

Original research paper

**INVESTIGATING THE POSSIBLE RELATIONSHIP BETWEEN
GREEK PRIMARY SCHOOL TEACHERS' SELF-EFFICACY AND
OPENNESS TO NEW IDEAS AND PRACTICES**

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Abstract. *Openness to new ideas and practices could be characterized as a primary condition that leads teachers to innovation and it is also a key component of schools that foster teachers' and students' learning. However, there are not many studies that examine teachers' openness and factors related to it, while the relationship between self-efficacy and innovation has been identified. The study aimed to investigate the possible relationship between teachers' self-efficacy and openness to new ideas and practices. Using a quantitative approach 182 primary school teachers completed a self-reported questionnaire consisted of a self-efficacy scale and one subscale that refers to openness. The statistical analysis of the primary data showed that teachers express themselves clearly positively both in terms of their self-efficacy and their openness to new ideas, while a weak correlation was found between the two variables. The results partially confirm the findings of similar studies and demonstrate the necessity of further investigation of this specific topic and the search for organizational factors that may influence these variables.*

Key words: *teachers' openness to new ideas, teachers' self-efficacy, Greek education settings*

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1. INTRODUCTION

Teacher innovation is increasingly vital for educational reform success in the 21st century (Cayirdag, 2017; Rubenstein, McCoach, & Siegle, 2013). Innovation is defined as “initiatives which are new to those who introduce them” (Emo, 2015, p. 172) and is considered as crucial and beneficial for any organization so as to gain and keep a competitive advantage (Ghardashi et al., 2019). Accordantly, teacher innovation refers to the practices of novel and effective teaching content, resources, and methods that create a student-centered learning environment and facilitate students’ creativity (Zhu, Wang, Cai, & Engels, 2013).

In the present study, adopting the trait theory with the big five personality traits—commonly termed extraversion, agreeableness, conscientiousness, neuroticism and openness (McCrae & Costa, 1999), we examine openness as a component of teacher innovation. Openness to innovative practices (Aarons, 2005) includes characteristics like imagination, culture, experience-seeking, and curiosity (Darviri & Woods, 2006). Although the importance of openness may vary to different organizational settings and cultures (Abu Elanain, 2010), it seems that people with high openness have greater access to different emotions, thoughts, perspectives, ideas and they also try new ways to do things and to solve problems (George & Zhou, 2001).

Although most of the studies on openness to adopting new practices has been conducted in non-education settings (e.g., business settings, mental health services; Aarons & Sawitzky, 2006), it is also assumed relevant to educational environments (Johnson et al., 2017). Teachers’ openness is considered very important, given that teachers have easy access to students and primarily implement interventions in schools (Beets et al., 2008; Han & Weiss, 2005). When teachers are open and willing to try new practices, it may these be implemented, while teachers’ lack of openness to adopting new practices may be an obstruction to effective implementation (Aarons, 2004). Furthermore, openness in educational settings has a positive correlation with learning orientation (Tews et al., 2011) and learning behavior such as knowledge-sharing and explorative learning (Tsai, 2015).

An additional individual factor that can play a crucial role in educational reform is self-efficacy. Self-efficacy - consisting of knowledge, evaluations and the view of the self - is defined as individuals’ beliefs about their capability of performing specified performance-related necessities in the events that influence their lives (Bandura, 1997). Individuals will not invest substantial resources in certain work unless they believe that they can produce what is desired (Bandura, 2001). Efficacious people often show a higher likelihood of thriving on problems, trying new methods, and challenging themselves (Tierney & Farmer, 2004). People with a high self-efficacy also show strong persistence against the failure of innovative efforts, while less-efficacious people are more inclined to hopelessness, recede from innovative efforts, and return to traditional teaching approaches (Bandura, 1997; Tierney & Farmer, 2002).

Accordantly, teacher self-efficacy is defined as a teacher’s belief in his/her ability to execute the tasks required by their job (Bandura, 1977) as well as to achieve desired outcomes in student learning and engagement (Tschannen-Moran & Hoy, 2001). Highly self-efficacious teachers are more open to new ideas and more willing to experiment with new teaching methods (Ross, 1992). Teachers’ self-efficacy has been shown as an important motivational factor that directly influences innovative teaching (Cayirdag, 2017; Rubenstein et al., 2013). Moreover, higher teacher self-efficacy is related to use of

new strategies (Tschannen-Moran & McMaster, 2009), innovative work behavior (Hsiao et al., 2011; Zainal & Mohd Matore, 2021) and teaching effectiveness (Klassen et al., 2014).

Although research in Greece has examined the relationship between teachers' self-efficacy and occupational outcomes (Antoniou et al., 2020; Daniilidou et al., 2020; Gorozidis & Papaioannou, 2011), as well as the relationship between teachers' willingness to implement new practices and burnout (Bibou-Nakou et al., 1999; Kokkinos, 2007), to the best of our knowledge no evidence exists about the relationship between teachers' self-efficacy and their openness to new ideas and practices as a component of teacher innovation.

2. METHOD

The purpose of the current study was to examine primary school teachers' self-efficacy and openness, and the possible relationship between these two variables. We hypothesized that there will be a positive correlation between teachers' self-efficacy and their openness to new ideas and practices.

For the needs of this research, the quantitative research approach was adopted and self-report questionnaires were used. Convenience sampling was the method of collecting the research data (Robson, 2007), as the researchers, due to their status, they had direct access to Primary Education teachers in their network, which at the same time ensured the immediate response of the participants.

The sample consisted of 182 primary school teachers who answered all the questions in the questionnaire. Of the research participants, 159 were women, while 76.4% worked in a multi-seat school ($N = 139$). The average age of the teachers was 43.31.

To examine teachers' openness, we used the scale for the measurement of innovativeness (Hurt et al., 1977; Coklar, 2012) (20 items). We subjected the statements to exploratory factor analysis, which indicated three factors (risk taking, influence and openness to new ideas and practices). In the present research, we isolated one subscale, the one that refers to openness (8 items) because we wanted to focus more on teachers' willingness to utilize new ideas and practices (Cronbach's $\alpha = .889$). Example items for each subscale are "In general, I am careful about adopting new ideas" (reverse) and "I am skeptic about new inventions and new thoughts" (reverse).

We also used the scale of Tschannen - Moran et al (1998; short form, 12 items) to measure teachers' self-efficacy. The items assessed along a 5-point Likert-style scale ranged from 1- Nothing to 5-A Great Deal. (Cronbach's $\alpha = .920$).

The SPSS 23.0 statistical package was used to analyze the data, utilizing both descriptive and inductive statistics. For the normality of the distribution of the variables, the Kolmogorov-Smirnov test was performed, which indicated the conduct of non-parametric testing.

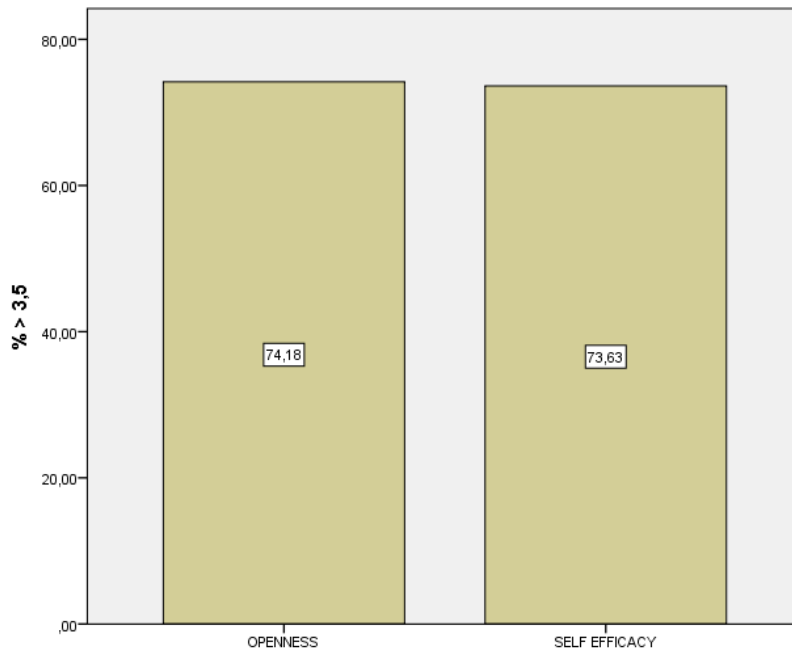
3. RESULTS

Mean (M), minimum (Min), maximum (Max) and standard deviations (SD) were used to describe the variables (Table 1). The mean for self-efficacy was 3.80, while for openness was 3.95. means were for openness ($M = 3.95$) above the average value of the scale.

Table 1 Descriptive analysis. Means and Standard deviations

Variables	N	Min	Max	Mean	SD
OPENNESS	182	1.25	5.00	3.95	.76
SELF EFFICACY	182	1.33	5.00	3.80	.51

In particular, 74% of primary school teachers consider themselves as open to new ideas and practices. Similarly, 73.6% of them consider themselves as efficacious in teaching (Graph 1).

**Graph 1** Percentage agreement (score > 3.5)

Correlation testing showed (Table 2) that there is a weak correlation between primary school teachers' openness to new ideas and practices and their perceived self-efficacy (Rho = 0.195, P < 0.001).

Table 2 Correlations Spearman's Rho

Variables	OPENNESS	SELF EFFICACY
OPENNESS	-	
SELF EFFICACY	0.195**	-

4. DISCUSSION AND CONCLUSION

The aim of the present study refers to the possible relationship between perceived self-efficacy and openness to new ideas and practices in a sample of 182 Greek primary school teachers.

Descriptive analysis showed an above-average scale agreement about teachers' self-reported openness to new ideas and practices and self-efficacy (Probably, in terms of self-reported questionnaires, respondents tend to evaluate themselves in a manner that overlie possible weaknesses) (Johnstone, 1989). Furthermore, this finding may reflect teachers' willingness and readiness to provide a context that fosters students' learning via a positive response to study's variables. As a matter of fact, this could be an indicator of a real condition although inferential analysis leads the whole discussion to a further extent.

As expected, openness to new ideas and practices has a weak positive correlation to teachers' self-efficacy. This finding probably reflects that teachers' self-efficacy has a weak positive contribution to their openness to new ideas and practices, although the variance explained in terms of this relationship may be differed if organizational factors will be added and act as mediator between openness and self-efficacy. Self-efficacy seems to influence openness to a small extent. It is also possible that Greek primary school teachers consider self-efficacy as the effective use of more traditional methods and practices. Therefore, there are other factors that need to be investigated regarding what influences teachers' openness and, by extension, their innovativeness. Therefore, teachers' self-efficacy maybe has stronger correlations with other variables of teachers' innovation. In any case, in terms of educational practice, this finding set the framework of school administrators' initiatives towards teachers' professional development. The new legislative framework that introduces such initiatives comprise school mentors and coordinators in primary and secondary schools in Greece from the current school year (2022-2023) and could act as a facilitator to teachers' openness to new ideas and practices which, in turn, may foster their sense of self-efficacy.

Taken together, the results partially confirm the findings of similar studies about the relationship between teachers' self-efficacy and their openness to new ideas and practices (Hsiao et al., 2011; Tschannen-Moran & McMaster, 2009; Zainal & Mohd Matore, 2021; Tierney & Farmer, 2002) and demonstrate the necessity of further investigation of this specific topic and the search for organizational factors that may influence these variables.

The limitation of this survey refers predominantly to the sample that is numerically restricted and, consequently, research results are not generated to the primary school teachers' population. Furthermore, the short-form of self-efficacy scale may affect the correlation's intensity with openness. Future research initiatives should contain more organizational variables as mediators in the relationship between openness to new ideas and practices and teachers' self-efficacy and, especially, in the aftermath of introducing school mentors and coordinators in primary schools.

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ISTRAŽIVANJE MOGUĆEG ODNOSA IZMEĐU SAMOEFIKASNOSTI UČITELJA OSNOVNIH ŠKOLA U GRČKOJ I OTVORENOSTI ZA NOVE IDEJE I PRAKSU

Otvorenost za nove ideje i prakse može se okarakterisati kao primarni uslov koji nastavnike vodi ka inovacijama, a takođe je i ključna komponenta škola koje podržavaju učenje nastavnika i učenika. Međutim, nema mnogo studija koje ispituju otvorenost nastavnika za nove ideje i praksu i faktore koji na nju utiču, dok je identifikovan odnos između samoefikasnosti i inovativnosti. Studija je imala za cilj da istraži moguću vezu između samoefikasnosti nastavnika i otvorenosti za nove ideje i prakse. Koristeći kvantitativnu metodu, 182 nastavnika osnovnih škola popunilo je upitnik koji se sastoji od skale samoefikasnosti i podskale koja se odnosi na otvorenost. Statistička analiza primarnih podataka pokazala je da se nastavnici izražavaju pozitivno kako u pogledu svoje samoefikasnosti, tako i u pogledu otvorenosti za nove ideje, dok je između ove dve varijable utvrđena slaba korelacija. Rezultati delimično potvrđuju nalaze sličnih studija i pokazuju neophodnost daljeg istraživanja ove specifične teme i traženja organizacionih faktora koji mogu uticati na ove varijable.

Ključne reči: *otvorenost nastavnika za nove ideje, samoefikasnost nastavnika, postavke obrazovanja u Grčkoj*