Career Resilience and Self-efficacy of Greek Primary School Leaders in times of Socioeconomic crisis

Abstract: Educational leaders are trying to adapt to day-to-day changes by developing career resilience and self-efficacy to successfully meet their leadership roles, in times of deep socioeconomic crisis. This paper investigates the levels of career resilience and self-efficacy of principals of primary school units, identifies the relationship between them and determines the effect of the demographic elements of the sample on their career resilience and self-efficacy. The Kodama Career Resilience Scale (2015) was used to measure career resilience, while Tschannen-Moran and Gareis' Principal Self-Efficacy Scale (2004) was used to measure self-efficacy. The results of the survey showed that principals have high levels of career resilience and very high levels of self-efficacy. There are four factors that form the levels of career resilience: a) problem solving skills b) social skills c) interest in innovation and d) optimism for the future. Demographic factors play a role in shaping career resilience as they affect two of the four factors. There are two factors that shape levels of self-efficacy: (a) self-efficiency in administration and (b) self-efficiency in moral leadership. Demographic factors play a role in shaping the factor of self-efficacy that refers to administration. Finally, there was a high positive correlation and a causal relationship between career resilience and self-efficacy.

Key Words: career resilience, self-efficacy, educational leadership, leaders

INTRODUCTION

Leadership is a complex process, determined by the qualifications, knowledge and personal characteristics of each leader and is a key factor for the continuous improvement of an organization. A school is an organization as well, a learning community with a culture of change and a collective vision to continually improve the quality of human resources and learning (Sergiovanni, 2007). School principals play an important role in school organization and operation as well as students' success. They are called to shape the school in ways that can positively influence teaching and learning, such as developing high goals, guidance, supervision, energy and spiritual stimulation (Tschannen-Moran & Gareis, 2004). However, school principals in Greece face increased workloads, many responsibilities, inadequate training and

unsatisfactory salaries, a reality that increases stress levels and reduces resilience and self-efficacy.

Since 2009, Greece has been facing a deep socioeconomic crisis. According to Eurostat data, unemployment, lower birth rates, financial hardship, income loss and migration are some of the negative population changes. Poverty, social exclusion, income inequality and food insecurity have caused adverse consequences on various aspects of everyday life or at work, including the mental health of the Greek population. Depression, stress and reduction of salaries make it difficult for citizens to meet their financial needs and obligations. Many people have changed their lifestyle, due to financial uncertainty. These factors have a great impact both on the learning process and in providing quality education (Eurostat, 2015; 2017). Leaders should be resilient enough to face adverse effects on every aspect of their daily life. They need to be self efficacious and affect in a positive way especially vulnerable social groups.

Greek school leaders need to have high levels of career resilience and self-efficacy in order to be effective for teachers, students, parents and the community, especially under the current socioeconomic conditions.

Leadership theory of traits

The leadership theory of traits "focuses on the personal attributes (or traits) of leaders, such as physical and personality characteristics, competencies, and values" (Fleenor, 2006:830). According to this theory, certain individuals possess certain enduring innate characteristics that distinguish them among others and allow them to stand out. Fransen et al. (2019) showed that certain attributes and leadership behaviors differentiate high quality leaders, reduce the likelihood of leadership failure but also make the most of an individual's leadership potential. Other lists of attributes include intelligence, communication skills, accountability, responsibility, need for achievement, motivation, vision, confidence, people orientation, stability etc. (Fleenor, 2006; Toh & Ruot, 2019), while people that possess more leadership traits are employed in higher-level positions (Fleenor, 2006), such as being principals.

Resilience, career resilience and leadership

Resilience is the ability to adapt well in the face of adversity after difficult experiences (APA, 2013). It encompasses many sub-concepts and characteristics, such as control, commitment, individual goals and communication ability using

appropriate strategies (Lyons, Schweitzer & Ng, 2015). Seibert, Kraimer and Heslin (2016:245) found that resilience is an important factor in coping with changing work environments, because it is the ability to reformulate goals and strategies to adapt to the new, worrying and uncertain professional reality in order to succeed (Liu, 2003).

  Career resilience is the ability to maintain personal and professional well-being during stressful situations and workplace hardship (McCann et al., 2013). It is a dynamic and complex development process (Abu-Tineh, 2011; Mishra & McDonald, 2017), determined by the professional context (Rochat, Masdonati & Dauwalder, 2017) and affected by work-related problems such as (a) unexpected career changes, (b) co-existing risk factors (stress, adversity, lack of support or personal competence and skills, low motivation) and (c) adaptive effects in the professional environment (job benefits, personal satisfaction, opportunities and self-cultivation evaluation) (Mishra & McDonald, 2017; Vondracek et al., 2015). Career resilience makes an individual grow professionally through developing the necessary competences and attitudinal skills, like self-efficacy and adaptability skills (Pradhan et al, 2020). Kodama (2017, 2021) defined career resilience as psychological traits that help people deal with diversity, cope with risks and facilitate career development. The career resilient person resists disruptions that occur in a less ideal workplace, exhibiting certain behavioral components, like adaptation and change acceptance. School principals are leaders with career resilience and self-efficacy, elements closely related to, and essential for the management of school.

  The definition adopted in the present paper is that career resilience is the result of a dynamic process (Abu-Tineh, 2011; Mishra & McDonald, 2017) where individual characteristics, abilities and skills play a decisive role (Fleenor, 2006). Environmental factors influence these characteristics so that employees can better adapt to change and successfully face any challenge in the workplace (Kodama, 2017; Rochat, Masdonati & Dauwalder, 2017). Career resilient people develop various personality traits and strategies to manage change against any adverse condition (Liu, 2003), - leading to failure of people with comparable characteristics, but lacking career resilience. The complex role of the career resilient leader requires the combination of communication, social and leadership skills, according to the requirements of the 21st century leader-manager.

Self-efficacy and leadership

Self-efficacy relates to people's beliefs in their ability to achieve and produce achievements (Bandura, 2006). It is a subjective, personal judgment by the individual on one's ability to complete a series of actions that will prove to be effective in handling a situation in the future (Artino, 2012). Self-efficacy is an important and decisive factor in behavior that is indirectly influenced by goals, expectations, self-esteem and motivation (Luszczynska, Scholz & Schwarzer, 2005). It is shaped by four sources of influence: personal experiences, model experiences, social persuasion and physical and emotional arousal. Information drawn from those sources becomes meaningful if it is interpreted through the cognitive processes chosen by the individual and divided into those associated with events and those translated into evaluation judgments. The diversity of information complicates their evaluation process, which is influenced by prejudices and emotional challenges, generating positive and negative self-efficacy assessments (Bandura, 2000).

Leadership self-efficacy refers to specific beliefs of a leader's ability to perform necessary functions and adopt leadership behaviors (Kane et al, 2002). It is the key to motivation, which links the individual characteristics of leaders with the roles they take on (Ng, Ang & Chan, 2008). School principals' self-efficacy is associated with adaptability, flexibility, persistence in achieving goals (Federici & Skaalvik, 2011; Tschannen-Moran & Gareis, 2004) and creation of a healthy school climate (Dahlkamp, Peters & Schumacher, 2017). Finding financial resources and maintaining staff in the school unit ensures quality in teaching and learning (Federici & Skaalvik, 2011) leading to the creation of an effective school unit (Cobanoglu & Yurek, 2018). Principals with high levels of self-efficacy, draw strength from their personality and experience, regulate their personal expectations when responding to difficult situations with confidence, remain calm and have a sense of humor (Tschannen-Moran & Gareis, 2004). Self-efficacious 21st Century leaders adapt to the standards of modern reality, characterized by complexity, rapid change and fluidity but can also recognize the strengths and weaknesses of their leadership and determine its effectiveness.

Career resilience and self-efficacy

Resilience and self-efficacy are closely related because both share a common element: one's ability to persevere in the face of adversity (Daniilidou, Platsidou &

Gonida, 2020; Djourova et al., 2019). Career resilience and self-efficacy are associated with the development of adaptability, flexibility, self-esteem, commitment and goals. Both factors have been recognized to require the same processes for realizing and perceiving one's special characteristics and abilities in order to produce beneficial results (Lightsey, 2006). These two concepts, when combined, can result in high performance and can create a career resilient and imposing leader (Stevenson, 2015).

Levels of self-efficacy affect work, effort and resilience (Tschannen-Moran & Gareis, 2004). Self-efficacy decreases due to stressful situations, such as death, divorce, home change, job change, financial problems or other traumatic events (Maciejewski et al., 2000). Charismatic leaders usually have high levels of self-efficacy which affects their ability to be resilient (Djourova et al, 2019). Resilience is based on self-efficacy as it arises out of the belief in one's ability to deal with change, while the abilities of resilient individuals lead to their self-efficacy (Djourova, 2019; Lightsey, 2006). Self-efficacy beliefs are a mobilizing mechanism for self-control in life-threatening events (Amitay & Gumpel, 2015) and an important factor in enhancing resilience, as they are constantly changing and triggered immediately by adverse events. High self-efficacy beliefs play an important role in the development and maintenance of resilience (Benight & Cieslak, 2011). People with high self-efficacy are more likely to experience a transition with ease and confidence, experiencing less stress. Self-efficacy and resilience reinforce each other by influencing behaviors and decisions (Bullough, Renko, & Myatt, 2014). There is essentially a two-way relationship between the two concepts, the coexistence of which brings balance and leads to success.

Researchers constantly view self-efficacy as a factor contributing to the various levels of resilience development. According to Beltman, Mansfield and Price (2011), there has been a great deal of research examining self-efficacy as a factor in resilience, mainly concerning teachers. Most of these occurred in the United States of America (17 papers) and Australia (15 papers), while few of them occurred in the United Kingdom (6 papers), Canada (4 papers), Ireland (3 papers) and only one in Germany, Hong Kong, Singapore and Greece by 2011. The results of the surveys showed that teachers are resilient because of their self-efficacy. Virga (2012) studied the beliefs and sources of self-efficacy of principals in primary schools. Qualitative research has shown that managers with high self-efficacy overcame obstacles,

problems and adverse situations, demonstrating resilience and enhancing their self-efficacy, addressing even greater challenges. Managers with low self-efficacy would probably have been overwhelmed by adverse factors and abandoned the journey to success. The adverse factors reported by principals were related to abuse at work, poor staffing, problematic student behavior, and a negative school climate. Waldrep (2015) conducted a study on the relationship between self-efficacy and resilience, which develops following traumatic events.

Dimakos and Papakonstantopoulou (2012) were the first to examine the two concepts of self-efficacy and resilience in primary school students in Greece and the relationship between them. The results of their research showed a large and statistically significant degree of correlation between resilience and self-efficacy in the research sample. They further examined the effect of demographic factors on resilience and self-efficacy of the students. Principals are people from multiple age groups, sexes, etc., who are expected to perform certain leadership behaviors. Those behaviors depend also on their personal traits and are affected by contextual pressures from demographics.

In all the above studies, the results showed that there is a causal relationship between resilience and self-efficacy. However, the relationship between leaders' career resilience and self-efficacy, both in Greece and abroad, has not been studied extensively.

The present study

The objective of the present study was to investigate the levels of primary school principals' career resilience and self-efficacy, their inter-correlation as well as their correlation with demographics. Principals play a vital role in achieving school success with their ability to lead by example, to inspire followers and instill a sense of mission (Liu, 2020). However, they are confronted daily by a range of challenges due to expectations of higher achievement (Sarid, 2019, p.3), which makes high levels of resilience and self-efficacy critical for the work they do. Given that the relationship between a leader's career resilience and self-efficacy has not been studied satisfactorily, the following questions arise: (i) what is the level of career resilience and self-efficacy of primary school principals? (ii) Do demographics influence the career resilience and self-efficacy of participating primary school principals? (iii) What is the relationship between the participants' career resilience and self-efficacy?

METHOD

Participants and procedure

  The sample of this study was convenient. A total of 422 questionnaires were e-mailed to principals of kindergartens and elementary public schools across the prefecture of Central Macedonia, accompanied by a personal letter to inform them about the procedure and the purpose of the survey. Only 165 principals (at a response rate of 40%) took part in the survey. A pilot survey took place to check the adequacy of the questionnaire and receive feedback. According to the data the average age of all participants was 48.65 years, 70.3% of them were women, 72.7% were married with children and 50% were principals. Apropos of the position of principal, 43% are principals at schools in urban areas, serving in public schools for 22 years on average and have held a principal's position for 9.2 years on average. Regarding their education level, 70% had a university degree, 37% held a post graduate degree, 3 participants had a PhD, 56.4% could speak one foreign language fluently, 46.7% had a Level B certificate in computers and the majority have participated in at least two training programs (see table 1).

Measures

  The questionnaire used in the study consisted of three parts: *The Career Resilience Scale (CRS)* by Kodama (2015), *The Principal Self-efficacy Scale (PSES)* by Tschannen-Moran and Gareis (2004) and demographic questions.

  The Career Resilience Scale (CRS): The CRS was created by Kodama (2015) to study the role of resilience in reducing the risk to career development, which appears to be double. *CRS* consists of five subscales: (a) ability to cope with problems (ACP) (example items: you can adapt yourself to environmental changes, you can deal with difficulties positively), (b) social skills (SSK) (example items: you can be empathetic with others, you are sociable and have a wide circle of friends), (c) interest in novelty (IIN) (example items: you like new and novel things, you have the motivation to learn new things), (d) optimism about the future (OAF) (example items: you are hopeful about the future, you think you have nothing to be proud of) and (e) willingness to help others (WHO) (example items: You are sympathetic with people, you are usually kind to others).

  Principal Sense of Efficacy Scale (PSES): The PSES (Tschannen-Moran & Gareis, 2004) is an 18- item scale which measures principals' beliefs about their ability to

succeed in various areas of leadership. All items begin with the sentence stem "In your current role as a principal, to what extent can you…". The PSES consists of three subscales: a) efficacy for management (MA) (example items: handle the time demands of the job, maintain control of your own daily schedule, cope with the stress of the job), b) efficacy for instructional leadership (IAL) (example items: motivate teachers, generate enthusiasm for a shared vision for the school, manage change in your school) and c) efficacy for moral leadership (ML) (example items: promote acceptable behavior among students, handle the discipline of students in your school effectively, promote ethical behavior among school personnel).

Table 1. Participants' profile

		Average		N=165	100%
Gender	Male			49	29,7
	Female			116	70,3
Age	Male	52,63		49	
	Female	46,97	48,65	116	
Marital Status	Single			14	8,5
	In relationship			4	2,4
	Married			27	16,4
	Married with children			120	72,7
School Unit	Primary School			83	50,3
	Kindergarten			82	49,7
Place of School unit	Urban			71	43
	Semi-urban			66	40
	Rural			28	17
Leadership position	Principal			68	41,2
	Headmaster			97	58,8
Educational service		22,05			
Administrator's service		9,18			
Degree	University			70	42,4
	Academy			31	18,8
	Post-Graduate			61	37
	PhD			3	1,8
Foreign Languages	None			24	14,5
	One			93	56,4
	Two			48	48
Computer studies	Certification A			271	94,1
	Certification B			17	5,9
	None			16	9,7
Life-long learning		2,09			

RESULTS

Exploratory Factor Analysis of the Career resilience Scale

Exploratory Factor Analysis was performed using the Principal Component Analysis, promax rotation so as to determine factors. Bartlett's Test of Sphericity was used to test the suitability of the sample while Kaiser-Meyer-Olkin criterion was used to test the adequacy of the sample. The KMO index was 0.875> 0.5 and the Bartlett's Test of Sphericity p=0.000 <0.05. Five factors emerged, as in the original questionnaire, which explained 56.45% of the total variance. Item loadings are above 0.35, which is acceptable. Items loading in more than one factor were excluded. The following items are therefore excluded from factorization: No10: "You have a feeling that in general everything will be all right", No11: "You prefer difficult to achieve work goals to easy ones" and No16: "You're bad at making jokes". We observe a different structure of the questionnaire from that of the original, due to a redistribution of items. However, in the new clustering it was decided to retain the name of the old factors as the majority of the statements in each factor were identical to their original form and the absence of some statements does not alter the meaning of the factor. The overall reliability of the new scale structure is high (Cronbach's Alpha=0.91). Reliability of each of the four subscales was found to be very high (ACP Cronbach's Alpha=0.831, IIN Cronbach's Alpha=0.891, SSK Cronbach's Alpha= 0.845, OAF Cronbach's Alpha=0.912). An internal reliability test was followed. One out of five factors lacked internal credibility and was therefore rejected.

Exploratory Factor Analysis of the Principal's Self-efficacy Scale (PSES)

Exploratory Factor Analysis was performed using the Principal Component Analysis, varimax rotation to determine factors. Bartlett's Test of Sphericity was used to test the suitability of the sample while Kaiser-Meyer-Olkin criterion was used to test the adequacy of the sample. The KMO index was 0.913> 0.5 and the Bartlett's Test of Sphericity p=0.000 <0.05. Three factors emerged, which explained 60.16% of the total variance. Item loadings are above 0.50, which is acceptable. Item No12: "raise student achievement on standardized tests" loaded on two factors and was excluded. We observed a different structure of the questionnaire from that of the original, due to a redistribution of items. However, the factors retained their original name as the majority of items in each factor were identical to their original form,

while the absence of some items did not alter the meaning of the factor. Thus, the factor structure of the Greek version was proposed by the researchers and consists of two subscales. The overall reliability of the new scale structure is considered excellent (Cronbach's Alpha=0.913). An internal reliability test was followed. Subscale reliability was very good (MA Cronbach's Alpha=0,917, ML Cronbach's Alpha=0,721). An internal reliability test was followed. One of the factors had no acceptable reliability and had to be excluded, confirming our former reservations during factor analysis.

Career resilience and self-efficacy of school principals

To investigate the overall picture of career resilience and self-efficacy of school principals, a frequency analysis was performed. The Average and the Standard Deviation of the total score of the questionnaire statements were examined. School principals were found to have high levels of career resilience, especially in reference to their "*social skills*" (A= 3.15, SD= .48) and "*interest in innovation*" (A= 3.30, S.D= .54). Regarding their "*problem solving abilities*" (A=2.83, SD= .38) and "*optimism about the future*" (A= 2, 85, S.D= .68), they stated relatively high career resilience levels. The principals of our sample stated that they have high levels of self-efficacy (A=4, SD= .53). They especially stated that they have great administration abilities (A=4.15, SD=.54).

Impact of demographics on career resilience and self-efficacy

For the effect of gender, type of school and leader's position on career resilience and self-efficacy the method of parametric tests was used to compare two independent variables (Independent Samples T-test). The Average and Standard Deviation in each case were calculated. All hypotheses were performed at a statistically significant level p=0.05. Suitability testing of the sample needed the performance of a non-parametric Mann-Whitney test. For the effect of age, years of service and education programs on career resilience and self-efficacy correlations were calculated with the Pearson correlation coefficient (r). All hypotheses were performed at the level of statistical significance p=0.01 and p=0.05. For the effect of marital status, school area and degree of education on career resilience and self-efficacy the method of analysis of variance with one factor (One-Way ANOVA) was used. Equality of variance between the respective groups (Levene's test) was also tested. The Mean Value and the

Standard Deviation were calculated in each case while the hypotheses were performed at a level of statistical significance p = 0.05. Suitability testing of the sample needed the performance of a non-parametric Kruskal Wallis test.

Gender has no effect on career resilience and self-efficacy as both men and women have the same skills, abilities and optimism for the future. Age has no affect on career resilience but it seems that it is statistically significant (p<.05) as far as management leadership is concerned (r=.177, p=.023<.05). However, as far as marital status is concerned, the factor *"optimism for the future"* is statistically significant (t (3,161) = 3,678, p = .013 <.05). According to Fisher's post hoc LSD criteria, principals who are married with children are more optimistic about the future and more self efficacious in administration. Being a principal at primary school or kindergarten has no effect on career resilience or self-efficacy. The area where the school is located (urban, rural etc) has no effect either in shaping the factors of career resilience or self-efficacy. The position of principal affects *"problem-solving ability"* (t (163) =. 000, p = .024 <.05) and *"interest in innovation"* (t (163) = 3,374, p = .034 <.05) which are factors of career resilience. There is no correlation between career resilience and years of service or years of service in a position of principal. However, there is a high positive correlation between years of service and self-efficacy administration (r = .183, p = .019 <.05). There is also a high positive correlation of self-efficacy for moral leadership in relation to years of administration service (r = .229, p = .003 <.01). Additional degrees seem to play no significant role in career resilience and self-efficacy. The knowledge of foreign language correlated with *"interest in innovation"* (t (2,162) = 3,546, p = .031 <05) and *"optimism for the future"* (t (2,162) = 3,102, p = .048 <.05). However, knowledge of foreign languages played no significant role in shaping the factors of self-efficacy. Computer knowledge was also associated with *"interest in innovation"* (t (2,162) =. 4,631, p = .011 <05). Fisher's post hoc LSD criteria showed that principals with computer certification were more interested in innovation. Lastly, there is a high positive correlation between lifelong learning and *"interest in innovation"* (r = .251, p = .001 <.01) which means that the more principals are educated, the more they are interested in innovation. There is also a high positive correlation between administration, self-efficacy (r = .162, p = .038 <.05) and lifelong learning, which means that the more the school principals are educated, the more effective they become in administration.

Correlations of Career Resilience and Self-efficacy

In order to investigate the relationship between the dimensions of Career Resilience and the dimensions of Self-efficacy, a correlation analysis was applied. The results are presented in Table 2. We notice that there is a high positive correlation between the factors of career resilience and the factors of self-efficacy, at a statistically significant level $p < .001$.

Table 2. Correlation matrix of Career Resilience factors, Self-efficacy factors, Cronbach's a and number of items

Factors	Factors						a	Items
	ACP	INN	SSK	OAF	SEM	SEML		
ACP	1						0,831	9
IIN	,469[**]	1					0,891	7
SSK	,483[**]	,420[**]	1				0,845	9
OAF	,582[**]	,443[**]	,490[**]	1			0,912	3
SEM	,486[**]	,530[**]	,513[**]	,372[**]	1		0,917	11
SEML	,465[**]	,810[**]	,434[**]	,378[**]	,448[**]	1	0,721	4

Note : ** $\rho < .01$, * $\rho < .05$

ACP=Ability to cope with problems, IIN=Interest in Innovation, SSK=social skills, OAF=optimism about the future, MA=Management aspects of leadership, ML=Moral leadership

Each regression model is one which shows causality between factors. That is why a series of Multiple Regression Analysis were conducted with two goals; (1) to find out whether there is a causal relationship between the factors of career resilience and self-efficacy and to clarify which of its factors (ACP, IIN, SSK, and OAF) predict self-efficacy, (2) to find out whether there is a causal relationship between self-efficacy factors and career resilience and to clarify which of its factors (MA and ML) predict career resilience. In the first model, self-efficacy was the independent variable and the factors of career resilience (problem solving ability, social skills, interest in innovation and optimism for the future) were the dependent ones. The final regression model, $R^2 = .417$, F = 28,565 and p= .000, explained 41.7% of the variance in the dependent variable. Linear regression is statistically significant (p<.001) so the model is well adapted and clearly shows a causal link between career resilience and self-efficacy. Three out of four factors of career resilience are very important for shaping self-efficacy and are statistically significant. *'Interest in innovation'* (Beta= .30, p= .000 <.05), 'problem solving ability' (Beta= .252, p= .002 <.05) and "social skills"

factors predict self-efficacy (Beta= .239, p= .001 <.05). *"Optimism for the future"* (Beta = .017, p= .831>.05) is not statistically significant and does not predict self-efficacy. In the second model, career resilience was the independent variable and self-efficacy factors (MA and ML) were the dependent ones. The final regression model, R^2 = .610, F= 126,850and p= .000, explained 61% of the variance in the dependent variable. Linear regression is statistically significant because F=126,850 and p<.000, so the model is well adapted and clearly shows a causal link between self-efficacy and career resilience. Both factors are statistically significant (p=.000 <.05) for shaping self-efficacy. The most important factor is "self-efficacy in moral leadership" (Beta= .545) and the second important factor is "self-efficacy in management leadership" (Beta= .366) (see table 3).

Table 3. Multiple Regression Analysis of Career Resilience and Self-efficacy factors

Career Resilience Factors	R	R^2	AR^2	Beta	t	p
ACP				,252	3,166	,002
IIN	,645	,417	,402	,302	4,110	,000
SSK				,239	3,336	,001
OAF				,017	,214	,831
Self-efficacy Factors	R	R^2	AR^2	Beta	t	p
SEM				,366	6,677	,000
SEML	,781	,610	,605	,545	9,943	,000

DISCUSSION

The main purpose of the research was to investigate the levels of career resilience and self-efficacy of the principals of primary school units, to identify the relationship between them and to determine the effect of the demographics of the sample on their career resilience and self-efficacy.

Self efficacious and resilient leaders are more than ever needed to guide and support society in times of challenges, adversity, anxiety and uncertainty caused both by globalization as well as the recent financial crisis. The results of the research showed the causal relationship between self-efficacy and resilience.

Leadership must be seen as a dynamic or exciting process driven by two very important factors: career resilience and self-efficacy. Lack of career resilience or self-efficacy can limit career choices or success and can cause great damage in one's

professional development in the leadership field. Primary school principals of Greek school units are career resilient at a very high level, indicating their responsibility for their position and the decisions they make, findings which are consistent with those of Lazaridou & Beka (2015). The principals feel that they are able to deal with problems. They have the social skills required, they show great interest in novelty and they are very optimistic about the future. Primary school principals show very high levels of self-efficacy, indicating that they are fully aware of their abilities, especially when it comes to management issues of their school unit. The principals are aware of the actions required in order to improve school learning, as many researchers have also pointed out (Cobanoglu &Yurek, 2018; Dahlkamp et al., 2017; Federici & Skaalvik, 2011; Fisher, 2014; Lazaridou & Beka, 2015; Tschannen-Moran & Gareis, 2004; Virga, 2012). Fisher (2014) however, points out that the levels of self-efficacy are significantly reduced from the second year onwards and reappear after about ten years, provided that the principals are inspired by a mentor. Should mentors promote innovative management methods and development of social and problem-solving skills, then according to the findings of the present study, principals' self-efficacy is expected to improve. This improvement will increase their resilience, thus purposefully supporting their leadership role.

Most of the demographic characteristics of our sample affect the principals' career resilience and self-efficacy (age, marital status, principal's position, years of service, knowledge of foreign languages, technology and lifelong learning) while others have no effect (gender, type of school, school area and school degrees). More specifically, gender has no effect on shaping the levels of principals' career resilience, a finding which is consistent with the results of Lazaridou and Beka research (2015). Gender has no effect on shaping the levels of principals' self-efficacy either. This finding is consistent with the findings of the research of Cobanoglu & Yurek (2018), Virga (2012) and Tschannen-Moran and Gareis (2004). However, it contradicts the findings of other research.

Age does not have any effect on career resilience but affects the principals' self-efficacy, as far as administration skills are concerned. This result agrees with Lazaridou and Beka's research (2015). In addition, Lazaridou and Beka (2015) concluded that leadership does not emerge late in the teaching career, almost close to retirement as in the past. This finding is not confirmed by the present work as the

average age of the directors of the research sample (48,6 years) confirms the OECD's finding (2017) that 33% of today's teachers are at the age of fifty.

Marital status of principals affects the levels of career resilience, especially in reference to the *"optimism for the future"* factor. Married principals with children seem to be more career resilient as they are able to cope with difficult situations. However, marital status does not seem to play a role in shaping any other factor of career resilience and self-efficacy. These findings contradict the results of Fisher's (2014) research, which shows that married people show high self-efficacy. According to research by Eagly & Carli (2003) the demands of leadership positions conflict with family responsibilities and women are forced to choose between the two roles. This is not confirmed by the present work, as the number of participating women in such positions is very large, almost double that of men.

The type of school, whether it is a Kindergarten or a Primary school, has no affect on the formation of factors of career resilience and self-efficacy, a finding which disagrees with Fisher's (2004) findings. According to Fisher (2004) principals of schools with a large number of students show great self-efficacy as far as administration is concerned while principals of schools with a small number of students show great self-efficacy as far as moral leadership is concerned. Being a principal enables a person to resolve many problems and be career resilient but does not determine one's levels of self-efficacy.

According to our research results, years of service –in general and as a principal– play an important role as far as self-efficacy is concerned. Longest serving principals seem to acquire more leadership skills and deal better with administration issues, a finding that agrees with the results of other research (Fisher, 2004; Virga (2012). According to Fisher's research (2014), years of service is an important factor, as after ten years of leadership, managers' self-efficacy increases. The same conclusion is reached by the research of Virga (2012) according to which managers with more than 11 years of service showed higher levels of self-efficacy.

Holding a degree does not determine the formation of career resilience and self-efficacy factors. Therefore, the results of our research contradict the finding of the OECD (2017) that acquiring a university degree offers the ability to recover after an economic downturn, enhancing one's career resilience and self-efficacy. Knowledge of foreign languages and use of new technologies contribute significantly to the formation of «*interest in innovation*». However, they do not contribute to the

formation of other factors of career resilience and self-efficacy. In contrast, attending training programs contributes significantly to the formation of '*interest in innovation*' of career resilience and self-efficacy leadership administration. It seems that lifelong learning and participation in training programs lead principals to become open to innovation and more efficacious in administration.

The results of our research show that there is a high positive correlation and a causal relationship between the factors of career resilience and the factors of self-efficacy. This means that changing the factors of career resilience entails a change in the factors of self-efficacy and vice versa. When principals feel more career resilient, they develop greater self-efficacy. Conversely, when the principals of our sample feel that they show greater self-efficacy, they feel that they have greater career resilience, results that are in agreement with other research, according to which there is a positive correlation and causal relationship between career resilience and self-efficacy (Bullough, Renko & Myatt (2014), Dimakou and Papakonstantopoulou, 2012; Lazaridou & Beka, 2015; Peterson Speight, 2009; Sagone & De Caroli, 2013; Schwarzer & Warner, 2013; Waldrep, 2015). *"Interest in innovation"* is the most important factor in predicting self-efficacy. Principals, who are keen on innovation, tend to acquire knowledge and use new technological developments, combinations and methods to improve their leadership, their management skills and to utilize human resources for the benefit of their school unit. This means that they develop great self-efficacy. In doing so, they promote a positive image of their school; they effectively handle acceptable behaviors, they help the community improve and adapt to new changes, diversity and hardship; they become more career resilient. The results of our research have also shown that the *'interest in innovation'* factor is mostly influenced by demographics in shaping career resilience and is the key factor in the relationship between career resilience and self-efficacy. This finding contradicts the results of Kodama (2015) research which indicates that the factor *'interest in innovation'* ultimately does not reduce the negative effects of risk on career development and therefore does not contribute at all to the development of career resilience. Moral leadership is the most important factor in predicting career resilience. Principals who face challenges such as great communication breakdowns as well as cooperation and ethical behaviors of the school community, demand internal power stocks, great skills and require high levels of career resilience. The more self-efficacy they build the more career resilient they become.

Implications

The present study showed that resilience and self-efficacy have a causal relationship and that one enhances the other, making their relation pivotal for successful educational leadership.

Regarding the professional development of school leaders, educational leadership training programs could be designed and offered by the Greek Ministry of Education (Dexter, 2020). Such programs offer information about novelties in the field and interactive learning strategies for developing attitudinal skills, which promote resilience and self-efficacy, qualities essential for school management (Fisher, 2014). Through attendance of such programs, school leaders will be better empowered and prepared for change, adversity, challenge and disruption that may occur at any time in a workplace and develop a proactive personality with significant skills and competences. Coaching programs and practices that help principals develop social skills, coping mechanisms, emotional capacities and confidence in their knowledge, should be widely introduced. Through these programs school leaders develop interpersonal and communication skills, building a resilient personality which is a key factor for successful, challenging and innovative leadership.

Career resilience and self-efficacy ensures economic prosperity in times of crisis, globalization and rapid technology development and may be the best way to create strong and successful leaders. Thus all kinds of organizations – schools, institutions, public services etc. – need to become adaptable and ready to respond to adverse conditions and challenging environments. Governments have to take the necessary initiative to ensure that, particularly in adverse contexts, education stimulates and nurture resilience and self-efficacy among citizens, by promoting appropriate lifelong learning programs and by ensuring the continuous training of employees (Renko et al., 2020). To do so, career resilient and self efficacious leaders need to be placed in key positions and become mentors for their fellow citizens (subordinates or colleagues). The results of the present research could prove helpful in developing strategic plans and building networks between organizations to improve communication and flow of information, through employee exchange programs.

Limitations and further research

The convenient sample used in the present study is a limiting factor, as it may not be representative of Greek primary school principals. Also, research is based on self-

evaluation questionnaires, which may show a lack of objectivity, as the answers may reflect the personal worldviews of leaders and particular needs of educational institutions (Sarid, 2019). This fact may not allow us to generalize the results.

In a global world full of challenges, changes and inevitable conflicts, a repetition of this research a few years later could prove to be very useful. It could determine whether there is stagnation, evolution or change between the levels or the factors of career resilience and self-efficacy, taking under consideration the effects of COVID-19. Career resilience is positively correlated with self-efficacy but the concepts on their own relate to several individual characteristics that could be explored in greater depth. Further research could be conducted in more counties to reach more reliable conclusions concerning the factors of career resilience and self-efficacy separately or in combination with other concepts. Quantitative and qualitative research could also be combined, providing more findings for evaluation.

Acknowledgements

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