REVISTA INTERNACIONAL DE FORMAÇÃO DE PROFESSORES

A INFLUÊNCIA DA CULTURA ESCOLAR E DA EXPERIÊNCIA DE LIDERANÇA NA MOTIVAÇÃO DOS PROFESSORES

THE INFLUENCE OF PERCEIVED SCHOOL CULTURE AND LEADERSHIP EXPERIENCE ON TEACHERS' MOTIVATION

LA INFLUENCIA DE LA CULTURA ESCOLAR Y LA EXPERIENCIA DE LIDERAZGO EN LA MOTIVACIÓN DEL PROFESORADO

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Resumo: Neste artigo apresentam-se resultados de um estudo misto mais vasto que decorreu durante três anos e que visou analisar as perceções dos professores sobre a cultura escolar e a experiência de liderança e a sua influência na motivação dos professores. Os dados foram recolhidos através de um inquérito por questionário (n=1334) e através de grupos focais (n=99). Os resultados sugerem uma associação positiva entre a motivação dos professores e o modo como percecionam a cultura escolar e a liderança. O artigo termina com uma reflexão acerca das implicações políticas e práticas dos resultados.
Palavras-chave: Cultura escolar. Liderança. Colaboração. Motivação dos professores.

Abstract: Based on a 3-year mixed method research, this paper presents findings from a broader piece of research aimed at investigating teachers' perceptions about school culture and leadership experience and their influence on teacher motivation. Data were collected through a questionnaire (n=1334) and focus group (n=99). Findings indicate a positive association between teachers' motivation and perceived school culture and leadership. Implications for policy and practice are discussed.
Keywords: School culture. Leadership. Collaboration. Teachers' motivation.

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Resumen: Este artículo presenta los resultados de un estudio mixto más amplio que se llevó a cabo durante tres años y cuyo objetivo fue analizar las percepciones de los docentes sobre la cultura escolar y la experiencia de liderazgo y su influencia en la motivación de los docentes. Los datos se recogieron mediante un cuestionario (n=1334) y mediante grupos de discusión (n=99). Los resultados sugieren una asociación positiva entre la motivación de los docentes y la forma en que perciben la cultura escolar y el liderazgo. El artículo concluye con una reflexión sobre las implicaciones políticas y prácticas de los resultados.
Palabras clave: Cultura escolar. Liderazgo. Colaboración. Motivación de los docentes.

Submetido 15/01/2023 **Aceito 31/03/2023** **Publicado 03/04/2023**

Introduction

Existing research literature points to the influence of school culture and leadership on teachers' views and practices of collaboration and on their professional learning and development (MEIRINK et al, 2010; FORTE; FLORES, 2014; SILVA; AMANTE; MORGADO, 2017; LOUWS et al., 2017; REEVES et al., 2017). Discussing the culture of professional collaboration, Hargreaves & O'Connor, (2017, p. 78) argue that "its effects are sometimes unknown, often variable, and seem somewhat dependent on the extent to which long term and more indirect processes of informal collaboration have already become embedded within the cultures of teaching where more formal, short-term initiatives are being attempted." As such, there is a variety of forms of professional learning and teacher collaboration ranging from teachers' talk and sharing of materials to collaborative work and co-teaching. As Ávalos (2011) argues, there is a need to move from co-learning through talk to co-learning through observation.

While there is research which examines the connection between motivation and teachers' learning, more needs to be done in regard to the ways in which school culture and leadership experience influence teacher motivation. Although there is vast literature on motivation, particularly in regard to motivations for entering teaching (e.g. RICHARDSON; WATT, 2006; WATT; RICHARDSON, 2007, 2012), it is important to know more about what kinds of factors influence practicing teachers' motivation, particularly the factors related to school culture and leadership. For instance, Durksen, Klassen and Daniels (2017) found a positive relationship between motivational constructs and professional learning, particularly, when learning is collaborative. Also, a study carried out in Portugal has shown that a decrease in teacher motivation was associated with external pressures linked to greater control over teachers' work, an increase in workload and in bureaucracy, greater public accountability, greater emphasis on an outcome-oriented perspective of teaching, worsening of the working conditions and lack of career prospects (FLORES, 2014).

Han and Yin (2016), in a review of teacher motivation research, identified five research areas: influencing factors of teacher motivation; teacher motivation and teaching effectiveness; teacher motivation and student motivation; teacher motivation research across different disciplines; and the instruments for assessing teacher motivation. They conclude that the myriad

of teacher motivation issues within a particular context remains underexplored as "teachers may be motivated or demotivated by different factors within different cultures" (p. 14). This paper reports on findings from a wider 3-year research project on the influence of perceived school culture and leadership experience on teachers´ motivation.

School cultures and teacher collaboration

School culture can be defined as "the beliefs, values, habits and assumed ways of doing things among communities of teachers who have had to deal with similar demands and constraints over many years (HARGREAVES, 1998, p. 217). In her review, Ávalos (2011, p. 12) argues that the concept of school culture "covers the operation of the administrative and organisational structures, and how these interact to facilitate or constrict teacher workplace learning". School culture provides, then, positive or negative support for teachers' learning (Day, 2001) as their perceptions of the workplace environment affect their dispositions, opportunities and willingness to learn.

One of the most explored issues of school culture relates to collaboration (see, for instance, ÁVALOS-BEVAN; BASCOPÉ, 2017; DOPPENBERG; BAKX; DEN BROK, 2012; FORTE; FLORES, 2014; KVAM, 2018; KYNDT; DOCHY; NIJS, 2009). Existing literature points to the complexity and dynamic nature of the concept as it may entail different meanings and different practices in diverse school contexts. Collaboration may have different foci and forms. For instance, Little (1990) identified four types of collegiality and collaboration among teachers, based on the level of interdependence in teacher interaction: i) storytelling and scanning seen as a type of collegial interaction with a low level of interdependence; ii) aid and assistance; iii) sharing, or exchanging instructional materials and ideas; and iv) joint work or instructional problem-solving and planning which represents the type of collegial interaction with the highest level of interdependence. Issues such as conditions for collaboration and for professional collaborative learning but also teachers' beliefs and perceptions of school culture and leadership have been discussed in the literature. Supportive leadership, group dynamics and composition, trust and respect were identified as conditions for teacher communities' success (VANGRIEKEN et al., 2017). Research has shown that collaboration was associated with

sharing but it entailed differences in terms of content and aims which were related to opportunities for teacher learning (MEIRINK; IMANTS; MEIJER; VERLOOP, 2010).

This is in line with other empirical work which has shown the influence of schools' structural workplace conditions (e.g. learning resources and professional development policies) and cultural workplace conditions (e.g. school leadership, teachers' collaborative culture) on the ways in which teacher learn (LOUWS et al., 2017). The same study concluded that the content of teachers' learning goals was related to their perception of shared vision and professional dialogue in their schools, and driven by individual classroom-based concerns. Similar findings were found in other contexts (FORTE; FLORES, 2014; ÁVALOS-BEVAN; BASCOPÉ, 2017; ÁVALOS; FLORES, 2022) pointing to a prevalence of weaker forms of collaboration such as "conversation", "sharing ideas" and "talking about teaching problems".

School culture is, therefore, diverse and different cultures or sub-cultures may co-exist. Williams, Prestage, and Bedward (2001), for instance, look at school culture as a continuum going from highly individualistic to spontaneous and collaborative. Issues of trust and support are key to the development of collaborative cultures. However, as Johnson (2003) argues, while a collaborative culture entails opportunities for teacher learning, collaboration may also lead to teachers experiencing work intensification, loss of autonomy, and interpersonal conflict. Existing literature also identifies the understanding of teacher collegiality as a process of conflict and consensus impacting on teachers' professional work and development and thus conceptions of collegiality in school emerge as emotionally charged in teachers' stories about interaction with colleagues (LOFGREN; KARLSSON, 2016). As Lima (2001, p. 117) argues, "conflict is a necessary prerequisite to commitment. In school communities without conflict, commitment turns easily into compliance." It is, therefore, important to investigate teachers' perceptions of school culture and experiences of collaboration in their work environment and their impact on teachers' work, learning and motivation.

Method

This paper reports on data drawn from a wider 3-year piece of research funded by *Fundação para a Ciência e a Tecnologia* (National Foundation for Science and Technology) (PTDC/CPE-CED/112164/2009). It aimed at examining existing conditions for teacher

leadership, professionalism and professional development in challenging circumstances, particularly issues of school culture and leadership. In this paper the following research questions are addressed:

1) Is there a connection between perceived school culture and teachers' motivation?

2) Is leadership experience influenced by gender, age, sector of teaching and/or school size?

3) Do teacher features such as gender, age-group and leadership experience differentiate perceived school culture and/or teachers´ motivation?

4) Do school level features such as the sector of teaching and school size differentiate perceived school culture and/or teachers´ motivation?

In this section, we describe the instruments and procedures for data collection as well as the sample. A description of the questionnaire content and its validation study is also included. Finally, we present the data analysis procedures used in order to answer the research questions. Qualitative data arising from the focus group will also be included to illustrate and complement quantitative data.

Data collection

Data were collected through a national survey (Phase I) and focus group (Phase II). Details about methods and procedures for data collection will be described below.

Questionnaire

The questionnaire was devised based upon earlier work (see DAY; FLORES; VIANA, 2007; FLORES; DAY; VIANA, 2007). It included both closed and open-ended questions according to two main dimensions: i) motivation and job satisfaction (current motivation, areas in which teachers experienced the greatest increase in satisfaction and the most dissatisfaction, etc.) and ii) leadership and school culture (factors that hinder or promote teacher leadership, opportunities and motives for engaging in professional development opportunities, etc).

Teachers were also asked if their opinions and experience were considered in the decision-making processes; if they were encouraged to perform leadership roles and to make decisions (e.g. on how to teach, to evaluate, to develop projects) and to participate in professional development activities. While the questionnaire included several sections and scales, this paper focuses upon the scale related to perceptions of school culture and leadership.

School Culture and Leadership. An instrument was devised in order to evaluate teachers' perceptions about school culture in terms of opportunities for exercising leadership and orientation towards collaboration. The initial version of the School Culture and Leadership Questionnaire (SCLQ) consisted of 14 items addressing teachers' perceptions about issues related to school culture and leadership in their workplace. This self-reported measure with a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree) was submitted to principal component analysis in the IBM SPSS program, version 23. Based on the criterion of eigenvalues greater than 1 and the examination of the scree plot (TABACHNICK; FIDELL, 2001), a two-factor solution was submitted to varimax rotation. Items loading at least .40 on one of the factors were retained. Based on this criterion the item "Individualism in teachers' work has been increasing" was eliminated. This item loaded below .40 and the fact that it was the only item reverse-coded may have contributed to this result. The final scale is a 13 items questionnaire that accounted for 63% of the variance (Table 1).

Table 1 - Factor Loadings of the School Culture and Leadership Questionnaire (SCLQ) items

	Factor 1	Factor2
In my department, I am encouraged to undertake leadership roles	.849	
In my department, I am encouraged to make decisions about how to teach	.775	
In my department, I am encouraged to make decisions on how to evaluate	.755	
In my department, I am encouraged to develop projects	.739	
In my school, I am encouraged to undertake leadership roles	.729	
In my school , my opinion and experience are considered in the decision-making process	.681	
In my department, I am encouraged to participate in professional development activities	.602	
Teachers work together in planning activities at the school level		.805

In general, in my department teachers work collaboratively	.797
In general, in my subject group teachers work collaboratively	.779
In general, in my school teachers work collaboratively	.774
In general, in my class council teachers work collaboratively	.768
In my school, teachers share ideas and teaching materials	.653

Note. Factor 1 = Leadership culture; Factor 2 = Collaborative culture.

The first factor consisted of 7 items with factor loadings ranging from .60 to .85 and accounted for 33 % of the variance. This factor – labelled leadership culture – tapped a school culture of incentive for assuming leadership roles such as "In my school, I am encouraged to undertake leadership roles". Higher scores indicate a more positive perception of leadership incentive. The second factor consisted of 6 items with factor loadings ranging from .65 to .81 and accounted for 30% of the variance. This factor – labelled collaborative culture – tapped the perceived collaborative school culture and included items such as "Generally, in my school teachers work collaboratively". Higher scores indicate a more positive perception of collaborative school culture. The internal consistency value (Cronbach's alpha) is .88 and .89 for factors 1 and 2, respectively, and .92 for the total School Culture and Leadership Questionnaire. As expected, leadership and collaboration are positively correlated (r= .59; $p <$ .001).

Teacher motivational level. This variable was evaluated by the following 5-point Likert-type single-item "At this point, my motivation as a teacher is ..." (1 = very low to 5 = very high).

The participants were recruited in a non-random manner. A nationwide survey was conducted through an online questionnaire (using the SurveyMonkey device) which was sent to the principals of all elementary and secondary schools in mainland Portugal. The questionnaire was then distributed to the teachers in each school. Permission for administering the questionnaire and for developing focus groups in public schools was previously obtained from the Ministry of Education. The voluntary nature of participation was emphasised and confidentiality of the data guaranteed.

Focus group

In order to analyse further the findings arising from the quantitative data, focus group were carried out with 99 teachers in 11 schools throughout the country. Each focus group comprised 3 to 7 participants. Teachers participating in the focus group were recruited by the school principal in each of the 11 participating schools. All of them were volunteers. A diversity of criteria was sought such as years of experience, gender, sector of teaching, roles performed at school, subject taught, etc. The participating teachers in the focus group came from a variety of backgrounds and their opinion was considered to be illustrative of teachers' experience in their schools. The focus group protocol aimed at examining further preliminary findings arising from the survey data but it also aimed at giving voice to teachers to talk about their experience as teachers, particularly in regard to their motivation, job satisfaction, school culture and leadership. The focus group were conducted in each of the schools by at least two researchers participating in the wider research project.

Participants

The sample consisted of 1334[1] Portuguese teachers, most of them female (78.0%). The majority of teachers are 40-49 years old (43%), 31% are older (> 49 years old) and 26% are younger (≤ 39 years old). Their teaching experience ranged from 1 to 41 years, with a mean of 20 years (*SD* = 8). The majority had leadership experience (60%) and, within this group, the leadership roles distribution was school management (18%), intermediate management (33%), pedagogical coordination (32%), intermediate management and pedagogical coordination (13%), and other roles (4%). The sectors of teaching[4] in which they taught were as follows: 9% pre-school (3 to 5 years old), 21% first cycle (internationally known as primary school, 6 to 9 years old), 21% second cycle (10 to 11 years old), 26% third cycle (12 to 15 years old) and 23% secondary (16 to 18 years old). Schools' size was classified as small (≤ 54 teachers; 33%), medium (55 ≤ teachers ≤ 99; 29%) and large (≥ 100 teachers; 38%).

[4] In Portugal teachers may teach in more than one sector of teaching (for instance, third cycle and secondary school). The sample of the original study was larger. For the purpose of this paper we only included those teachers who taught in one sector of teaching: first cycle (primary school, pupils aged 6 to 9), second cycle (pupils aged from 10 to 11), third cycle (students aged 12-15) and secondary school (students aged 16-18).

These characteristics are in general aligned with the official data (cf. CNE, 2019; DGEEC, 2021a) and with the last TALIS report (OCDE, 2019). The TALIS 2018 report indicates that the average age of the teachers in Portugal is 50 years and stresses a "dramatic change" (in five years, since TALIS 2013, there was a significant increase of the number of teachers aged 50 years or over 50: from 28% in 2013 to 47% in 2018). The DGEEC (2021a) data indicates that only 2% of the teachers are younger than 30 years of age. By 2030 more than half of the teaching workforce (57%) may leave teaching due to retirement. There is, therefore, a need to recruit around 35.000 teachers by then according to recent data (DGEEC, 2021b). As for the gender, the TALIS report 2018 states that, in Portugal, 74% of the teaching workforce are female (OECD average is 68%). Other official data point to 78% of women (CNE, 2019).

In regard to the 99 teachers participating in the focus group, the vast majority of them were female (76.8%). As for their age, 31.3% were between 51 and 60 years old and 27.3% between 41 and 50 years old. The participating teachers came from all sectors of teaching, from pre-school to secondary school, and taught various subject matters. In regard to their experience as teachers, 36.4% had between 21 and 30 years of service, 26.3% between 31 and 40, and 22.2% between 11 and 20 years of experience. In general, the age of the teachers participating in the survey and in the focus group is in line with the teaching workforce profile in Portugal (see above).

Data analysis

In order to explore the connection between perceived school culture and teachers' motivation, a correlational analysis was used (research question 1). To analyse if leadership experience is influenced by gender, age-group, sector of teaching and/or school size we run four chi-square tests (research question 2). The third research question was explored using several analyses. First, we conducted a multivariate analysis of variance (MANOVA) to explore if teachers´ features such as gender and/or group age influenced perceived school culture and/or teachers' motivation. MANOVA is more powerful than ANOVA for detecting group differences (TABACHNICK; FIDELL, 2001). Additionally, analysis of variance was used to explore if years of teaching and leadership experience influenced perceived school culture and teachers' motivation. Finally, research question 4 was explored by a multivariate analysis of

variance (MANOVA) with the school level features - sector of teaching and school size – as independent variables were used to explore if these variables differentiate teachers´ perceived school culture and/or teachers' motivation.

Qualitative data analysis was undertaken according to two phases: an analysis of data gathered in each school through the voices of teachers. A second phase was then carried out according to a comparative or horizontal analysis (cross-case analysis) (MILES; HUBERMAN, 1994). In this phase, it was possible to look for common patterns as well as differences. A semantic criterion was used to look for key themes arising from the qualitative data by the research team. Key themes and sub-themes arising from the interviews and focus group were identified. In order to avoid subjectivity, the data was analysed by at least two researchers. The most frequent trends were then summarised and labelled accordingly. This paper reports on findings from the survey (phase I) and data from the focus group with teachers (phase II) in order to illustrate quantitative data.

Results

In these sections, results are presented according to the research questions, each of which is identified with the respective sub-heading. Both quantitative and qualitative data (drawn from the focus group with teachers) are presented under each sub-heading.

Perceived school culture and teacher motivation

Teachers' motivation is positively correlated with both factors of the School Culture and Leadership Questionnaire – leadership incentive and collaboration (r= .24; $p < .001$, and, r= .10; $p < .001$, respectively). This means that there is a positive association between teachers' motivation and the perception of leadership incentive and collaborative school culture. Similar results were found by Silva, Amante and Morgado (2017) in the Portuguese context. The authors concluded that the school principal support, through the influence of 'emotional and informational support' and 'support for professional development', predicted teacher's involvement in collaboration.

Leadership experience by teachers´ level features

Not surprisingly, data reveal that male teachers have leadership experience significantly more often than female teachers (X^2=4.19, p<.05). In addition, teachers older than 40 years old have more leadership experience when compared to the younger ones (X^2=34.08, p<.001). When the sector of teaching is considered, pre-school and first cycle (primary school) teachers are less likely to have leadership experience than the second cycle, third cycle and secondary school teachers (X^2=159.77, p<.001). Finally, teachers from small schools are less likely to have leadership experience than the ones from average to large schools (X^2=120.54, p<.001).

Findings from the study reported in this paper indicate that pre-school and primary school teachers are less likely to have leadership experience than teachers from other sectors of teaching. This might be explained by a number of factors such as the merging of schools and the constitution of large clusters of schools that occurred in Portugal since 2008. The creation of big clusters of schools corresponded to an imposed policy from the Ministry of Education and consequent shutting down of almost all rural schools in the country. The majority of these clusters of schools (67%) have more than 1200 students and 15% of them more than 2500 students (CNE, 2017). This policy implied that usually, the school headquarters (where the principal is based) is a 2nd and 3rd cycle school (students aged between 10 to 15) or a secondary school (students aged between 16-18). Usually, the principal comes from the school in which the headquarters of the cluster of schools is located and he/she comes from sectors of teaching other than pre-school and primary school.

The merging of schools and the constitution of large clusters of schools was a critical issue. Data from the focus group point to a complex process and a key factor explaining, to a great extent, teachers' perceptions of school culture and leadership. The participants in the focus group identify clearly the challenges of the merging of schools:

> *We had to merge with another school with which we didn't have any kind of common project. We didn't have any kind of affinity, because it is located a bit far… (Pre-school teacher, 27 years of experience)*
>
> *The bigger the cluster of schools is the more distance among the different sectors of teaching exists whether you like it or not… (1st cycle Teacher, 25 years of experience)*

> *It is like this side and the other side. I mean, it's like a forced marriage… I was forced to come to this school which is the headquarters of the cluster of schools. And… it is a limited autonomy… but I lose it… and in a way, my identity is affected… (Secondary school teacher, 20 years of teaching)*

In addition, teachers participating in the focus group highlight the importance of leadership but also the difficulty in promoting a collaborative and cohesive culture during the formation of the cluster of schools. They spoke of a complex, difficult, tiring and painful process with implications for school cultures and teacher professional identities:

> *The principal has been trying to unite people because the whole idea of the cluster of schools is very complicated. It has been an exhausting process … I guess everybody here agrees that the principal has been trying to foster a collaborative culture in order to overcome conflicts and tensions because it is about those who taught in the other school and those who taught in this school. We were two independent schools and we didn't have many connections (Secondary school teacher, 18 years of experience)*

> *It's very difficult to unite three schools, I mean we are talking about three schools in the same neighbourhood but they were completely different. So, the principal has a great profile, humanist profile and he has been successful in trying to manage all of that (Secondary school teacher, 26 years of experience)*

Leadership experience, school culture and teacher motivation by teachers' level features

The means and standard deviations of the scores on the School Culture and Leadership Questionnaire and teacher's motivation by teacher level features are presented in Table 2.

Table 2 - Means and Standard Deviations of Perceived Leadership Incentive, Collaboration and Motivation by Teacher Level Features.

			SCLQ – F1 Leadership		**SCLQ – F2 Collaboration**		**Motivation**	
		N	*M*	*SD*	*M*	*SD*	*M*	*SD*
Gender	Men	248	3.06	0.85	3.58	0.80	2.82	1.04
	Female	919	3.20	0.80	3.75	0.78	3.10	0.89
Age group	≤ 39	318	3.18	.78	3.80	.77	3.10	.87

	40-49	509	3.19	.81	3.74	.77	3.02	.94
	< 49	340	3.19	.79	3.72	.78	3.04	.98
Leadership experience	yes	797	3.27	.80	3.75	.77	3.02	.92
	no	537	3.05	.77	3.74	.80	3.08	.96

Note. SCLQ = School Culture and Leadership Questionnaire. The potential scores range from 1 to 5.

To analyse if gender and group age differentiate the perception of school culture and teachers' motivation we used a Multiple Analysis of Variance (Two-Way MANOVA) with perception of leadership incentive, perception of a collaborative school culture and motivation as dependent variables. The multivariate result was significant for gender (Pillai's Trace F [3, 1159] = 7.43, p< .001, η^2 = .019) but not for age group. The univariate F tests showed a significant difference between men and women for leadership incentive (F [1, 1161] = 6.11, p < .05, η^2 = .005), collaboration (F [1, 1161] = 6.36, p < .05, η^2 = .005) and motivation (F [1, 1161] = 17.44, p < .001, η^2 = .015). In all cases, women's scores were higher than men´s (Table 2).

Because gender showed a significant effect on culture school perceptions and motivation, we run a MANOVA with leadership experience as independent variable and perception of leadership incentive, collaboration and motivation as dependent variables, controlling for gender. The multivariate result was significant (Pillai's Trace F [3, 1171] = 14.06, p< .001, η^2 = .035). The univariate F tests showed that leadership experience influenced the perception of leadership incentive (F [1, 1173] = 27.48, p < .001, η^2 = .023), but not perceived collaboration neither motivation. As expected, teachers´ perceptions of a school culture of stimulus for assuming leadership roles are higher among the group with leadership experience (Table 2). In fact, these results may be explained by the fact that more experienced teachers have a longer career which, in turn, enhance the likelihood of being exposed to opportunities to undertake a leadership role.

Data arising from the focus group show that teachers in Portugal have been facing a number of challenges. Issues such as the deterioration of their social and economic status, the intensification and bureaucratisation of their work, the worsening of their working conditions, low morale and lack of motivation, growing control over their work, ongoing changes in policy,

and the negative image of the teaching profession in the media are at the forefront of their accounts (see FLORES, 2014; FLORES, 2018). However, it is possible to identify teachers who are more positive and resilient than others. Positive views and experiences of school culture and leadership along with positive professional relationships explain this trend.

> *There is chaos around you but the school climate is positive. There is a sharing and collaborative culture, a good atmosphere and this makes you motivated to come to school every day. If there were no positive relationships it would be different. You know your colleagues for a long time and this is the positive bit of coming to work. (Pre-school teacher, 28 years of experience)*
>
> *There is collaborative work, there is sharing in this school (1st cycle school teacher, 27 years of experience)*
>
> *Collaborative work in this school is very important. You can see it in the staffroom, during breaks… there is a sharing culture here. (2nd cycle school teacher, 32 years of experience)*
>
> *The principal listens to us and then she makes her case (…) we look back on what we did and we can see that it was worth it. (…) The principal is a woman who believes in causes and in principles. She takes them and doesn't let us go. She keeps on working according to her strong beliefs. (3nr cycle school teacher, 25 years of experience)*

It is interesting to note that although the teachers participating in the focus group value formal leadership (such as the principal and head of department) they also point to a plural understanding of leadership including informal leadership and classroom leadership (see FLORES, 2014). However, the majority highlights the role of the principal and senior leadership team:

> *Obviously, the principal has a key role in leading this school (Secondary school teacher, 23 years of experience)*
>
> *It is the principal the leader of the school. (3rd cycle school teacher, 20 years of experience)*
>
> *I really think that leadership comes from the principal, right? Then there are also other people who support and works with her… (3rd cycle school teacher, 18 years of experience)*

I think leadership is defined in this school. You can associate it with the role of the heads of department (2nd cycle school teacher, 28 years of experience)

Leadership is not only about the principal. There are also the heads of department, the tutors, the coordinators, etc. All of them are important. (2nd cycle school teacher, 34 years of experience)

What makes the school moving are the heads of department. I guess so. Of course, the one who keeps everything going is the principal, but the ones who actually do it in practice are the heads of department (Secondary school teacher, 32 years of experience).

Leadership experience, school culture and teacher motivation by school level features

The means and standard deviations of the School Culture and Leadership Questionnaire scores and teachers' motivation by school level features - sector of teaching and school size - are presented in Table 3.

Table 3 - Means and Standard Deviations of Leadership, Collaboration and Motivation by School Level Features

			SCLQ – F1 Leadership		SCLQ – F2 Collaboration		Motivation	
		n	*M*	*SD*	*M*	*SD*	*M*	*SD*
Sector of teaching	Pre-school	88	3.16	.67	3.77	.70	3.31	.81
	1st cycle	243	3.26	.75	4.00	.74	3.08	.90
	2nd cycle	255	3.25	.82	3.88	.71	2.99	.92
	3rd cycle	324	3.18	.80	3.65	.78	3.03	.92
	Secondary	282	3.09	.83	3.53	.79	2.96	.99
School size	small	376	3.19	.70	3.88	.75	3.08	.87
	medium	350	3.29	.83	3.75	.79	3.04	.96
	large	459	3.13	.82	3.64	.77	3.02	.93

Note. SCLQ = School Culture and Leadership Questionnaire. The potential scores range from 1 to 5.

A two-way MANOVA was run with the sector of teaching and school size as independent variables and perceptions of leadership incentive, collaboration and teachers´ motivation as dependent variables. Because in the previous analyses we identified a significant effect of gender on these dependent variables, gender was a controlled variable in this MANOVA. Results showed a significant main effect of sector of teaching (Pillai's Trace F [12,

3201] = 2.99, p< .001, η^2 = .011) but no statistical significant main effect of school size. The univariate F tests showed significant differences among sector of teaching for collaboration (F [4, 1067] = 7.69, p < .001, η^2 = .028) but not for leadership incentive neither for teachers' motivation. Post-hoc comparisons using the Sidak test revealed that teachers' perceptions of collaboration are significantly higher in 1st and 2nd cycles of teaching when compared to 3rd cycle and secondary sector of teaching (Table 3).

The focus group data suggest that teachers working in smaller schools or clusters of schools and in the pre-school and 1st cycle sectors of teaching seem to demonstrate more positive experiences of motivation and collaboration than teachers working in other sectors of teaching. Issues such as sharing, proximity, affinity, cooperation are recurrent elements in their accounts whereas secondary school teachers highlight the challenges and difficulties in undertaking collaborative work due to the complexity of large clusters of schools, to balkanization and to the size of the school.

> *You live in your own cocoon. You go to the classroom, you do your teaching and then you go home… and time flies (Secondary school teacher, 31 years of experience)*
>
> *It is possible to see that everybody works on the same projects and in the end there are good results. In my opinion, there is more sharing, more communication and then it is about working for the common good. (Pre-school teacher, 27 years of experience)*
>
> *There is a lot of sharing, of debate and reflection. (1st cycle school teacher, 26 years of experience)*
>
> *In such a complex school in which there are lots of different courses and modules, in such a big space how come do you collaborate and work with others? (Secondary school teacher, 32 years of experience)*
>
> *I think sharing among colleagues has been great to boost my growth as a professional (Pre-school teacher, 32 years of experience)*

Conclusion and discussion

This study focused on the influence of school culture and leadership experience on teachers´ motivation. In order to evaluate school culture, an instrument entitled "School Culture

and Leadership Questionnaire (SCLQ)" was developed. The SCLQ results from the exploratory factor analysis confirmed a two-factor structure: perceived leadership incentive (7 items) and perceived collaborative culture (6 items) in schools. Additionally, both factors showed evidence of adequate internal consistency indexes.

In regard to the first research question, findings show a positive association between teachers' motivation and dimensions of perceived school culture and leadership. Consequently, the more teachers perceived a collaborative school culture and an incentive to adopt leadership roles, the more teachers feel motivated in their workplace and in teaching. Therefore, in order to enhance teachers' motivation, a collaborative and leadership incentive culture should be enhanced in schools. As Day (2017) argues, there are two sources of support for teachers. The first is their inner sense of moral purpose, professionalism and identity, motivation, commitment and resilience; the second is the quality of the workplace environment in which the principal has a major role. Research has demonstrated that the school principal support, through the influence of 'emotional and informational support' and 'support for professional development', can predict teacher's involvement in collaboration (SILVA; AMANTE; MORGADO, 2017).

The second research question explored the potential influence of gender, age, sector of teaching and/or school size on leadership experience. Not surprisingly, male teachers experienced more leadership roles when compared to their female counterparts. Additionally, being older, working in higher teaching sectors and/or in larger schools was more likely to lead to experiencing a leadership role.

The differentiation of perceived school culture and teachers' motivation by gender, age and leadership experience was the third research question in the present study. Findings show that female teachers indicate higher scores on perceived leadership incentive, collaboration and motivation, as compared to male teachers. In other words, even though male teachers do actually perform more leadership roles than their female counterparts, interestingly and somehow paradoxically, female teachers perceive more incentives for leadership roles, have more positive perceptions of collaborative cultures and, in general, indicate higher motivation. These findings may have various explanations. One possible way of looking at them deals with issues of professional and school cultures, for instance, the different levels of importance and

valuation attached to collaboration, support and emotions in teaching. As Avalos and Bascopé (2017) found, while collaboration is seen as intrinsic to teacher conceptions of their profession, it is mediated in its quality and depth by teacher interpretations about effective and possible forms of collaboration in their concrete contexts.

Finally, when examining if the sector of teaching and school size differentiate perceived school culture and/or teachers´ motivation, the only significant result reveals that teachers who work in the 1st cycle (primary) and 2nd cycle perceived more collaborative cultures than their 3rd cycle and secondary school counterparts. In the 3rd cycle (students aged 13-15) and secondary school (students aged 16-18), curriculum is organised according to subjects whereas in the 1st cycle curriculum integration is a key feature and in the 2nd cycle, multi-subject areas do exist (for instance, history and geography). As such, teacher collaboration may be facilitated along with the size of the schools which tend to be smaller in the 1st and 2nd cycles. Issues of balkanisation and individualism (Hargreaves, 1994), clearly evident in the data arising from the focus group, may also explain these findings which tend to be exacerbated by the existence of national exams in secondary school and at the end of the 3rd cycle of teaching. As previous research has shown, teacher collaboration entails a complex, dynamic and nested nature and evolves in tensions in the specific institutional and sociocultural environment (YUAN; ZHANG; YU, 2018).

This study adds to the existing literature as it provides evidence of how teachers in different sectors of teaching look at opportunities not only for collaboration but also to the exercise of leadership and their influence on their motivation. It also points to mixed and contradictory messages embedded in the micro-politics of the school cultures and leadership. One implication of this study relates to the need to explore further the effects of different levels of leadership (principal, department, subject, school, cluster of schools, sector of teaching) on the development of collaborative cultures, on teachers' interactions and motivation.

The School Culture and Leadership Questionnaire (SCLQ) instrument allows the identification of perceived leadership incentive and collaborative culture among teachers from pre-school to secondary school. This is a valid contribution to research in this field. However, future studies need to be conducted in order to further consolidate the adequacy and utility of the SCLQ.

The positive relationship between teachers' motivation and school culture identified in this study have implications for policy and practice. Indeed, school principals need to develop more ecological and inclusive leadership strategies (FLORES; FERREIRA, 2019) through building trust and fostering collaborative cultures in schools. Existing literature has shown how school leaders enact policies in context managing tensions and balancing conflicting goals (FLORES; DERRINGTON, 2017) and the interplay of the relationships between school context, principal leadership and mediating variables in leadership for learning (PALETTA; ALIVERNINI; MANGANELLI, 2017) focusing on values embedded in the biographies of principals of successful schools and how they influence their response to systemic policy reforms (DAY; GU, 2018). So, the question is who are the school leaders? What do they do? How do they affect their workplace, namely teacher and pupil motivation and learning? This is particularly relevant in contexts in which leadership has emerged recently as in the Portuguese context. Another implication at a policy level is associated with the effects of the formation of large clusters of schools and its impact on teacher learning, on the development of collaborative cultures and on the development of participatory decision-making process. Findings from this study highlight the complex and multifaceted nature of teachers' work in such environments and the challenges of developing cohesive collaborative cultures across all sectors of teaching.

Note: The authors would like to express their gratitude to *Fundação para a Ciência e a Tecnologia* (Foundation for Science and Technology) (PTDC/CPE-CED/112164/2009) for financial support within the framework of the CIEC - Research Centre on Child Studies of the University of Minho - project under the reference UIDB/00317/2020 and UIDP/00317/2020.

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