Secondary School Teachers' Perceptions of Job Resources in Learning Organizations

Maria Armaou & Alexandros-Stamatios Antoniou

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Maria Armaou
Centre for Technology Enabled Health Research, Coventry University, UK

Alexandros-Stamatios Antoniou
Assistant Professor Department of Primary Education, School of Education, National and Kapodistrian University of Athens, Greece

Abstract

The present study is a mixed-methods research on secondary-school teachers' perceptions of job resources in schools in an area of the Midlands in the UK. Taking into consideration psychological research into job resources, an analysis was carried out that included the results of a factor-analysis of 13 items extracted and partially adapted from Bowen et al.'s (2007) assessment tool of schools as learning organizations. The results of this factor analysis matched the factorial structure of the original instrument confirming the existence of two interrelated factors ''action'' and ''sentiment'' of schools as learning organizations. Furthermore, the internal reliability for both factors and their sub-scales was a = >.70. Moreover, significant differences were found on participants' scores based on their identification (or not) of certain school activities/arrangements in their schools, as well as based on individual characteristics (gender, age, years of teaching responsibilities, years of organizational/managerial responsibilities). Finally, the contribution of those results for psychological and educational research on teachers' job resources is discussed along with the study's limitations.

Keywords: School Teachers, Learning Organizations, Job Resources, Secondary Education.

Introduction

Teachers' work-related perceptions have been examined by both psychologists and educational researchers, as they are significant for teachers' well-being and work-motivation. Psychological research in teachers' job resources adopts a quantitative approach towards teachers' work-related perceptions. Job resources is a term introduced in occupational health psychology to address aspects of employees' perceptions of their work-characteristics that support their adaptive functioning at work. Demerouti et al., (2001) defined job resources as those physical, psychological, social or organizational aspects of the job that may constitute any of the following:

(a) Are functional in achieving work-related goals;
(b) Reduce job demands and the associated physiological and/or psychological costs;
(c) Stimulate personal growth, learning, and development.

Job resources are necessary for individuals to deal with the psychological demands of their work, while they are also important in their own right, as they play a separate motivating role. For this reason, in the last decade occupational health psychologists have developed questionnaires that assess employees' perceptions of their work-environment. Psychological research into teachers' job resources has focused on those perceptions in order to identify significant factors of teachers' work (e.g. autonomy, leadership support, innovation) (Hakanen et al., 2006; Bakker et al., 2007; Prieto et al., 2008) that may be related with their occupational health, work-engagement, and resistance to stress.

On the other hand, educational research into aspects of teachers' work that are described by the generic definition of job resources (Demerouti et al., 2001) is scattered across different fields. For this reason, the present research focused on the third part of the generic definition of job resources and the literature review focused on quantitative and qualitative research into aspects of teachers' work that can support their development, learning and professional growth. The advantage of this approach is that it allows the identification of those research areas that share common fields with the methods used by psychological research into teachers' job resources, as well as including certain research areas that follow different (qualitative) research methods. Moreover, it allows the examination of job resources to have a greater focus on the third aspect of its definition: "physical, psychological, social or organizational aspects of the job that stimulate personal growth, learning, and development" which is less researched compared to its other two parts "physical, psychological, social or organizational aspects of the job that may do any of the following: (a) are functional in achieving work-related goals; (b) reduce job demands and the associated physiological and/or psychological costs".

Teachers' Perceptions of their Schools as Learning Organizations

Research on schools as learning organizations has addressed teachers' perceived resources usually examining how teachers perceive their organization, their colleagues and themselves at work. Researchers focus on different aspects of the schools' organizational culture and/or structure based on the way different researchers define organizational learning or learning organizations (e.g. Bowen et al., 2006; Collinson & Cook, 2007; Leithwood et al., 1998; Mark & Louis, 1999; Silins et al., 2002; Sabah & Orthner, 2007). A common feature is that they try to highlight ways through which organizational and/or individual characteristics may support learning processes within the school as an organization. For example, Collinson and Cook (2003) discussed conditions that foster organisational learning presenting the findings of a qualitative study that explored dissemination of teachers learning within a multi-school computer technology project. The teachers in this study identified 43 factors that motivate dissemination and 35 factors that restrain it. The motivating factors in this study were generally internal and, for the most part, related to teachers' professional judgments, attitudes, and relationships. Conversely, the restraining factors were generally external and related mostly to the structure of the school day and year, especially the lack of time.

Marks and Louis (1999), also discussed the complex nature of teachers' resources investigating the intersection of teacher empowerment (structural empowerment) and school

capacity for organisational learning in 24 public schools in the USA. They identified five dimensions of school capacity for organizational learning: structure, shared commitment and collaborative study, knowledge and skills, leadership and feedback and accountability. Teacher empowerment was measured using a 14-item survey that asked teachers to rate the extent of their influence over school policy and management, their work lives, and the school experiences of students. Their findings demonstrate that both the capacity for organizational learning and empowerment are largely a matter of staff relationships, such as having mutual support, exchanging ideas and reaching consensus, and treating each other in a professional manner. Therefore external resources, buildings, assessment programs, or student schedules alone may prove inadequate to increase teachers' willingness to take on the rather significant role changes required to actively design their own work settings outside the classroom.

The present study follows Bowen et al.'s (2006) definition of schools as learning organizations as it shows significant conceptual similarities with the third aspect of the definition of job resources, while the way in which teachers' perceptions are operationalized in Bowen's work are in line with psychological research in job resources. Bowen et al. (2006) define *learning organizations* as "associated with a core set of conditions and processes that support the ability of an organization to value, acquire, and use information and tacit knowledge acquired from employees and stakeholders to successfully plan, implement, and evaluate strategies to achieve performance goals" (Bowen et al., 2006, pp. 98-99) . This core set of conditions and processes involves both actions and sentiments. The action component of learning organizations reflects employees' approaches to work that provide opportunities for learning and the demonstration of shared responsibility and collective competence in addressing organizational goals. Bowen et al. (2007), also recognize that this is the most frequently discussed component in the organizational learning literature. The "sentiment" component of schools as learning organizations, on the other hand, depict the "softer" side of an organization: collective expressions of positive regard, emotions and attitudes among employees that encourage, support, and reinforce internal integration and social harmony. These aspects of the organization are expected to hold the group together during the change process and facilitate the change process itself.

Based on a review of the literature on schools as learning organizations Bowen et al. (2007) identified six action and six sentiment dimensions of a learning organization. Their six action dimensions were:
(1) Team orientation
(2) Innovation
(3) Involvement
(4) Information flow
(5) Tolerance for error, and
(6) Results orientation
Whilst their six sentiment dimensions of learning organizations were:
 (1) Common purpose
 (2) Respect
 (3) Cohesion
 (4) Trust
 (5) Mutual support, and

(6) Optimism

In the present study, Bowen's approach on schools as learning organizations was adopted because it provides an assessment instrument (the Success Profile Learning Organization-SSPLO). This instrument was validated in 11 middle schools in North Carolina (Bowen et al. 2006; 2007) and it provides an assessment of teachers' perceptions of the assumed dimensions of a school as learning organization.

Teachers' Perceptions of Their School Context and Professional Development

Other areas of educational research that address aspects of teachers' work that may be supportive to their growth and development focus on supportive school conditions in relation to their professional development. For example, Rosenholtz's (1989) influential case studies showed that school conditions could influence teachers' learning and commitment. Those school conditions included school goal setting, evaluation, shared values and collaborations among teachers. In schools where such conditions were, present (learning-enriched schools) teachers perceived their own learning as being cumulative and developmental in nature and general teachers' learning as a life-long pursuit. Other supportive factors discussed in the literature involve teachers' collaboration (Hargreaves, 1994), the characteristics of strong professional communities (McLaughlin, 1993), and the relationship between supportive school conditions and individual characteristics (Louis, 1998; Geijsel et al., 2009). Harris and Muijs (2005), also identify six important messages regarding the role of professional development in building leadership capacity for school improvement. Specifically, they note that it is important to:

1) Foster deep collaboration and not superficial cooperation among the teaching staff,
2) Form partnerships within schools and to network with other school and agents,
3) Generate teacher leadership and pupil leadership,
4) Provide opportunities for teacher enquiry and action research,
5) Allocate time for professional reflection and opportunities for teachers to talk together about teaching and learning, and
6) Generate the collective ability, expertise and commitment of teachers to ensure that all teachers are involved.

Leithwood et al., (2009) highlight that the school structures that support learning within the organization are those that allow for greater participation in decision-making by teachers. Such structures include brief weekly planning meetings, frequent and often informal problem-solving sessions; flexible and creative timetables; regularly scheduled professional development time in school; and common preparation period for teachers who need to work together. Other structures involved the cross-departmental appointment of teachers, integrated curriculum teams and team-teaching. Finally, there is extensive research on the effectiveness of teachers' continuous professional development (CPD) rather than teachers' perceptions of CPD that meets their needs. As Day et al. (2007) highlight, fundamental to the effectiveness of CPD is teachers' sense of commitment, which influences their capacities for and attitudes to professional learning. In a 2 year project, Goodall et al. (2005) investigated the evaluation of the impact of continuing professional development. Their findings showed that the most effective types of CPD were considered those that directly met individual needs, as well as responding to school based needs. Day et al. (2007) argue that focusing on teachers needs in continuous

professional development, also sets the case for quality retention. "*It is the retention of teachers' hearts and minds, enthusiasm and morale. This form of retention is less easily observed s less easily observed but more closely related to teachers' sense of purpose, self-efficacy, levels of commitment and effectiveness*" (p. 254).

The present study using Demerouti et al.'s (2001) generic definition of job resources examined aspects of secondary school teachers' job resources within the learning organization. Furthermore, taking into consideration research findings on teachers' development, the relationship between teachers' perceptions of job resources and the identification (or not) of supportive school activities/arrangements was, also, examined.

Methodology

This study is part of a mixed methods research study (2 surveys and 2 rounds of semi-structured interviews) in which both the quantitative and the qualitative element was given equal priority. These two different methods were designed to take place separately but to allow their findings to complement each other (Creswell, 1995; Greene et al., 1989). The advantage of this approach is that it can explore teachers' perceptions of job resources based on not only the generic definition of job resources, but also grounded on teachers' answers. The present study focuses on the analysis of the first survey.

Sample

The present study includes the analysis and part of the findings of a survey-study in 109 secondary school teachers within an area of the Midlands in the UK. Although the type of the schools of the area was taken into consideration, sampling was based on two criteria:

a)   Participants to be employed in a school within or nearby a county in Midlands

b)   Obtaining an adequate sample size in order to execute the required analysis.

For those that agreed to allow questionnaires to be administered to members of their staff, an envelope was handed in by the researcher in person that contained 15-20 questionnaires. These questionnaires (10 minutes approx. to complete) included basic information about the study and its purposes and participants' protection as approved by the ethical committee of the Institute of Education at the University of Warwick. Six schools agreed to administer questionnaires to members of their staff and finally 109 questionnaires were returned from four schools. The response rate per school was 10, 12, 18, 70. Half of the participants provided information regarding their gender (M=19, W=46). Information was also gathered regarding participants' age (M=37.7), years of teaching experience (M=11.8) and years of managerial/organizational responsibilities (M=6.2)

Questionnaire

The questionnaire included 34 items, 24 of which will be reported in this study. 13 of those items were extracted and partially adapted from Bowen et al.'s (2006) assessment tool of schools as learning organizations. They were selected for three reasons:

1) They best meet the definition of job resources,

2) The factors that they measure can be more informative in understanding teachers' perceptions of job resources together with the other factors and groups of perceptions that the present research aimed to address,

3) Compared to the rest of the items of the original instrument they address the above-mentioned explanation allowing the questionnaire to be kept as short as possible.

Those items assessed three factors from the "action" component: a) innovation, b) involvement, and c) information flow and two factors from the "sentiment" component: a) mutual support, b) respect. The 12 items of the innovation, involvement, information sharing and mutual support were used with no changes from the original instrument, while an adapted 1-item version of the respect sub-scale was used. For all items, participants were asked to indicate on a 6-point Likert scale, the degree to which they agreed with statements regarding the way teachers work within their schools.

The other 11 items formed a list of school activities/arrangements that are often offered to teachers in secondary schools in UK to support their development:

- Induction for newly qualified teachers and/or new staff members
- Mentoring/Coaching
- Action research and/or teacher enquiry
- Co-teaching/ team teaching
- Peer review of teaching practices
- Interdepartmental collaborations among teachers
- Participation in decision-making committees
- Curriculum development teams
- Work with other schools or agencies/organizations
- Workshops for leadership development skills
- Parents involvement provision
- Funding for postgraduate courses

Participants were asked to indicate:

1) If professional development activities take place inside or outside their schools
2) Which of those listed activities they can find in their school
3) If they think that those school activities/arrangements support their engagement in their work and, if yes, why.

However, only the first two questions are relevant to this study's focus on teachers' perceptions of their job resources in their schools as learning organizations.

Results – Analysis

1) Principal axis factoring

The factor analysis procedures consisted of the examination of the factorability of the thirteen items that explored teachers' perceptions of their schools as learning organisations and the selection of the appropriate factor analysis method. A review of the research procedures of factor analysis showed several well-recognised criteria for the factorability among correlations (Costello & Osborne, 2005). Those criteria were followed in order to determine whether the correlations among the items were such that a factory analysis could be performed. They involved the strengths of the correlations among the items, the Kaise-Meyer-Olkin measure of sampling adequacy, Bartlett's test of sphericity and the diagonals of the anti-image correlations matrix

The tests showed that the statistical characteristics of the 13 items adopted from Bowen et al.'s (2007) original instrument allowed the execution of a factor analysis. Specifically, they all correlated at least .3 with all items, demonstrating high factorability. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .88, well above the recommended value of .6 and Bartlett's test of sphericity was significant (x^2(78) =905.46, p<.05). The diagonals of the anti-image correlation matrix were all above .8, supporting the inclusion of each item in the factor analysis. Finally, the communalities were all above .4, further confirming that each item shared some common variance with other items. Given these overall indicators, the best factor analytic solution was sought.

Selection of the appropriate factor analysis method was because one purpose of this study was to identify and compute composite scores for the underlying factors and then identify their factor structure as a latent construct. For this reason, a principal axis factoring was preferred over a principal components analysis because the results could be used to guide the construction of a latent model. According to the literature with regard to such analysis, both the sample size and the ratio of observations/variables are important (each one becoming more important when the other is weaker in the analysis). Specifically Tabachnick and Fidell (2001, page 588) cite Comrey and Lee's (1992) advice regarding sample size: 50 cases is very poor, 100 is poor, 200 is fair, 300 is good, 500 is very good, and 1000 or more is excellent. They, also, note that as "a rule of thumb" 10 observations per variable are considered good in order to avoid computational difficulties. The sample size or the pilot study (N=106) is not large enough to address this completely but there is an 8:1 ratio of observations per variable which is sufficient, as the main purpose of this analysis is to produce a factor analysis that could guide a confirmatory factor analysis of job resources.

However, the original instrument was also constructed through exploratory and confirmatory analyses that allowed the two factors to relate with each other ("action" and "sentiment") (Bowen et al., 2007). Indeed, allowing the factors to correlate with each other gave a better definition of their factorial structure as it had less computational difficulties. In particular, the factorial structure matched the original instrument while only two items had secondary loadings over .3 and only the item "feel comfortable sharing our learning experiences with one another" had a primary loading to the second factor ("sentiment") instead of the first factor ("action").

Furthermore, the item "we offer care and support in times of personal need" caused some computational difficulties due to its relationship with the first factor as it showed a value over .1 in the pattern matrix (Table 1). The structural matrix resolved this issue as it demonstrated that this item's co-efficient on the second factor was similar to those that were exhibited by the other three items that formed the second factor (Table 2). Finally, the item "we value the opinions of all staff" which was an adaptation of the original item did not interfere with the items' loadings. However, those computational difficulties may have been due to our sample size or its homogeneity (the final valid cases subjected to factor analysis involved 70 teachers from one school and only 36 from three different schools).

Table 1: Pattern matrix for 2-factor solution with promax rotation

Table: Pattern matrix (factor loadings)	Factor	
	1	2
Welcome and appreciate new ideas	.730	
Keep an open mind about new ways of doing things	.763	
Are willing to experiment with new practices	.730	
Seek ideas and opinions from students	.575	
Work with parents as partners in the educational process	.728	
Engage and collaborate with community agencies and organisations	.689	
Share ideas and information to make school more effective	.849	
Feel comfortable sharing our learning experiences with one another	.376	.419
Maintain open lines of communication	.480	.311
Show kindness and thoughtfulness to one another		.832
Offer care and support for another in times of personal need	-.170	1.030
Treat one another as both colleagues and friends		.954
Value the opinions of all staff		.535

Table 2: Structure matrix for 2-factor solution using promax rotation

	Factor	
	1	2
Welcome and appreciate new ideas	.830	.619
Keep an open mind about new ways of doing things	.814	.563
Are willing to experiment with new practices	.782	.544
Seek ideas and opinions from students	.594	.394
Work with parents as partners in the educational process	.692	.403
Engage and collaborate with community agencies and organizations	.661	.392
Share ideas and information with one another about how to make this school more effective	.716	.327
Feel comfortable sharing our learning experiences	.641	.657
Maintain open lines of communication	.677	.614
Show kindness and thoughtfulness to one another	.585	.869
Offer care and support for one another in times of personal need	.482	.923
Treat one another as both colleagues and friends	.489	.882
Value the opinions of all staff	.620	.713

2)   Items' reliability analyses and scales' distributions
The factor analysis results showed that the 13 items from Bowen's et al. (2007) assessment tool of schools as learning organisations should be best treated as two factors that are related with each other. Furthermore, they showed that all items are significantly positively correlated with each other and the highest correlations were found among the four groups of items that according to the original instrument form the four sub-scales of innovation, involvement, information-sharing and mutual support. For this reason the internal consistency of the two factors/dimensions ("action" and "sentiment" was computed, along with the internal consistency of their sub-scales. The "action" and "sentiment" components in the pilot-study

both had an alpha co-efficient of .89. No improvement in reliability was found if any of the "action" items was deleted but the reliability of the second factor was found to increase (a=.91) if the item "we value the opinions of all staff" was deleted. That is in accordance with the theoretical underpinning of the items of the "sentiment" factor as three of them are supposed to measure the dimension of "mutual support", while the fourth one is an adaptation to measure a different dimension ("respect"). However, as the correlation matrix of the factor analysis supported a two interrelated factor solution whose loadings matched those of the original instrument, individual "action" and "sentiment" scores were computed.

Table 3: Reliability analysis of the "action" and "sentiment" component of schools as learning organizations

Factors	Cronbach alphas
Action	.89
Sentiment	.89

Furthermore, a reliability analysis of all four sub-scales in both surveys showed co-efficients over .70. However, the innovation and mutual support sub-scales had the highest co-efficients, over .90, while no improvement in reliability was found if any of their items was deleted.

Table 4: Reliability analyses for the "action" and "sentiment" sub-scales

Sub-scales	Cronbach alphas
Innovation	α= .90
we welcome and appreciate new ideas	
keep an open mind about new ways of doing things	
are willing to experiment with new practices	
Involvement	
we seek ideas and opinions from students	α=.78
work with parents as partners in the educational process	
engage and communicate with community agencies and organisations	
Information sharing	
share ideas and information with one another about how to make this school more effective	α=.76
feel comfortable sharing our learning experiences with one another	
maintain open lines of communication	
Mutual support	
show kindness and thoughtfulness to one another	α=.91
offer care and support for one another in times of personal need	
treat one another as both colleagues and friends	

3)   Significant differences based on participants' background variables (age, years of teaching experience, years of managerial/organizational experience)

The "action" scale (M=36.28) as well as the involvement (M=13.60) and information-sharing (M = 13.41) subs-scales had a normal distribution (Kolmogorov test>.05). On the other hand, the "sentiment" scale (M=18.68), and the innovation (M=13.6), mutual support (M=14.03) and respect (M=4.41) subscales had a non-normal distribution (Kolmogorov test< 0.5) . As far as the scales with normal distribution are concerned, significant differences were found for participants "action" scores (F = 2,37, p <0,01) and information-sharing (F=1.96, p<0.05) based on participants' age (M=38.9). This implies that teachers' perceptions of the "action" component of their schools as learning organizations may be related to their age, potentially due to different needs and situations that they face in their work.

Table 5: Participants' age and their perceptions of schools as learning organisations

	Means:	F	Sig.
action * age	Mean action score: 41.9 Mean age: 38.9	2.37	,006
Information sharing * age	Mean information sharing score:14.2 Mean age: 38.9	1.96	.036

On the other hand, regarding the scales that demonstrated non-normal distribution, statistically significant differences were found on participants' scores on the adapted sub-scale of respect based on their years of teaching experience (Krusakall-wallis test, p=0.01) and their years of organizational/managerial responsibilities (Kruskal-Wallis test, p=0.01). This finding shows that teachers' experience and seniority may be related to the degree to which they perceive that their schools operate in a manner that allows them to show respect to one another.

4) Significant differences based on participants' selection of school activities/arrangements
The present study explored the relationships among the school activities/arrangements that were selected by the survey's participants and their "action" and "sentiment" scores as reflected in their scores on the "action" and "sentiment" sub-scales. Overall, results indicate that the school activities/arrangements that teachers identified in their schools may be related to some of their perceptions of their schools as learning organizations.

In particular, statistically significant differences were found between the identification of team-teaching and participants' scores on information-sharing t =-2, 36, p <0,05) and innovation (Mann-Whitney U , p= 0,02). Specifically, participants that identified team-teaching in their schools had significantly lower "information-sharing" scores but they also had significantly higher "innovation" scores.

Furthermore, significant differences were found between the identification of inter-departmental collaborations and participants' "involvement" (t= -2,69, p <0,05), "information-sharing" (t = -3,08, p <0,05), "innovation" (Mann-Whitney U-test, ρ = 0,00) , «sentiment » (Mann-Whitney U test, ρ = 0,02) and «respect» (Mann-Whitney U test, ρ = 0.02) scores. Specifically, participants who identified inter-departmental collaborations in their schools had significantly lower mean "involvement" scores but higher mean "information-sharing" and "innovation" scores, as well as significantly higher mean "sentiment" and "respect" scores.

Similar comparisons showed that participants that identified participation in decision-making committees had significantly higher mean "action" (t = -3,92, p <0,001), «involvement» (t = -3.09, ρ <0.05), «information-sharing» (t = -2.72, ρ <0,01), «innovation» (Mann-Whitney U test, ρ = 0,00), «sentiment » (Mann-Whitney test, p = 0,02) and «respect» (Mann-Whitney test, p = 0.02). Finally, participants that identified workshops for leadership development in their schools had significantly higher "information-sharing" (t = -2,00, p <0,05), «sentiment» (Mann-Whitney U test, p = 0,004), «mutual support» (Mann-Whitney U test, ρ = 0.013), and «respect» (Mann-Whitney U, p = 0,000) scores.

Thus, our understanding of teachers' perceptions of their job resources could be enhanced by exploring the ways in which these may be related to their perceptions of the school activities/arrangements that are offered to them (or they have access to) for their professional and leadership development.

Discussion

The present study explored secondary-school teachers' perceptions of job resources in learning organisations in an area in the Midlands in the UK. For this reason, the factorial structure of 13 items (extracted from Bowen's et al. (2007) assessment tool of schools as learning organizations) was examined along with their relationship with participants' identification of school activities/arrangements supportive to their professional development. Demerouti et al. (2001) defined job resources as those physical, psychological, social or organizational aspects of the job that may do any of the following: (a) are functional in achieving work-related goals; (b) reduce job demands and the associated physiological and/or psychological costs; (c) stimulate personal growth, learning, and development. The majority of psychological research into job resources test psychological models through advanced statistical analyses that examine well researched factors which support employees' well-being, drawing from psychological research on work-stress, burnout, and work-engagement. In these models, job resources are represented by factors (latent variables) that are measured by scales that meet the generic definition of job resources. However, psychological research has not addressed teachers' job resources in learning organizations in relation to available resources (e.g. school activities/arrangements taking place inside or outside teachers' schools) that aim to support teachers' professional and leadership development.

1) Teachers' job resources and schools as learning organizations

Theoretical and empirical studies on issues related to successful organizational learning in school and/or schools as learning organizations have shown the importance of addressing teachers' perceptions of the ways in which their school works (Collinson & Cook, 2007; Bowen et al., 2007; Mark & Louis, 1999). Their descriptions and findings regarding such perceptions share many conceptual similarities with the definition of job resources (Demerouti et al., 2001).

For example, Martk & Louis (1999) conclude that external resources (e.g. buildings, assessment programs, student schedules) can represent inadequate support to the school's capacity for organizational learning if they are not accompanied with positive relationships among the members of the staff (e.g. mutual support, exchanging ideas and reaching consensus). Furthermore, Bowen et al.'s (2007) assessment tool of schools as learning organizations focuses on teachers' perceptions of the degree to which the teachers in their school work in ways that characterize learning organizations. Finally, Collinson and Cook (2007) identify the provision for school members' self-fulfillment as a requirement for successful organizational learning. For this reason, they suggest that teachers' professional development and leadership development should be seen as a united purpose. Furthermore, they acknowledge that teachers' beliefs on the degree to which their school provides them with meaningful learning opportunities can determine the quality of the operation of schools as learning organizations.

In the present study 13 items from Bowen's et al. (2007) assessment tool regarding three sub-scales from the "action" dimension: innovation, involvement and information-sharing and two sub-scales form the "sentiment" dimension: mutual support and a 1-item adaptation of the respect sub-scale were utilized. The results of a principal axis factor analysis with a promax rotation gave a 2 factor solution that matched the characteristics of the factorial structure of the original instrument. In particular, the first factor that was extracted explained 32% of the variance, while the second factor explained 27% of the variance; therefore the two factors were able to explain 59% of the variance. As such, these items could be used for the development of a 2-factor latent model of teachers' job resources in learning organizations.

2) Teachers' perceptions of their job resources and their schools as learning organizations

Educational and psychological research into teachers' work can demonstrate a wide range of approaches to different aspects of teachers' work that can be supportive to their growth and development. Demerouti et al. (2001) acknowledges physical, psychological, social or organizational aspects of the job that may stimulate personal growth, learning, and development as a part of job resources in a work-environment. Psychological research has confirmed job resources generic definition in the teaching profession through empirical research using advanced quantitative analyses (e.g. Hakanen et al., 2006; Bakker et al., 2007). Educational research however, has been able to address such factors in a greater depth mainly due to the use of qualitative research methods (e.g. Rosenholtz, 1989; McLaughlin, 1993; Day et al., 2007). For example, the influential studies of Rosenholtz (1989) showed that school conditions significantly influence teachers' learning and organizational commitment. More recently, Day et al (2007); Goodall et al (2005) showed that the availability of professional development opportunities that matched teachers' individual characteristics and needs is necessary for their development and commitment. Opfer and Pedder (2010), also, highlight the need for strategic development of continuous professional development to ascertain that this is accessible to all teachers and to overcome perceptual barriers due seniority and different individual needs. Finally, the literature on schools as learning organizations shows that their successful operation as such, depends to a great degree on teachers' perceptions regarding the way in which the school is organized, the schools' conditions and the availability of appropriate opportunities for their development.

The present study explored the relationships among teachers' perceptions of their school as a learning organizations, their identification of school activities/arrangements and

background variables (gender, age, years of teaching experience, and years of organisational/managerial responsibilities). The results showed that the relationships between teachers' identification of certain activities/arrangement within their schools and their perceptions of their schools as learning organization can be important for our understanding of teachers' job resources. In particular, significant differences were identified, based on the identification of perceptions of team-teaching, interdepartmental collaborations and participation in decision-making committees, reflected by participants' scores on the "action" and "sentiment" dimensions of their schools and their sub-scales. These findings show that some school activities/arrangements may be more related to school's operations as a learning organization than others, and the support these offer to staff members may be due to the importance that the teachers themselves attribute to such activities.

Finally, the analysis showed that age and years of teaching experience and organizational/managerial responsibilities may be related with teachers' perceptions of their school as a learning organization. Significant differences were found with regard to participants' scores on the "action" dimension and its information-sharing sub-scale based on teachers' age; as well as on participants' scores on the 1-item respect subscale based on their years of teaching experience and their years of organizational/managerial responsibilities. In particular, older and more experienced teachers agreed more that their schools operated as learning organizations. This is in accordance with educational research which shows that individual factors (e.g. teachers' experience) are related to their job satisfaction as these are directly related to the work-situations that they face in their work (e.g. Ugent & Ugent, 2012). It is possible that these individual characteristics also influence teachers' perceptions of the ways in which staff members work in their schools and, as such, their assessment of their school as a learning organization.

Limitations of the Study
This study forms part of a research study aimed at exploring teachers' perceptions of job resources and its main limitations emanate mainly from the overall study's research design that adopted a mixed methods research design with a focus on selecting those data collection methods that were fit-for-purpose. In particular, the overall study focused primarily on the third part of the definition of job resources (physical, psychological, social or organizational aspects of the job that may stimulate personal growth, learning, and development) and, thus, the survey and interview questions selected aimed to allow such an analysis. Furthermore, as the two methods were mixed at the analysis stages both the quantitative and qualitative analysis was intended to serve this purpose. As such, any findings drawn from either of the methods present a fragment of participants' perceptions of job resources or secondary school teachers' perceptions of job resources in the sampling area or in each of the schools where the participants were employed. Another disadvantage of the use of a mixed methods research was the small sample size. This is especially important for the quantitative data as it did not allow the execution of the statistical procedures required to examine the relationship between teachers' perceptions of their schools as learning organizations and teachers' work engagement or to test other relevant research hypotheses. Moreover, the sampling method and the data collection methods followed in the present study didn't allow testing for school-specific characteristics that may influence teachers' perceptions of the way in which their schools

operate or their available school characteristics/arrangements. Finally, questionnaires were not administered to all members of the staff in schools. This means that there was no assessment of the participating schools as learning organizations that would enable safer conclusions to be drawn regarding teachers' perceptions of job resources.

Recommendations for Further Research
The present study showed those examining teachers' perceptions of their schools as learning organizations can provide significant information regarding teachers' job resources. Further research in the area of teachers' perceptions of job resources should involve both quantitative and qualitative research methods and different sampling methods in order to resolve the above mentioned limitations. In particular, a larger sample of teachers employed in secondary schools in many UK counties would be required in order to understand fully the relationships between variables such as the ones highlighted in the present study. Furthermore, more attention needs to be allocated to the time of the year that the data collection is taking place, as teachers' work-load and both teachers' and schools' priorities will differ according to different times within the school-year.

On the other hand, a school-based sampling method would be required to examine more closely the relationships between teachers' perceptions of their school activities/arrangements and their perceptions of their schools as learning organizations. Indeed, Bowen's et al. (2007) original instrument was constructed to be administered as a whole to all members of one school; whilst the way in which teachers are exposed and involved in school arrangements for their professional and leadership development may differ from one school to another. Thus, a closer examination is required regarding relationships among how those arrangements are set, teachers' actual involvement and the actual support that teachers perceive they have from them.

Finally, longitudinal research designs would be more appropriate for research into job resources for two reasons. Firstly, job resources and personal resources are often found to create a positive spiral that can be examined by gathering quantitative data at different times (Xanthopoulou et al., 2008; Salanova et al., 2008). Secondly, a longitudinal design can allow for the use of qualitative data collection in ways that draw safer conclusions regarding teachers' perceptions of job resources aiming to account for smaller or larger changes either within a school or district or a country's educational system.

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