

Resilience and occupational well-being of secondary education teachers in Greece

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We investigated Greek secondary teachers' resilience and occupational well-being. We aimed to detect the role of participants' demographic characteristics and schools' characteristics, as well as the relationship of teachers' resilience with their occupational well-being. Two hundred and one secondary teachers from fifteen secondary schools participated. Resilience Scale (Wagnild & Young, 1993) was used to measure the teachers' resilience and their occupational well-being was measured by the relative scale of Saarinen, Tossavainen, Turunen, Kiviniemi and Vertio (2007). Results revealed that the urbanisation level of the school seemed to affect resilience as well as occupational well-being. Teachers' scientific specialisation seemed to be related to their resilience levels. Furthermore, teachers' resilience correlates positively with their occupational well-being. Apparently, research on teachers' resilience and occupational well-being may be fruitful and enrich their future preparation with educational and consultative interventions that could be beneficial for the educator, the organisation, and the students' progress.

Introduction

Teacher resilience

Teacher resilience is a concern for the profession worldwide. Resilience is the capacity to "overcome odds" and demonstrate the personal strengths needed to cope with hardship or adversity (Boniwell & Ryan, 2012, p.xi). Richardson and his colleagues referred to resilience as "the process of coping with disruptive, stressful, or challenging life events, in a way that provides the individual with additional protective and coping skills than prior to the disruption that results from the event" (Richardson, Neiger, Jensen & Kumpfer, 1990, p.34). It is a characteristic that varies from person to person, and it can increase or decrease over time.

Personal as well as environmental characteristics are proposed to function as protective factors that mitigate the negative impact of stressful events, situations or conditions (Henderson & Milstein, 2003). Thus, although early research on resilience focused on naturally invulnerable people, later resilience research revealed that the environmental factor of human support often facilitates resilience (Brown, D'Emidio-Caston & Bernard, 2001).

Teachers' well-being

Teachers' well-being has been widely studied, as a factor that affects school daily routines and as a state that is affected by multiple internal and external factors. Subjective well-being has been defined as

... a person's cognitive and affective evaluations of his or her life. These evaluations include emotional reactions to events, as well as cognitive judgments of satisfaction and fulfillment. Thus, subjective well-being is a broad concept that includes experiencing pleasant emotions, low levels of negative moods, and high life satisfaction (Diener, Lucas & Oishi, 2002, p.63).

Focusing on human power and strengths, Aeltermann and her colleagues (2007, p.286) defined teachers' well-being as

a positive emotional state, which is the result of harmony between the sum of specific environmental factors on the one hand, and the personal needs and expectations of teachers on the other hand.

Both resilience and occupational well-being, thus, seem to be dependent upon personal and external factors. Individual factors seem to influence teachers' resilience and well-being, while the environment (colleagues, school, students, etc.) also seems to play a significant role in both resilience and well-being (Commonwealth of Australia, 2005). Nonetheless, the relationship between teachers' resilience and well-being has been scarcely studied. Pretsch and his colleagues implicated that resilience might be particularly important for the teachers' well-being (Pretsch, Flunger & Schmitt, 2012). Furthermore, to our knowledge, there is no Greek research about teachers' resilience and well-being, even though Greece is one of the countries most wounded from the global financial crisis.

The present study

This research project aimed to investigate secondary teachers' resilience and well-being in modern Greek schools. We addressed three research questions:

1. What is the role of the participants' demographic characteristics — specifically, gender, age, additional qualification, specialisation and experience — on their resilience and wellbeing?
2. What is the role of the schools' characteristics — specifically, school type, urbanisation level, students' socio-economic status and size — on their resilience and wellbeing?; and
3. What is the relationship between the teachers' resilience and their occupational wellbeing?

Literature review

Teacher resilience

Recent research has highlighted the significance of adult resilience both in everyday life and at the workplace. More specifically, teacher resilience is found to be neither innate nor stable, and to fluctuate as a result of the influences of the personal, relational and organisational settings in which they work (Gu & Day, 2013). Additionally, the literature on resilience provides a wealth of individual and contextual risk and protective factors. Similarly, research on teacher resilience has identified a number of risk and protective characteristics. Personal factors, such as strong self-efficacy, high motivation, moral purpose, flexibility and sense of humour, as well as contextual factors, such as effective administrative team and supportive peers have been suggested as some of the most powerful characteristics that distinguish resilient teachers (Price, Mansfield & McConney, 2012).

Teachers' resilience has been widely recognised as crucial in the educational system. Resilience plays an integral part in keeping novice teachers in the profession (e.g., Beltman, Mansfield & Price, 2011; Doney, 2013; Hong, 2012; Price, Mansfield & McConney, 2012). It has been positively related to competence in developing resilience in children (Bouillet, Ivanec & Miljević-Rikić, 2014) and negatively related to an intention to leave the teaching profession (Arnup & Bowles, 2016). Moreover, both individual and organisational resilience, has been found to play a significant role in lightening the negative effects of teachers' occupational stress and burnout (Lai-Kuen Lo, 2014; Richards, Levesque-Bristol, Templin & Graber, 2016). Furthermore, it has been indicated as a key factor for teachers serving disadvantaged urban communities, (Day & Hong, 2016) and for teachers working with children with special educational needs (Mackenzie, 2012).

Teachers' well-being

Teachers' well-being has been associated with demographic and personal characteristics, such as gender and teacher's faculty (Yerdelen, Sungur & Klassen, 2016) and teacher's motivation and passion for teaching (Moè, 2016), as well as a personal motivation profile that is high on success orientation and low on failure avoidance (Collie & Martin, 2017). Furthermore, teachers' affective and normative commitment – their sense of fidelity and adherence to the institution they serve - has been pointed as a factor of their psychological well-being (Mc Inerney, Ganotice, King, Morin & Marsh, 2015).

The satisfaction of personal needs, such as competence, relatedness, and autonomy are not the only condition for early-career teachers' well-being. A wide range of individual, relational, and environmental factors seem to interact and affect the result (Hobson & Maxwell, 2017). Shoshani and Eldor (2016) highlighted the importance of the learning climate - meaning mostly the inquiry, dialogue, collaboration and shared vision through which teachers engage in learning behaviours - on subjective well-being. Cumming (2016) indicated contextual, relational, systemic and discursive influences on teachers' work and

workplaces as crucial for their well-being. Furthermore, teachers' well-being seems to be positively related to school and class efficacy (Helms-Lorenz & Maulana, 2016), to school organisational climate (Orsi, Viotti, Guidetti, & Converso, 2016), to trust in colleagues (Yin, Huang, & Wang, 2016), and negatively related to emotional job demands. As for the relationship between teacher's well-being and pupils' performance, it seems to be bi-directional: increasing teacher's well-being could lead to improved pupils' performance and increased pupils' performance may lead to increased teacher's well-being (Briner & Dewberry, 2007).

Conceptual framework

Resilience

As for the proposed models of resilience, several studies have used different terms to describe three models that refer to the mechanisms of the impact of stress on adaptation. These models are the compensatory model, the challenge model, and the protective factor of immunity versus vulnerability model (O'Leary, 1998; Ledesma, 2014). The compensatory model suggests that resilience is a factor that neutralises exposure to risk. The risk and the compensatory factors do not interact, but they independently contribute to the outcome. The challenge model suggests that the stress factor (i.e., risk factor) is a potential enhancer of successful adaptation, and the lived experience prepares the individual for the next challenge. Finally, in the protective factor model, protection and risk factors interact. This interaction reduces the probability of a negative outcome and moderates the effect of exposure to risk. This model operates indirectly to influence outcomes (O'Leary, 1998; Ledesma, 2014). When individuals are confronted with a challenge, they may respond in one of a few ways: they may survive, recover or thrive. The last way to respond is the ability to go beyond the original level of functioning and to flourish (O'Leary, 1998). It seems that confronting big challenges may lead to a kind of post-traumatic growth, meaning "the positive change that occurs as a result of the struggle with highly challenging life crises" (Tedeschi & Calhoun, 2004, p.1).

Well-being

Aristotle, in 350 BC, believed that happiness depends on ourselves and is the central purpose of human life (Dollansky, 2014). Recently, Ryff and Singer (1998) have presented a new theory about the well-being attainment. They contended that when specific characteristics are present, individuals experience well-being. These characteristics are the quality of humans' connections, autonomy, personal growth, self-acceptance, purpose in life and environmental mastery (Ryff & Singer, 1998; Dollansky, 2014). It seems that an individual's well-being is related to intra-personal and environmental factors.

In summary, it seems that resilience and well-being depend on personal as well as external factors. Occupational resilience and well-being seem to warrant further investigation pursuant to the above constructions. Studying the internal and external factors related to occupational resilience and well-being might enrich our insight and provide ways to convert the possible risk factors into future opportunities to flourish.

Method

Participants

Two hundred and one (201) questionnaires were distributed to and gathered from secondary teachers in fifteen (15) secondary schools in Greece. Due to the aims of the research, the investigators focused on participants from schools that differed in type, size and urbanisation level. More specifically, 39.3% of the participants were teachers in Lower Secondary schools (the three first compulsory grades of secondary education in Greece - “Gymnasium”), 30.8% in Upper Secondary schools (the last three optional years of secondary education in Greece, leading to the Baccalaureate - “Lyceum”), and 29.9% were teaching in Professional Secondary schools (secondary schools with a technical/vocational orientation). The majority of the participants were females (58,2%). As for their age, 28.4% were 30-40 years old, 47.8% were 41-50 years old, and 23.9% were older than 50-60 years. During the last years, due to the economic crisis in Greece, there has been an exceptionally low number of new appointments in education, which explains the lack of participants aged less than 30 years.

The participants’ educational level was high enough since 11.9% of them, apart from the required university degree, had a second undergraduate university degree, while an additional 11.9% had a postgraduate qualification (a master’s degree or a doctoral diploma). As regards their field of expertise, almost half of them (51.6%) were specialised in exact and natural sciences and half of them (48.4%) in social and human sciences. Their teaching experience ranged from 1 to 35 years (mean 14.53 years, SD 8.00).

Regarding the schools’ characteristics, participants were teaching mostly in suburban (42.3%) and residential (44.3%) areas, and only a small percentage of them were working in schools located in big cities (13.4%). Moreover, 10% of the participants reported working in small schools (<100 students), 45.8% in medium-sized schools (100-200 students) and 44.3% in large school units (>200 students). Most of the participants reported that their students had an average socio-economic status (75.6%), while 11.9% taught students above-average, and 12.4% below average. Tables 1 and 2 present in detail the participants and their schools’ characteristics.

Measures – psychometric instruments

A three-section battery of questionnaires was handed in to participants. The first section aimed at measuring the participants’ resilience. The *Resilience Scale* (Wagnild & Young, 1993) was used, after being translated and back translated by bilingual experts. The scale consists of 25 statements. For each statement, participants were asked to state the level of agreement or disagreement on a seven-point scale for statements such as “I usually manage, one way or another” and “My belief in myself gets me through hard times”. The scale’s reliability was deemed quite high since Cronbach’s alpha was 0.86. The second section pertained to the measurement of teachers’ occupational well-being. We used the relative scale of Saaranen, Tossavainen, Turunen, Kiviniemi and Vertio (2007) which is based on the *Occupational Well-being of School Staff* model (OWSS). Specifically, we used the

Table 1: Demographic characteristics (N=201)

| | | No. | % |
|------------------------------|-----------------------------|-------|------|
| Gender | Male | 84 | 41.8 |
| | Female | 117 | 58.2 |
| Age | 30-40 years | 57 | 28.4 |
| | 41-50 years | 96 | 47.8 |
| | 50-60 years | 48 | 23.9 |
| Additional qualification | None | 153 | 76.1 |
| | Second undergraduate degree | 24 | 11.9 |
| | Postgraduate degree | 24 | 11.9 |
| Specialisation (Sciences) | Exact / Natural sciences | 95 | 51.6 |
| | Social / Human sciences | 89 | 48.4 |
| Years of teaching experience | Mean | | S.D. |
| | | 14.53 | 8.0 |

Table 2: School characteristics (N=201)

| | | No. | % |
|---------------------------------|-----------------------------|-----|------|
| Urbanisation level | Suburban | 85 | 42.3 |
| | Residential | 89 | 44.3 |
| | Big cities | 27 | 13.4 |
| School type | Lower Secondary (Gymnasium) | 79 | 39.3 |
| | Upper Secondary (Lyceum) | 62 | 30.8 |
| | Professional Secondary | 60 | 29.9 |
| Students' socio-economic status | Above average | 24 | 11.9 |
| | Average | 152 | 75.6 |
| | Below average | 25 | 12.4 |
| School size | <100 students | 20 | 10.0 |
| | 100-200 students | 92 | 45.8 |
| | >200 students | 89 | 44.3 |

translated and adjusted to Greek scale (Zerba, 2012). It consists of 21 statements, divided into four subscales: (a) working conditions; (b) worker and work, where high scores imply acceptable workload; (c) working community; and (d) professional competence. Participants were asked to state the level of agreement or disagreement for a set of statements, on a scale ranged between 1 (total disagreement) to and 5 (total agreement). The set included statements such as “The equipment and devices needed for my work are appropriate”; “The mental workload of my work is suitable”; “In my working community people can openly discuss things related to work”; and “I have sufficient readiness when acting as a group leader and when the group needs to communicate”. The reliability of the total scale was deemed high since Cronbach’s alpha was .90 (.0,80, .81, .88 and .71 for the four subscales respectively). The third section pertained to the measurement of several personal and occupational characteristics, including gender, age, extra qualifications, teaching specialisation, years of teaching experience, students’ socio-economic status, type of school, school size and school’s urbanisation level.

Procedure

Teachers were informed by an introductory note on the questionnaire, about the anonymity and the confidentiality of their answers, as well as the voluntary nature of their participation. Additionally, they were informed about the general aims of the study, without further details that could influence their impartiality. The required time for the questionnaires completion did not exceed fifteen minutes.

Results

Resilience and occupational well-being levels

Table 3 presents the descriptive results (means and standard deviations) for teachers' resilience and well-being levels. Participants' total resilience levels and their mean occupational well-being were found to be above average, almost surprisingly due to the problems that Greece's educational system confronted as a result of the economic crisis. Specifically, resilience mean was found to be 135 (M= 135.10; SD= 14.82), with range between 25 and 175. Their mean occupational well-being was also above average, ranging between 1 and 5 (M=3.5; SD= 0.56). This is the case for almost all subscales, except "working conditions" which resulted in a notably lower level compared to the other subscales (M= 2.76; SD= 0.94).

Table 3: Means and standard deviations for resilience and occupational well-being

| | | Mean | SD |
|-------------------------|-------------------------|--------|--------|
| Resilience | | 135.10 | 14.821 |
| Occupational well-being | Total | 3.50 | 0.561 |
| | Working conditions | 2.76 | 0.945 |
| | Worker and work | 3.66 | 0.716 |
| | Working community | 3.71 | 0.667 |
| | Professional competence | 3.62 | 0.654 |

Teachers' resilience and well-being related to personal attributes and school characteristics

In this section of the results we explore how the participants' personal attributes and the characteristics of their schools relate to their resilience and well-being levels. Due to violations in the normality and homogeneity of the distributions of the data, non-parametric analyses (Kruskal-Wallis and Mann-Whitney U tests) were performed in all cases.

(a) Gender

A Mann-Whitney U test revealed no significant differences ($U = 4201$, $z = -1.75$, $p = .08$) in resilience levels according to the participants' gender, although the average rank of women (107.09) was slightly higher than that of men (92.51). Neither did the overall index of

occupational well-being appear significantly different between the two genders ($U = 4384.50$, $z = -1.30$, $p = .193$) with men having an average rank of 107.30 and women an average rank of 96.47. However, men vs. women yielded significant differences in one of the subscales of well-being, "working conditions" ($U = 4057$, $z = -2.12$, $p = 0.34$), where men had an average rank of 111.20 and women of 93.68. All other subscales did not present significant differences for the two genders ($p < .05$ in all cases), leaving questions for future research about the existence of racial discrimination or the possible extra needs of women for better working conditions.

(b) Age

Teachers' resilience levels were not significantly differentiated according to the age group of the participants, as a non-parametric Kruskal-Wallis test revealed [$\chi^2(2, 201) = .130$, $p = .94$], nor did the overall score of their occupational well-being [$\chi^2(2, 201) = 2.45$, $p = .29$]. However, in one of the subscales of well-being, "working community", a significant difference in the medians of the three age groups was reported [$\chi^2(2, 201) = 8.20$, $p = .017$]. Pairwise analyses showed that this result was due to the differences between the youngest (30-40) and the medium-aged (41-50) group which was quite significant ($U = 1975$, $z = -2.88$, $p = .004$), but not between the medium-aged and the eldest (50-60) group ($U = 2092.50$, $z = -.90$, $p = .369$), nor between the youngest and the eldest age-groups ($U = 1123.50$, $z = -1.58$, $p = .115$). In all other subscales of well-being the differences among the three age-groups were found to be non-significant ($p > .05$ in all cases).

(c) Additional qualifications

A Kruskal-Wallis test revealed significant differences in the resilience scale scores among those teachers who had received a second undergraduate qualification, those who had a postgraduate qualification, and those who had only concluded their first undergraduate degree [$\chi^2(2, 201) = 6.55$, $p = .038$]. Pairwise analyses showed that this result was due to the differences between those who had a second degree and those with a postgraduate degree ($U = 164.50$, $z = -2.55$, $p = .011$) but not between the other two pairs ($p > .05$). The existence of additional studies, though, did affect neither the overall score of the occupational well-being scale, nor the scores of any of its subscales ($p > .05$).

(d) Years of teaching experience

As for the years of teaching experience, Kruskal-Wallis tests revealed that it does not differentiate teachers in relation to their resilience levels [$\chi^2(31, 201) = 32.36$, $p = .399$], or their overall occupational well-being [$\chi^2(31, 201) = 31.85$, $p = .424$] or any of its subscales ($p > .05$ in all cases), probably implying that the contingent burnout factor is balanced by other gains due to experience.

(e) Scientific specialisation

By comparing the levels of resilience between the teachers of exact/natural sciences, and those of human/social sciences, a Mann-Whitney U test revealed significant differences ($U = 3481$, $z = -2.07$, $p = .039$). Teachers of exact/natural sciences had a lower mean rank of 84.64, compared to those of human/social sciences who had an average rank of 100.89. However, the overall occupational well-being did not present differences according to the teachers' specialisation ($U = 3741.50$, $z = -1.35$, $p = .178$). Only one of its subscales,

professional competence, presented significant differences between the two specialisations ($U = 3475$, $z = -2.10$, $p = .036$) with teachers of the exact/natural sciences having a mean rank of 84.58 and those of human/social sciences a mean rank of 100.96.

(f) Urbanisation

As far as the urbanisation of the school area is concerned, the results leave questions about the characteristics of urban schools that affect negative resilience and workplace climate. Kruskal-Wallis tests showed that it is related to both the teachers' resilience and occupational well-being. More specifically, the scores of the resilience scale seemed to be significantly affected by the urbanisation of the school [$\chi^2(2, 201) = 9.02$, $p = .011$] with suburban areas yielding a mean rank of 110.51, residential areas a mean rank of 100.74 and big cities a mean rank of 71.93.

The same picture emerged for the effect of urbanisation on the occupational well-being levels of the participants [$\chi^2(2, 201) = 12.50$, $p = .002$] with suburban areas yielding an average rank of 110.31, residential areas an average rank of 102.96 and big cities a much lower mean rank of 65.24. It should also be noted that the significant effects of urbanisation extended to all the subscales of occupational well-being [working conditions: $\chi^2(2, 201) = 7.51$, $p = .023$; working community: $\chi^2(2, 201) = 19.18$, $p < .001$; professional competence: $\chi^2(2, 201) = 6.93$, $p = .031$] with the exception of the worker and work subscale [$\chi^2(2, 201) = 1.30$, $p = .521$].

(g) School type and size

Kruskal-Wallis tests revealed no significant differences among the resilience levels of teachers working in Lower Secondary, Upper Secondary or Professional Secondary schools [$\chi^2(2, 201) = 1.37$, $p = .505$], nor among resilience levels of those working in small, medium or large school units [$\chi^2(2, 201) = .43$, $p = .808$].

However, teachers' overall well-being was significantly differentiated according to the school type [$\chi^2(2, 201) = 10.17$, $p = .006$], with teachers working in Upper Secondary schools showing the lowest average rank (81.81), followed by those working in Professional Secondary schools (105.99) and those working in Lower Secondary schools (112.27). The subscales of well-being revealed no significant differences based on the school type ($p > .05$), with the exception of the working community subscale [$\chi^2(2, 201) = 1.79$, $p = .003$] which had a significantly lower average rank for Upper Secondary schools (116.95) as compared to Lower Secondary schools (111.11) and Professional Secondary schools (109.52). The size of the schools did not seem to affect the overall well-being [$\chi^2(2, 201) = 2.10$, $p = .366$], or the scores of its partial subscales ($p > .05$ in all cases).

(h) Students' socio-economic status

Finally, a series of Kruskal-Wallis tests revealed that, although teachers' resilience levels were not significantly differentiated according to the socio-economic status of their students [$\chi^2(2, 201) = 2.22$, $p = .329$], their overall well-being [$\chi^2(2, 201) = 12.07$, $p = .002$], as well as its subscales working conditions [$\chi^2(2, 201) = 10.80$, $p = .005$] and working community [$\chi^2(2, 201) = 14.15$, $p = .001$] yielded significant differentiations.

Pairwise analyses showed that these results were due to significantly lower levels of occupational well-being for participants teaching students of above-average socio-economic status, as opposed to the two other groups (average and below-average) [$U = 1044$, $z = -3.36$, $p = .001$ and $U = 154.50$, $z = -2.91$, $p = .004$, respectively].

The relationship between occupational well-being and resilience

In order to explore the relationship between the scores in the resilience scale and the specific occupational well-being scale, two-tailed Pearson's correlation analyses were performed. As can be observed in Table 4, teachers' resilience correlates positively and significantly with the overall score of occupational well-being, as well as with each of its subscales. Nonetheless, it should be noted that the percentage of variance explained by these correlations, as revealed by the r^2 effect size, is low in all cases (ranging from 3 to 16%), with resilience and the overall well-being score sharing a variance of 12%.

From the same results (Table 4) it can be observed that the dimensions of well-being that are more related to the participants' overall well-being index are the 'working community' which explains 73% of the common variance observed, followed by the 'working conditions' (59%), and by the 'worker and work' and 'professional competence' subscales (both 46%).

Table 4: Pearson's correlations (r) of resilience with all dimensions of the occupational well-being and their effect size (r^2)

| | Resilience | | Working conditions | | Worker and work | | Working community | | Professional competence | |
|-----------------------------|------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|-------------------------|-------|
| | r | r^2 | r | r^2 | r | r^2 | r | r^2 | r | r^2 |
| Working conditions | 0.17* | 0.03 | 1 | | | | | | | |
| Worker and work | 0.29** | 0.08 | 0.45** | 0.20 | 1 | | | | | |
| Working community | 0.27** | 0.07 | 0.47** | 0.22 | 0.41** | 0.17 | 1 | | | |
| Professional competence | 0.40** | 0.16 | 0.45** | 0.20 | 0.39** | 0.15 | 0.43** | 0.21 | 1 | |
| Occup. well-being (overall) | 0.35** | 0.12 | 0.77** | 0.59 | 0.68** | 0.46 | 0.86** | 0.73 | 0.68** | 0.46 |

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

Discussion

Teachers' resilience

Teachers' resilience mean was found to be above average and at higher levels than it was reported in other recent research projects (e.g., Kim & Fah, 2015; Ngui & Lay, 2017). Due to the current economic crisis in Greece causing problems in most professional environments, the adverse result would be more expected. The role of post-traumatic

growth after confronting big challenges might be crucial to this unexpected finding. Future research should investigate, highlight and apply the role of post-traumatic growth in order to develop resilience.

To our knowledge, the specialisation of secondary teachers has not been studied in relation to either resilience or well-being. Our results revealed that secondary teachers in Social and Human Sciences presented higher levels of resilience compared to secondary teachers in Exact and Natural Sciences. It is possible that the training of the first group could be more helpful to enlighten them about the psychological processes that control their ability to cope with hardship or adversity. However, in order to interpret with safety this finding, further details are important, such as the teaching hours per day of each specialisation, and possible lack of support for the second group's need for labs and equipment.

The study's results also revealed that teachers in big cities showed lower levels of resilience compared to teachers in semi-urban and residential zones. The role of school location has been well established in the literature. Urban areas have been related to teachers' reduced resilience. These schools are usually in economically depressed neighborhoods (Brunetti, 2006), with disadvantaged populations of children; they are usually called "high need areas" and are expected to have the highest teacher attrition (Castro, Kelly & Shih, 2010; Day & Hong, 2016; Yonezawa, Jones & Singer, 2011), justifying the specific finding.

Teachers' well-being

Teachers' total occupational well-being was also above average. Similarly, all the sub-dimensions of well-being are above average with the exception of the subscale "working conditions" which resulted in lower levels. The highest level of well-being was observed in the "working community" subscale. However, the definition of teachers' occupational well-being and, consequently, the tools that have been used to measure this variable, differ in important ways between different studies, which makes their results very difficult to compare. For instance, depending on the study, determinants of the teachers' occupational well-being have been suggested to include their self-efficacy, job satisfaction and recognition (Yildirim, 2015), school and class efficacy and their stress (Helms-Lorenz & Maulana, 2016), as well as their levels of emotional exhaustion (Mattern & Bauer, 2014). However, in a relatively recent study, where researchers used the same psychometric instrument as in the present study, the relevant results are very similar (Saaranen, et al., 2012).

Teachers' occupational well-being seems to be related to their school urbanisation level, since teachers in big cities have the lowest levels of occupational well-being. This finding was expected, since it has been found that schools in rural areas possess workplace climates that are more conducive to positivity in the workplace compared with schools in urban areas, and subsequently, rural schools have better workplace well-being outcomes than urban schools (Burns & Machin, 2012). However, school location could operate as a

mediating factor between resilience or well-being and organisational climate or even teacher-parent cooperation; thus, further research is needed to clarify its role.

In our study, occupational well-being in total doesn't seem related to the teachers' gender, with the exception of its subscale "working conditions", which showed that men enjoy more occupational well-being than women in this dimension. In previous studies it was found that the well-being of a male teacher is higher than that of a female teacher, either with a statistically significant difference (Konu, Vintanen & Lintonen, 2010) or without (Tian & Qin, 2007). Additionally, it was found that women, in most cases, experience lower job satisfaction, less decision making, and higher work-family conflict. However, without neglecting the importance of gender role, when the relative salience of both gender and work status is considered to understand occupational well-being, status counts more than gender (Rollero, Fedi & Piccoli, 2016). Further research should explore more deeply the working conditions and state support of working women, especially teachers, to help them follow the needs of their demanding work, such as extra hours for training or the frequently fractious behaviour of adolescents.

According to our findings, school type seems to be related to teachers' occupational well-being. Specifically, teachers of Upper Secondary schools enjoy the lowest levels of occupational well-being compared to teachers of Professional Secondary and Lower Secondary schools. It is possible that the raised demands of students and their parents in this kind of schools - mainly due to the forthcoming university entrance exams that determine the student's participation in the higher education - could stress teachers and lower the levels of their occupational well-being.

We found that teachers who teach in schools with students who have a higher socio-economic status seem to enjoy a lower level of occupational well-being. Low socio-economic status has been related to a number of educational issues, such as a slower development of academic skills, increased dropout rates and reduced academic support by the family (American Psychological Association, 2017). It seems quite strange that students who have a high socio-economic status provide their teachers with lower levels of well-being. However, the factor "school" plays an important role in teachers' well-being. As Aelterman and her colleagues (2007) supported, the specific school culture or local policy are factors that could change the construct of well-being and it could explain more than one-third of the total variance of total well-being. Furthermore, a third factor could mediate between students' socio-economic status and their teachers' well-being level, such as the relationship between the teacher and a more or less demanding parent.

The relationship between teachers' resilience and well-being

According to our results, resilience correlates positively with the teachers' occupational well-being in total, as well as with all occupational well-being dimensions to a greater or lesser extent. Nonetheless, it should be noted that the effect size of these correlations is rather low in all cases. Contrarily, the effect size of the correlations between overall well-being and its partial dimensions yielded a higher percentage of common variance, particularly in the case of 'working community' (73%). This arises from previous results

showing the impact of the teachers' collaboration and relationship influences on teachers' well-being (Shoshani & Eldor, 2016; Cumming, 2016).

Well-being indicators have been found previously to have a direct and rather close correlation with the indicators of resilience (Svence & Majors, 2015). Mguni and her colleagues (2012) revealed that resilience and well-being are correlated in two ways: how we feel about our lives today can help us to survive tomorrow, and our resilience does contribute to how satisfied we feel with our lives. As far as educational personnel are concerned, subjective well-being has been found to be a significant contributor to trainee teachers' resilience (Kim & Fah, 2015), and teachers' maintenance of well-being has been found to be dependent upon resilience (Pretsch, Flunger & Schmitt, 2012). Apparently, there are some common factors that influence both resilience and well-being that need to be further researched, in order to identify the exact relationship between them. Furthermore, the exact way in which these two concepts are correlated is not unambiguous. For instance, it has been suggested that resilience as a personal resource buffers the effects of the special challenges of the teaching profession (Pretsch, Flunger & Schmitt, 2012). However, teachers' professional well-being could control, at some point, the development of dynamic resilience. Finally, we could not ignore the fact that there are individuals and communities for whom well-being is high and resilience is low (Mguni, Bacon & Brown, 2012; Richardson & Chew-Graham, 2016, p.10-11).

Limitations

In our study, there are some limitations that should be acknowledged. Firstly, the cross-sectional nature of our study constitutes a limitation. Ideally, we could obtain a more complete and explanatory picture of these relationships and effects by a large-scale longitudinal follow-up of educators through various phases and conditions of their professional life. An additional methodological limitation has to do with the limited sample size, especially in some categories of respondents (e.g., participants from small schools or participants from big cities). Furthermore, in a future study further demographical issues should be researched, such as educators' family context and their general resilience and well-being, in order to clarify the role of school context and state policies. Finally, in our study, self-report data were gathered. These results should be completed or validated by more direct measures in order to assure that they represent objective reality.

Implications

Future research with longitudinal designs would be able to clarify whether the reported associations vary across time. Furthermore, future research could focus on the role of participants' resilience historical background, as well as the role of their general well-being. Additionally, taking into account the literature review, future research should come to an agreement on measures of teachers' occupational well-being, and clarify the cultural context role on their resilience and well-being. Finally, the precise relationship between their resilience and well-being needs to be further explored.

Conclusion

This study adds interesting findings to the small number of studies that have researched secondary teachers' resilience and occupational well-being and, specifically, the demographic and school characteristics that are related to them, as well as to an even smaller number of studies that have explored the relationship between secondary teachers' resilience and their occupational well-being. Concerning resilience, as its level is not a fixed and stable attribute, school interventions for resilience purposes could be implemented to help increase their capacity to cope with hardship or adversity. Programs that aim, along with others, to improve school climate and to empower teachers' self-efficacy and coping skills, such as solving problems, dealing with a crisis and optimistic thinking, should be implemented taking into account the potential role of a school's characteristics.

As far as their well-being, programs focusing on strategies for coping with every day demanding tasks, on a spiritual as well as on an emotional level, should take into account specific school characteristics, such as school urbanisation and working conditions as perceived by the specific educational personnel. Professional psychological support and improvement of the working conditions should be a priority, in order to achieve raised levels of well-being and, subsequently, a healthy school climate, as well as raised levels of teachers' efficacy. Finally, a national agenda for education and the leadership of schools should be aware of the importance of teacher resilience and well-being for their retention and their effectiveness, and how educational psychologists could support this effort.

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