B=2.34$; $t=2.05$; $p<.05$) and loneliness ($B=8.54$; $t=5.20$; $p<.01$) were positively related with the increase of age in women teachers.

DISCUSSION

The goals of this research were to examine whether there are sex differences in teachers' motivation, teaching satisfaction, loneliness and affects; and if there exists any association of age on teachers' motivation, teaching satisfaction, loneliness and affects. It must be highlighted that the data collection for the present study was carried out during COVID-19 pandemic.

In line with the first goal, our results revealed significant differences across the following teachers' variables: identified regulation, loneliness, and balance of negative affects. Results showed that female teachers reported significantly higher scores in identified regulation and balance of negative affects. Particularly, the largest sex difference was found in the variable affects. Regression analysis predicted that the higher the introjected regulation is, the more likely it is to be a woman and that the lower the amotivation is, the more likely it is to be a man. These outcomes may be partially explained by differences in sex roles in society, in which women are normally oriented towards others and to connect themselves with others (Giddens, 2020; Pollo and Kasumovic, 2022; Spence and Helmreich, 2021; Vera, 2020; Weiner, 2010). Research findings show that women's and men's behaviors and motivation-related beliefs continue to be shaped by gender stereotypes (Bhatia and Bhatia, 2021). It must be noted that ability, ethnicity and socioeconomic status

moderate sex effects in motivation (Farmer and Vispoel, 2014; Giddens, 2020; Meece, Glienke and Burg, 2006).

According to the self-determination theory (SDT), the fact that female teachers obtain higher scores in introjected regulation and balance of negative affects may indicate that they have felt better in their profession in comparison to male teachers during COVID-19 pandemic. Our findings also reveal that male teachers have shown a higher level of amotivation at work during COVID-19. This could result in a feeling of being less valued and in an increased sense of pressure from an external source to continue working (Abós *et al.*, 2018). These results are partly similar to those observed in the study performed by Klassen and Chiu (2010), in which men teachers showed less self-control and less autonomy than their women colleagues.

Regarding job satisfaction, the results provided by the self-reports in our study did not reveal any significant difference between sexes. In this sense, our outcomes would be in contradiction with those described in Oshagbemi's (2000) study and with those of the studies of Nieto and López-Martín (2015) and Gligorović *et al.* (2014). Job satisfaction is counted among the most highly rated job attitudes (Judge *et al.*, 2017) and its effectiveness in predicting organizational productivity and employee well-being is widely established (Judge and Kammeyer, 2012). As other studies have shown, our results involve the evaluation of teacher satisfaction as a cognitive and judgmental process, beyond the exclusive evaluation of affective state (Ho and Au, 2006). Moreover, it should be considered that our study was carried out during COVID-19 a period in which the conditions of working changed due to the epidemic. As such, the presence of no differences may be a consequence of the change in the way of teaching and the circumstances.

Loneliness is another variable that reported significant sex differences in the present study. The performed regression analysis revealed that the higher the loneliness is, the more likely it is to be a male teacher. These results were also observed by Azimeh (2011) in a work with university students and are congruent with the results of a recent transcultural study conducted by Barreto *et al.* (2021) that analyzed the frequency of loneliness. As other studies have described, feelings of loneliness depend more on the quality of social relationships than on the number of social relationships maintained (Neto, 2015). In their study, Perlman and Peplau (1982) showed that feelings of loneliness derive from the difference between expected and achieved levels of social relatedness. Therefore, it can be supposed that male teachers from this study have a lower quality of social relationships than female teachers. Previous studies (Segrin and Domschke, 2011; Segrin and Passalacqua, 2010) have supported the idea of an existing link between loneliness and stress. This postulate

would be consistent with considering teaching work environment more stressful for male than for female teachers. These outcomes may be still due to the gender roles preestablished in society which attribute that women are raised to be oriented towards others and to connect themselves with others (Diekman and Eagly, 2000; Szczesny, Nater and Eagly, 2019; Wolfram, Mohr and Borchert, 2009). In contrast, higher loneliness scores in men might be attributed to their lower communion and even social repercussions related to communal traits and behaviors in men (Moss-Racusin, Phelan and Rudman, 2010). As such, the changes in teaching that took place during COVID-19 pandemic maybe explaining that males have more issues to escape from loneliness than females. Therefore, the social stereotypes explain the higher levels of loneliness in men and the situation of COVID-19 may hinder the socialization of men during the epidemic period.

Lastly, the poorer outcomes in the balance of negative affects in male teachers agree with the differences observed between sexes in well-being in the study performed by Chui and Wong (2016). These outcomes could be explained since women are better taught to express negative affects than men and boys (Morawska, 2020). Therefore, there may exist differences in the observed variables that could be modified by gender stereotypes through education.

Regarding the second goal of the study, it is to assess the age relationship with teacher's motivation, teaching satisfaction, loneliness and affects, our results showed that motivation levels, the balance of negative effects and loneliness were related to the increase of age. More precisely, the linear regression showed that amotivation and an impaired balance of negative affects were positively related to the increase of age in men teachers. Prior research has shown similar results in different contexts (Paoletti, Gilberto, Beier and Salas, 2020). Age has been negatively associated with the motivation for growth-related tasks in a study conducted on workers from production and office jobs and with higher scores in loneliness (Stamov-Roßnagel and Biemann, 2012). On this last point, it has been described that women and men experience loneliness differently during adulthood: levels of loneliness increase steadily for women but follow a U-shaped curve for men (von Soest, Luhmann, Hansen and Gerstorf, 2020). Therefore, it is proved that age is a hindering factor to motivation, loneliness and affects.

As limitations of the present work, it should be highlighted that the usage of self-report measures can lead to some biases (social desirability, acquiescence, dishonestly, etc.). Besides, another limitation is related to the inexistence of a maximum time to complete the survey, which could be an interesting factor that should be considered in future research as an inclusion criterion to participate in the study. The existence of different types of teachers, a fact that derives from the

existence of new forms of study and courses, may vary the results. Moreover, the difficulty to measure affects through biological sample taking might hinder the results obtained. About this latter limitation, it could be argued the proven evidence of the reliability of the measurement of affects with self-report questionnaires. In addition, the usage of biological tools to measure affects, could provoke a fewer number of participants which might reduce drastically the sample. Another kind of limitation would be associated with the presence of stereotypes that could have an influence on the own perception of individuals and might impact the results obtained in the present work. On the other hand, the existence of teachers from Spain in the sample might reduce the possibility of replication of these results in other countries. Another limitation is that the fulfillment of the study was taken freely by participants, which means that they could complete the study when they wished. The lack of control by researchers in the fulfillment process of the survey may lead to some biases that may affect loneliness measure. This means that the fact of completing the questionnaire alone or in a group might modify loneliness perception. Finally, the partial lockdown during the period in which the study was conducted may hinder the generalization of the results to other studies before or after COVID-19 pandemic.

As future research lines, it should be pointed out the scarcity of results that examine the association of aging in the outcomes related to well-being in teachers. The increase of the research on this area could enhance the well-being of teachers in their entire careers and reduce the negative impacts on teaching performance. Moreover, the study of sex differences needs to be further explained to erase the stereotypes that hinder sex equality. Subsequently, more research is needed to further clarify those behaviors that reduce sex equality and negatively impact both sexes.

As practical implications, it should be noted the higher necessity of men to minimize the effects of loneliness, that is an important factor for those that work in lockdown and homebased jobs. Thus, homebased educational companies should consider empowering socializing to minimize the feeling of loneliness in men. Moreover, practitioners and companies should develop intervention programs to prevent negative outcomes of aging in homebased jobs in older teacher/professors. Thus, this study is a pilot work that warns about the necessity to intervene on those profiles that could be at risk to develop problems in a lockdown situation or in a homebased educational job.

In conclusion, there exist sex differences in loneliness, introjected regulation, balance of negative affects and loneliness among teachers. Particularly, women reported higher scores in introjected regulation and balance of negative affects. Men reported higher scores in loneliness. Further research should clarify the origin of

those differences which might partly be due to stereotypes grounded on society. Furthermore, aging should be also taken into account due to its relationship with balance of negative affects, amotivation and loneliness. Outcomes from the current study should be considered by the education authorities and educational institutions to create interventions to help teachers to reduce the negative consequences of loneliness and negative affects on teaching performance and to enhance motivational profiles, especially among men teachers.

DATA AVAILABILITY STATEMENT

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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REFERENCES

- Abós, A., Haerens, L., Sevil, J., Aelterman, N. and García-González, L. (2018). Teachers' motivation in relation to their psychological functioning and interpersonal style: A variable- and person-centered approach. *Teaching and Teacher Education*, 74. <https://doi.org/10.1016/j.tate.2018.04.010>
- Abós, A., Haerens, L., Sevil, J., Morbee, S., Julián, J. A. and García-González, L. (2019). Does the level of motivation of physical education teachers matter in terms of job satisfaction and emotional exhaustion? A person-centered examination based on self-determination theory. *International Journal of Environmental Research and Public Health*, 16, 28-39. <https://doi.org/10.3390/ijerph16162839>
- Ángel-Alvarado, R., Wilhelmi, M.R. and Belletich, O. (2020). Teaching Autonomy: Does Spanish Education System Achieve the Desired Effect? *Psychology, Society & Education*, 12(1), 85-96. <https://doi.org/10.25115/psye.v10i1.2585>
- Azimeh, S. (2011). Social-emotional loneliness and life satisfaction. *Procedia-Social and Behavioral Sciences*, 29, 292-295. <https://doi.org/10.1016/j.sbspro.2011.11.241>
- Baleghizadeh, S. and Gordani, Y. (2012). Motivation and quality of work life among secondary school EFL teachers. *Australian Journal of Teacher Education*, 37(3), 30-42.
- Barreto, M., Victor, C., Hammond, C., Eccles, A., Richins, M. T. and Qualter, P.

- (2021). Loneliness around the world: Age, gender, and cultural differences in loneliness. *Personality and Individual Differences*, 169. <https://doi.org/10.1016/j.paid.2020.110066>
- Bhatia, N. and Bhatia, S. (2021). Changes in gender stereotypes over time: a computational analysis. *Psychology of Women Quarterly*, 45(1), 106-125. <https://doi.org/10.1177/0361684320977178>
- Bradburn, N. M. (1969). *The structure of psychological wellbeing*. Chicago: Aldine.
- Bruinsma, M. and Jansen, E. P. W. A. (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, 185-200. <https://doi.org/10.1080/02619760903512927>
- Burns-Glover, A. L. and Veith, D. J. (1995). Revisiting gender and teaching evaluation. Sex still makes a difference. *Journal of Social Behavior & Personality: Special Issue: Gender in the Workplace*, 10(6), 69-80.
- Cacioppo, J. T. and Hawkey, L. C. (2009). Perceived social isolation and cognition. *Trends in Cognitive Sciences*, 13(10), 447-454. <https://doi.org/10.1016/j.tics.2009.06.005>
- Cacioppo, J. T. and Patrick, W. (2008). *Loneliness: Human nature and the need for social connection*. New York: Norton.
- Carmona Rodríguez, C., Sánchez Delgado, P. and Bakieva, M. (2011). Actividades extraescolares y rendimiento académico: diferencias en autoconcepto y género. *Revista de Investigación Educativa*, 29(2), 447-465.
- Chamundeswari, S. (2013). Job satisfaction and performance of school teachers. *International Journal of Academic Research in Business and Social Sciences*, 3(5), 420-428.
- Chang, J.-H., Huang, C.-L. and Lin, Y.-C. (2015). Mindfulness, basic psychological needs fulfillment, and well-being. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 16(5), 1149-1162. <https://doi.org/10.1007/s10902-014-9551-2>
- Chui, W. H. and Wong, M. Y. H. (2016). Gender differences in happiness and life satisfaction among adolescents in Hong Kong: Relationships and self-concept. *Social Indicators Research*, 125, 1035-1051. <https://doi.org/10.1007/s11205-015-0867-z>
- Clares, M. E. and Gómez, A. (2019). Igualdad de género en educación primaria en las áreas de música y educación física. *TRANCES. Transmisión del Conocimiento Educativo y de la Salud*, 1(51-62).
- Coplan, R., Closson, L. and Arbeau, K. (2007). Gender differences in the behavioral associates of loneliness and social dissatisfaction in kindergarten. *Journal*

- of Child Psychology and Psychiatry, and Allied Discipline*, 48, 988-995. <https://doi.org/10.1111/j.1469-7610.2007.01804.x>.
- Deci, E. L. and Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01.
- Deci, E. L. and Ryan, R. M. (2015). *Self-Determination Theory*. In James D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (pp. 486-499). Amsterdam: Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.26036-4>
- DeNobile, J. J. and McCormick, J. (2008). Job satisfaction of catholic primary school staff: a study of biographical difference. *International Journal of Educational Management*, 22(2), 135-150. <https://doi.org/10.1108/09513540810853549>
- Diekmann, A. B. and Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin*, 26, 1171-1188. <http://doi.org/10.1177/0146167200262001>
- Ekkekakis, P. and Petruzello, S. J. (2000). Analysis of the affect measurement conundrum in exercise psychology. I. Fundamental issues. *Psychology of Sport and Exercise*, 1, 71-88. [https://doi.org/10.1016/S1469-0292\(00\)00010-8](https://doi.org/10.1016/S1469-0292(00)00010-8)
- Farmer, H. and Vispoel, W. (2014). Attributions of female and male adolescents for real-life failure experiences. *The Journal of Experimental Education*, 58, 127-140. <https://doi.org/10.1080/00220973.1990.10806529>.
- Fernet, C., Senecal, C., Guay, F., March, H. and Dowson, M. (2008). The work tasks motivation scale for teachers (WTMST). *Journal of Career Assessment*, 16, 256-279.
- Fokkens-Bruinsma, M. and Canrinus, E. T. (2013). Motivation for becoming a teacher and engagement with the profession: Evidence from different contexts. *International Journal of Educational Research*, 65, 65-74.
- Frijters, J., Brown, E. and Greenberg, D. (2019). Gender differences in the reading motivation of adults with low literacy skills. *The Wiley Handbook of Adult Literacy*, 63-87.
- Fuentes, S. and Renobell, V. (2020). La influencia del género en el aprendizaje matemático en España. Evidencias desde PISA. *Revista de Sociología de la Educación-RASE*, 13(1), 63-80. <https://doi.org/10.7203/RASE.13.1.16042>.
- Giddens, A. (2020). *En defensa de la sociología*. Madrid: Alianza.
- Gligorović, B., Terek, E., Glusac, D., Sajfert, Z. and Adamovic, Z. (2014). Job satisfaction and gender differences in job satisfaction of teachers in Serbian primary schools. *Journal of Engineering Management and Competitiveness*, 4, 94-100. <https://doi.org/10.5937/jemc1402094G>.

- Godoy-Izquierdo, D. and Godoy, J. F. (2001). *Escala de autoeficacia específica para el afrontamiento del estrés (EAEAE)*. Versión experimental no publicada.
- Gumbert, D. E. and Boyd, D. P. (1984). The loneliness of the small business owner. *Harvard Business Review*, 62(6), 33-38.
- Gyeltshen, C. and Beri, N. (2018). Workplace happiness: A tool for teacher effectiveness. *Indian Journal of Public Health Research & Development*, 9, 1816. <https://doi.org/10.5958/0976-5506.2018.02253.2>.
- Hartline, M. D. and Ferrell, O. C. (1996). The management of customer-contact service employees: an empirical investigation. *Journal of Marketing*, 60(4), 52-70.
- Hein, V., Ries, F., Pires, F., Caune, A., Emeljanovas, A., Ekler, J. H. and Valantiene, I. (2012). The relationship between teaching styles and motivation to teach among physical education teachers. *Journal of Sports Science and Medicine*, 11, 123-130.
- Ho, C. L. and Au, W. T. (2006). Teaching satisfaction scale: Measuring job satisfaction of teachers. *Educational and Psychological Measurement*, 66(1), 172-185. <https://doi.org/10.1177/0013164405278573>
- Jiyong, H. and Hongbiao, Y. (2016). Teacher motivation: Definition, research development and implications for teachers. *Cogent Education*, 3(1). <https://doi.org/10.1080/2331186X.2016.1217819>
- Judge, T. and Kammeyer-Mueller, J. (2012). Job Attitudes. *Annual Review of Psychology*, 63, 341-67. <https://doi.org/10.1146/annurev-psych-120710-100511>
- Judge, T., Weiss, H., Kammeyer-Mueller, J. and Hulin, C. (2017). Job attitudes, job satisfaction, and job affect: A century of continuity and of change. *Journal of Applied Psychology*, 102(3), 356-374. <https://doi.org/10.1037/apl0000181>
- Kaersgaard, J. L. B., Christensen, M. K., Søndergaard, P. Y. and Naukkarinen, J. (2020). Gender differences in dentistry: A qualitative study on students' intrinsic and extrinsic motivations for entering dentistry at higher education. *European Journal of Dental Education*, 0, 1-11. <https://doi.org/10.1111/eje.12625>.
- Klassen, R. and Chiu, M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102, 741-756. <https://doi.org/10.1037/a0019237>.
- Lamas, M. (2000). Diferencias de sexo, género y diferencia sexual. *Cuicuilco*, 7(18). <https://www.redalyc.org/pdf/351/35101807.pdf>
- Lazarus, R. S. (1999). *Stress and emotion: A new synthesis*. New York: Springer.
- Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The Sport Psychologist*, 14, 229-252.

- Maes, M., Qualter, P., Vanhalst, J., Van den Noortgate, W. and Goossens, L. (2019). Gender differences in loneliness across the lifespan: A meta-analysis. *European Journal of Personality*, 33. <https://doi.org/10.1002/per.2220>.
- Meece, J., Glienke, B. and Burg, S. (2006). Gender and motivation. *Journal of School Psychology*, 44, 351-373. <https://doi.org/10.1016/j.jsp.2006.04.004>.
- Miller, H. A., Mire, S. and Kim, B. (2009). Predictors of job satisfaction among police officers: Does personality matter? *Journal of Criminal Justice*, 37, 419-426.
- Morawska, A. (2020). The effects of gendered parenting on child development outcomes: A systematic review. *Clinical Child and Family Psychology Review*, 23(5-6), 1-24. <https://doi.org/10.1007/s10567-020-00321-5>.
- Moss-Racusin, C. A., Phelan, J. E. and Rudman, L. A. (2010). When men break the gender rules: Status incongruity and backlash against modest men. *Psychology of Men & Masculinity*, 11(2), 140-151. <https://doi.org/10.1037/a0018093>.
- Nelson, T. F., Garver, A. K. and Niskodé-Dossett, A. S. (2011). Gender gaps in collegiate teaching style: Variations by course characteristics. *Research in Higher Education*, 52, 261-277. <https://doi.org/10.1007/s11162-010-9193-0>
- Neto, F. and Barros, J. (1992). Solidão nos professores. *Revista Portuguesa de Pedagogia*, 1, 1-17.
- Neto, R. (2015). Teachers feel lonely too: A study of teachers' personal and professional characteristics associated with loneliness. *Psico*, 46, 321. <https://doi.org/10.15448/1980-8623.2015.3.18265>.
- Nieto, D. A. and López-Martín, E. (2015). Job satisfaction of secondary school teachers. *Revista de Investigación Educativa*, 33, 435-452. <https://doi.org/10.6018/rie.33.2.202841>.
- Oshagbemi, T. (2000). Gender differences in the job satisfaction of university teachers. *Women in Management Review*, 15, 331-343. <https://doi.org/10.1108/09649420010378133>
- Paoletti, J., Gilberto, J. M., Beier, M. E. and Salas, E. (2020). The role of aging, age diversity, and age heterogeneity within teams. In S. J. Czaja, J. Sharit and J. B. James (Eds.), *Current and Emerging Trends in Aging and Work* (pp. 319-336). Cham: Springer. https://doi.org/10.1007/978-3-030-24135-3_16
- Perlman, D. and Peplau, L. A. (1982). Theoretical approaches to loneliness. In D. Perlman and L. A. Peplau (Eds.), *Loneliness: a Sourcebook of Current Theory, Research and Therapy* (pp. 123-134). New York: Wiley-Interscience.
- Piazza, J. R., Charles, S. T., Stawski, R. S. and Almeida, D. M. (2013). Age and the association between negative affective states and diurnal cortisol. *Psychology and Aging*, 28(1), 47-56. <https://doi.org/10.1037/a0029983>
- Pollo, P. and Kasumovic, M. M. (2022). Let's talk about sex roles: what affects

- perceptions of sex differences in animal behaviour? *Animal Behaviour*, 183, 1-12. <https://doi.org/10.1016/j.anbehav.2021.10.016>
- Rodríguez-Mantilla, J. M., Fernández-Díaz, M. J. and Jover, G. (2018). PISA 2015: Predictores del rendimiento en Ciencias en España. *Revista de Educación*, 38, 75-102. <https://doi.org/10.4438/1988-592X-RE-2017-380-373>.
- Ruiz-Quiles, M. (2015). *Soporte de autonomía y motivación en educación. Consecuencias a nivel contextual y global* (Unpublished Doctoral Thesis, Miguel Hernández University).
- Ruiz-Quiles, M., Moreno-Murcia, J. A. and Vera Lacárcel, J. A. (2015). The support of autonomy and self-determined motivation for teaching satisfaction. *European Journal of Education and Psychology*, 8, 68-75. <https://doi.org/10.1016/j.ejeps.2015.09.002>
- Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, Validity, and Factor Structure. *Journal of Personality Assessment*, 66(1), 20-40.
- Ryan, R. M., Huta, V. and Deci, E. L. (2008). Living well: a self-determination theory perspective on eudaimonia. *Journal of Happiness Studies*, 9(1), 139-170. <https://doi.org/10.1007/s10902-006-9023-4>
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.
- Saner, T. and Eyupoglu, S. (2012). The Age and Job Satisfaction Relationship in Higher Education. *Procedia-Social and Behavioral Sciences*, 55, 1020-1026. <https://doi.org/10.1016/j.sbspro.2012.09.593>
- Schneider, B. and Bowen, D. E. (1985). Employee and customer perceptions of service in banks: replication and extension. *Journal of Applied Psychology*, 70, 423-433.
- Sczesny, S., Nater, C. and Eagly, A. H. (2019). Agency and communion: Their implications for gender stereotypes and gender identities. In A. Abele and B. Wojciszke (Eds.), *Agency and communion in social psychology* (pp. 103-116). New York: Routledge.
- Sears, D. O., Peplau, L. A. and Taylor S. E. (1991). *Social psychology*. Englewood Cliffs: Prentice Hall.
- Segrin, C. and Domschke, T. (2011). Social support, loneliness, recuperative processes, and their direct and indirect effects on health. *Health Communication*, 26, 221-232. <https://doi.org/10.1080/10410236.2010.546771>
- Segrin, C. and Passalacqua, S. A. (2010). Functions of loneliness, social support, health behaviors, and stress in association with poor health. *Health Communication*, 25, 312-322. <https://doi.org/10.1080/10410231003773334>
- Sîrbu, A. and Dumbravă, A. (2019). Loneliness at work and job performance:

- The role of burnout and extraversion. *Psibologia Resurselor Umane*, 17, 7-18. <https://doi.org/10.24837/pru.2019.1.491>.
- Snipes, R. L., Oswald, S. L., LaTour, M. and Armenakis, A. A. (2005). The effects of specific job satisfaction facets on customer perceptions of service quality: an employee-level analysis. *Journal of Business Research*, 58, 1330-1339.
- Solé Blanch, J. (2020). El cambio educativo ante la innovación tecnológica, la pedagogía de las competencias y el discurso de la educación emocional: Una mirada crítica. *Teoría de la Educación*, 1, 101-121. <https://revistas.usal.es/index.php/1130-3743/article/view/teri.20945>
- Spence, J. T. and Helmreich, R. L. (2021). 1. Gender, Sex Roles, and the Psychological Dimensions of Masculinity and Femininity. In *Masculinity and Femininity: Their Psychological Dimensions, Correlates, and Antecedents* (pp. 1-18). New York: University of Texas Press. <https://doi.org/10.7560/764439-002>
- Stamov-Roßnagel, C. and Biemann, T. (2012). Ageing and work motivation: a task-level perspective. *Journal of Managerial Psychology*, 27(5), 459-478. <https://doi.org/10.1108/02683941211235382>
- Tabanali, E. (2016). The relationship between teachers' job satisfaction and loneliness at the workplace. *Eurasian Journal of Educational Research*, 66, 263-280, <https://doi.org/10.14689/ejer.2016.66.15>
- Valenzuela, R., Codina, N. and Pestana, J. V. (2020). Gender-differences in conservatoire music practice maladjustment. Can contextual professional goals and context-derived psychological needs satisfaction account for amotivation variations? *PLoS ONE*, 15(5). <https://doi.org/10.1371/journal.pone.0232711>
- Velarde-Mayol, C., Fragua-Gil, S. and García de Cecilia, J. M. (2015). Validación de la escala de soledad de UCLA y perfil social en la población anciana que vive sola. *Semergen*, 42(3), 177-183. <https://doi.org/10.1016/j.semerg.2015.05.017>
- Vera González, R. (2020). Criterios personalistas para una evaluación antropológica del empleo de las tecnologías en la escuela. *Revista Educación*, 44(1), 128-145. <https://doi.org/10.15517/revedu.v44i1.35406>
- von Soest, T., Luhmann, M., Hansen, T. and Gerstorf, D. (2020). Development of loneliness in midlife and old age: Its nature and correlates. *Journal of Personality and Social Psychology*, 118(2), 388-406. <https://doi.org/10.1037/pspp0000219>
- Warr, P. B., Barter, J. and Brownbridge, G. (1983). On the independence of positive and negative affect. *Journal of Personality and Social Psychology*, 44(3), 644-651. <https://doi.org/10.1037/0022-3514.44.3.644>
- Weiner, G. (2010). *Gender and education in Europe: a literature overview. Gender Differences in Educational Outcomes*. Bruselas: Eurydice.
- Wolfram, H. J., Mohr, G. and Borchert, J. (2009). Gender Role Self-concept,

- Gender-role Conflict, and Well-being in Male Primary School Teachers. *Sex Roles*, 60, 114-127. <https://doi.org/10.1007/s11199-008-9493->
- Yilmaz, E. and Aslan, H. (2013). Investigation of teachers' loneliness at work and life satisfaction. *Pegem Egitim ve Ogretim Dergisi*, 3(3), 59-69.
- Zhang, P. (2013). The affective response model: A theoretical framework of affective concepts and their relationships in the ICT context. *Management Information Systems Quarterly (MISQ)*, 37, 247-274. <https://doi.org/10.25300/MISQ/2013/37.1.11>

