

Principal's individualized support and teacher's self-efficacy: An empirical research

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Abstract. The purpose of this study is to provide evidence whether principals' individual mentoring and coaching to support teachers could influence teachers' self-efficacy. Data were collected from 843 Greek primary and secondary school teachers of 110 schools. Teachers were asked to fill in the PLQ to measure principal's individualized support and TSES to measure teacher's self-efficacy. CFA was conducted to identify the factor structure of TSES model. Consequently, results shown a first-order two-factor model fits best the data of TSES. TSES subscale, "Efficacy in Instructional Strategies" was excluded from the analysis. Findings of path analysis (Structural Equation Modelling analysis) showed that principal's individualized support creating a culture of trust and respect could influence efficacy of teachers related only to student engagement. On the other hand, principal's individualized support to teachers may not affect teacher's efficacy related to classroom management. Implications and suggestions for future research and policy are discussed.

Keywords: Education, principal's individualized support, teacher's self-efficacy, structural equation modelling.

INTRODUCTION

School leadership effectiveness researchers have identified various important leadership practices that make difference in teachers' self-efficacy (Damanik and Aldridge, 2017; Fackler and Malmberg, 2016; Gkolia *et al.*, 2018; Sehgal *et al.*, 2017), self-esteem (Day and Sammons, 2014), job satisfaction (Gkolia *et al.*, 2014; Menon, 2014), teachers commitment to their schools (Dumay and Galand, 2012) and in students achievements (Leithwood and Azah, 2016; Kyriakides and Creemers, 2012) and school improvement (Sebastian *et al.*, 2017; Yeigh *et al.*, 2018; Sun and Leithwood, 2012). More specific, leaders could build a shared vision to motivate people to accept group goals and demonstrate high performance expectations. In addition, leaders need to understand staff by providing individualized support and intellectual stimulation to staff members. Another important leadership practice that Leithwood *et al.* (2008) report in their study is the

establishment of such working conditions that allow teachers to build collaborative cultures, and productive relations with teachers, the community, and parents. A very important leadership practice is to provide support to teachers while managing the teaching and learning programme on offer (Leithwood *et al.*, 2008). In 2019, Leithwood *et al.* published a revised article of their 2008 work, where they supported and confirmed the important role of leaders in successful schools by revising basic leadership practices through recent-empirical literature. School leaders could improve teaching and learning by reinforcing teachers' motivation, commitment, and workings conditions and consequently, provide support and demonstrate consideration for individual teachers and build trusting relationships with and among teachers, students and parents (Leithwood *et al.*, 2019). Al-husseini and Elbeltagi (2016) in their research confirmed the results of Bass and Riggio (2006) and Xue *et al.* (2011)

were they indicated that leaders need to use individualised consideration to develop teachers' strengths through mentoring and coaching. According to the social-cognitive theory of learning, a person's self-efficacy depends on behavioral, environmental and cognitive factors (Bandura, 1986). Bandura and Wood (1989) supported the idea that a robust sense of personal efficacy to sustain the necessary attention on productivity and a constant effort to achieve goals is the key of success in many areas. The term "self-efficacy" refers to a person's personal critique on his/her capabilities to organize and perform a specific behavior (Staples *et al.*, 1999). People with high self-efficacy consider a new situation as a challenge, do not give up their effort in case of failure, but very quickly regain what they have lost, while people with low self-efficacy have low aspirations and consider a new situation as a threat, trying to avoid it, reducing their effort or even abandoning every effort to achieve their goals (Bandura, 1994). The findings of different studies (Damanik and Aldridge, 2017; Hoxhaa and Hyseni-Duraku, 2017; Lambersky, 2016) revealed that individual support of principals to teachers could influence teacher's self-efficacy.

Teachers' self-efficacy

During the last decades, several studies have been focused and given different definitions for teachers' self-efficacy. For the purpose of this study, Bandura's theory of self-efficacy is used as a theoretical framework to define teachers' self-efficacy. Bandura (1986) was the first to define self-efficacy as a person's sense and confidence in his/her abilities to achieve his/her goals. Bandura and Wood (1989) supported the idea that a robust sense of personal efficacy to sustain the necessary attention on productivity and a constant effort to achieve goals is the key of success in many areas. The concept of self-efficacy does not indicate the actual skills that a person may have, but the degree of his/her faith in these skills (Bandura, 1994). Many researchers have attempted to define self-efficacy as a dependent variable, affected by different factors. In one of his surveys, Bandura (1977) supported that different factors are likely to affect people's perception of self-efficacy. He defined two dimensions of self-efficacy: the effects of expectations and the efficacy of expectations. During the last decade of Bandura's (1997) research, the perception that the concept of self-efficacy can be measured by a significant number of sources, like mastery experiences, vicarious experiences, social persuasion, and physiological and emotional states, has become prominent.

In the case of education field, according to Tschannen-Moran and Woolfolk Hoy (2001), teacher's beliefs about the degree up to which they can influence students' involvement in the learning process has been

characterized as a simple idea with significant implications. Additionally, Tschannen-Moran argued that teachers' self-efficacy motivates teachers to not give up in difficult tasks and situations that arise. Teachers' high self-efficacy is related with their high confidence in their ability to confront different new issues that arise, as well as their ability to deal with the consequences that may be created in the classroom (Staples *et al.*, 1999). Several investigations have supported that a school's efficacy depends not only on its principal, but also on the members of its teaching group. Researches have shown that teachers with high self-efficacy create new powerful incentives for learning to the students, consequently improving students' academic achievements (Klassen *et al.*, 2009; Klassen and Tzen, 2014). Teachers who feel comfortable with their working environment and personally supported by their principal tend to have high self-efficacy (Lewandowski, 2005). Various studies (Ma'mun and Suryana, 2019; Leithwood and Azah, 2016; Ninković and Knežević Florić, 2018) showed that one the most important transformational leadership practices that school leaders need to adjust to increase teacher's self-efficacy is individualized support.

Transformational leadership

Over the past four decades, transformational leadership has become increasingly popular. Bass (1985) defined transformational leadership as the most effective leadership type for the success of an organization. Moreover, Bass (1990) stated that transformational leadership may be learned and be the subject of management training. Research evidence indicates that transformational practices contribute to the development of commitment, motivation, and capacity (Allen *et al.*, 2015; Bass, 1985; Berkovich and Eyal, 2017; Burns, 1978). Leithwood (1994) used Burns' (1978) definition and Bass' (1985) two-factor theory (transactional and transformational leadership) and identified six factors describing transformational leadership. Based on Bass' two-factor theory, the headteacher who follows transformational leadership practices is not relying only on his or her charisma and on various intrinsic rewards (ex. salary, recognition) (transactional leadership), but is trying to empower teachers and share leadership practices and behaviours (Bush and Coleman, 2000).

The concept of transformational leadership, that has been used for this research is based on the aforementioned theory, has been adapted for schools but has also been developed in non-school contexts such as private companies (Bass, 1985; Burns, 1978; Leithwood, 1994). The six dimensions describing the theoretical model of transformational leadership in education is being tested by the Principal Leadership Questionnaire (PLQ) (Jantzi and Leithwood, 1996) and measures teachers' perceptions of principal's transformational

leadership behaviour, not only as a total score but also their perceptions of the six leadership dimensions separately (Jantzi and Leithwood, 1996). The six dimensions are: "Identifying and articulating a vision"; "Providing an appropriate model"; "Fostering the acceptance of group goals"; "Providing individualized support"; "Intellectual stimulation"; "High-performance expectations" (Leithwood, 1994; Leithwood *et al.*, 1999). Each dimension is related to specific leadership practices that are evident in transformational leaders' behaviour. One of the most important duties of a headteacher is to excite teachers by co-constructing a school's vision and encouraging them to work as a team (Kurland *et al.*, 2010; Leithwood *et al.*, 1994; Yang, 2014). Last but not least, leaders using individualized consideration tend to pay attention to the needs of their followers and develop their strengths through coaching and mentoring (Bass and Riggio, 2006).

Principal's Individualized support and teachers' self-efficacy

As has been already mentioned effectiveness researchers identified several important factors of transformational leadership can make difference in teachers' self-efficacy (Damanik and Aldridge, 2017; Fackler and Malmberg, 2016; Gkolia *et al.*, 2018; Sehgal *et al.*, 2017; Al-husseini and Elbeltagi, 2016; Hoxhaa and Hyseni-Duraku, 2017; Lambersky, 2016). Specifically, study of Damanik and Aldridge (2017) shown that principal's individualized support may increase teachers' self-efficacy. Yukl and Gardner (2019) support the idea that most of leaders are likely to solve problems with their subordinates using warnings and punishment, instead of providing individualized instruction and coaching. They, also, believed that the leaders in order to create an effectiveness school culture need to devote more time to their teamwork by promote cooperation, providing support and encouragement to individual subordinates.

A study of Ma'mun and Suryana (2019) indicates that instructional leadership had an impact upon teachers' self-efficacy. Results of Leithwood and Azah's (2016) mixed-method study indicated that school leaders who experienced difficulties with different leadership practices individualized actions were help them to adjust to new capacities required to improve students' achievement. The analysis made from Ninković and Knežević Florić (2018) claim in the case the school leader who follows the transformational leadership style needs to adopt some practices (i.e. individualized support) in order to have an effect into the teacher's self-efficacy. More precisely, the authors are using argue that the school leader needs to develop his/her subordinates through individualized support among with other measures so to leverage the teacher's self-efficacy and teacher group efficacy. Also, Leithwood and Sun (2012) seem to agree

with the fact that individualized support is given from the headmaster to the subordinates. Another finding comes from Lewandowski (2005) who claims that the principals who have used transformational leadership will use its authority to leverage the self-efficacy of its subordinates. This can happen through several factors which include individual support, something which is noted also from Gkolia *et al.* (2016). A study of Leithwood (2018) aimed to confirm that one of the network cognitive outcomes of effective leadership networks for school improvement was the instructional support of principals to teachers. Another useful evidence derives from Gkolia *et al.* (2018) who has made a research among Greek teachers and principal, as a transformational leader, might enhance teachers' self-efficacy through various roles such as being an example, by assisting a teachers work to achieve common goals, providing individual support and expecting only quality and high performance on part of teachers, which are some of the most major sources of self-efficacy. A research review of school leadership in three countries (Canada, United States and Australia) indicated that effective principals, among other practices, spent more time coaching teachers (Barber *et al.*, 2010). Recent studies (Lackey, 2019; Gagnon and Mattingly, 2012) in rural schools show that the supportive principal behavior affects teachers' sense of self-efficacy in student engagement, use of instructional strategies, and classroom management.

The above research review revealed that transformational practices and especially principal's individualized support to teachers, contribute to the development of teachers' self-efficacy. The main purpose of this study was to provide evidence of the association between school leaders' behaviour, regarding teachers' personal feelings and needs, and teacher's self-efficacy.

Collectively, the above results suggest that individualized consideration, as a practice of transformational leadership, has quite significant effects on features of the teachers' self-efficacy which could develop satisfied employees and consequently achieve high participation in work and improve student achievement. Although, Greek educational system is highly centralized and principals have limited control in curriculum, salary, and teachers' allocation in schools, principals' behavior depend on their own perspectives and willingness to find time to provide individualized support to teachers (OECD, 2017). By this point of view it seemed worthwhile to be studied whether transformational leadership practice "providing individualized support" could exist and have an impact on teachers' self-efficacy even though principals have limited control in the curriculum, payments, and number and selection of the staff.

The purpose of this study was twofold. The primary purpose was to examine the factorial validity of Teachers' Sense of Efficacy Scale (TSES) in a sample of Greek primary and secondary teachers. The second purpose

was to provide evidence whether principals individual mentoring and coaching to support teachers could influence teachers' self-efficacy.

METHODOLOGY

Participants

Eight hundred and forty-three (843) Greek teachers employed in 110 secondary and primary schools in Thessaly, North Greece, in Crete and Dodecanese gave information answering two questionnaires regarding firstly their sense of efficacy in three areas including student engagement, instructional strategies and student management (TSES questionnaire) and secondly they were asked to evaluate the leadership skills of their principals (PLQ questionnaire). Out of the 843 teachers, 495 (56%) were female teachers and 341 (44%) were male teachers, 7 teachers did not report their gender. Out of the 843 teachers, 346 (41%) teachers were teaching in primary schools and 497(59%) were teaching in secondary schools. With respect to the age of the teachers, the mean age of school teachers was 46 years and ranged between 25 and 59 years. With regard to teaching experience, most of the teachers had acquired over 16 years of experience. Principals' background demographic information did not collect.

Measures

Sociodemographic variables assessments for both principals and teachers

Transformational leadership: The Principal Leadership Questionnaire (PLQ) (Jantzi and Leithwood, 1996) was used to assess teachers' perceptions of leadership of their principal. PLQ comprises 23 items to capture six dimensions of leadership practices and has been adapted in Greek educational context by Gkolia *et al.* (2014). Item responses were given on a 5-point scale statements ranging from "*strongly disagree*" (1), "*disagree*" (2), "*agree*" (3) and "*strongly agree*" (5). Among six dimensions (*Identifying and articulating a vision, providing an appropriate model, fostering the acceptance of group goals, providing individualized support, intellectual stimulation, high-performance expectations*) for the purpose of this study we will focus on factor "providing individualized support" where the leaders' behavior indicates respect for individual members of staff and concern regarding their personal feelings and needs.

Teachers' Sense of Efficacy Scale (TSES): In the last decades, many questionnaires have been developed for the measurement of teachers' self-efficacy, based on Bandura's definition of self-efficacy. In the present study,

the short version of TSES (Tschannen-Moran and Woolfolk Hoy, 2001) will be used for the measurement of the self-efficacy among teacher's and check what creates the most difficulties for teachers in daily school activities. The questionnaire has been adapted in Greek by Tsigilis *et al.* (2010). The questionnaire consists of 12 items, which are divided into three factors of four items. The 3 factors count a) Efficacy in Student Engagement b) Efficacy in Instructional Strategies, and c) Efficacy in Classroom Management (Tschannen-Moran and Woolfolk Hoy, 2001). Item responses were given on 5-point scale statements ranging from "*none at all*" (1), "*very little*" (2), "*some degree*" (3), "*quite a bit*" (4) and "*a great deal*" (5).

Data analysis

For the investigation of the association between individualized principal's support to teachers and teachers' self-efficacy, SEM analysis was conducted applying the approach of Muthén and Muthén (2007) using the software package MPlus (Muthén and Muthén, 2007). SEM is widely used in behavioral and social sciences. SEM is a powerful technique and can be used to combine factor analysis and path analysis (e.g. regression analysis). Additionally, using SEM analysis we could estimate latent variables from observed (measured) variables that were contained in separate models, considering measurement error (Hox and Bechger, 1999). The primary problem of SEM analysis lies in attempting to accomplish a good fit model to the data. Thus, Confirmatory Factor Analysis was firstly conducted using the EQS software for Structuring Equation Modeling (Byrne, 1994) to identify the factorial structure of TSES.

Confirmatory factor analysis (CFA)

Firstly, Confirmatory Factor Analysis (CFA) procedures were employed to test the construct validity of TSES. CFA is testing hypotheses of theories about the latent structure of studied sets of observed measures. This implies that to be able to apply CFA, the number of factors has been already defined by theory rather is determined from the collected data (Raykov and Marcoulides, 2011). Therefore, first-order three-factor model as has been adapted in Greek by Tsigilis *et al.* (2010). Models' parameters were estimated employing the Maximum Likelihood method. Multiple fit indices were utilized to evaluate the hypothesized measurement models. These include the scaled chi-square χ^2 , ratio χ^2/df , RMSEA, CFI and SRMR. The following values of the alternative fit indices were considered as evidence of a satisfactory fit, CFI close to 1, RMSEA less than .05, ratio χ^2/df less than 1.96, and SRMR less than 0.08 (Marcoulides and Schumacker, 2001; Raykov and

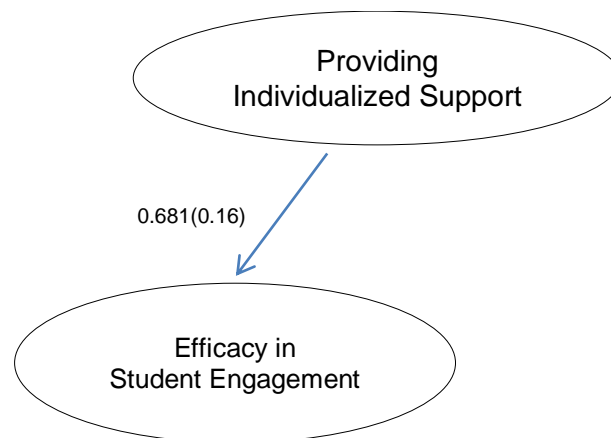


Figure 1. Path diagram * $p < 0.000$.

Marcoulides, 2011).

(i.e., bigger than .555).

Path analysis

Secondly, the internal consistency of the “providing individualized support” facet of PLQ was satisfactory yielding a value of Cronbach $\alpha = .90$ and Raykov’s $RHO = .84$. Path analysis with SEM conducted to test whether the factor “providing individualised support” of PLQ have affect upon teachers’ self-efficacy.

TSES factors and principal’s individualized support

The structural path from F_1 : Efficacy in Student Engagement with principal’s individualized support was statistically significant, with $\beta_{F1} = 0.681(.16)$, ($p = 0.000$), and the structural path from F_2 : Efficacy in Classroom Management was not-statistically significant with $\beta_{F2} = -0.294 (.16)$ ($p = 0.058$) (Figure 1).

RESULTS

Factorial validity

Initially a multidimensional first-order three factor model (Model 1) was examined. Fit indexes of the model provided mixed results ($\chi^2(41) = 157.52$, $\chi^2/df = 3.84$, RMSEA = .058, CFI = .978 and SRMR = .025). Whereas RMSEA and SRMR showed good fit to the data, χ^2/df and CFI deviated from the suggested cut-off values. Another issue of this model was that questions “To what extent can you craft good questions for your students?” and “To what extent can you provide an alternative explanation or example when students are confused?” belonged to factor “Efficacy in Instructional Strategies”, had small loading ($< .5$) and was dropped out of the final model so specific removed from the model (Raycov and Marcoulides, 2011). For the items and factors that were excluded from the analyses some possible explanations are provided in the discussion.

CFA was conducted again and first-order two-factor model (Model 2) fits best the data. Results showed an excellent fit to the data ($\chi^2(13) = 27.43$, $\chi^2/df = 2.11$, RMSEA = .036, CFI = .995 and SRMR = .013). All item loadings were statistically significant and greater than 0.5

DISCUSSION

Previous studies which investigated the effectiveness of principal’s behavior upon teachers’ behavior in classroom identified that almost all successful principals drawn on the same basic transformational leadership practices, which positively affect the quality of learning and teaching (Day and Sammons, 2014; Gkolia et al., 2014; Gkolia et al., 2018; Katsakioris, 2018; Lambersky, 2016; Leithwood et al., 2019; Leithwood and Azah, 2016; Yang, 2014). More specific, researchers identified evidence that principal’s individualized support may increase teachers’ self-efficacy (Damanik and Aldridge, 2017; Leithwood and Sun, 2012; Ninković and Knežević Florić, 2018; Yuki and Gardner, 2019). The purpose of the current study was to examine whether the principal’s individualized support influences teachers’ self-efficacy factors (classroom factor). In order to provide an answer to the above, teachers answered two instruments: the PLQ and TSES.

The analysis used in the present study to identify the factor structure of TSES model was CFA and to predict the association between principals’ individualized support and teacher’s self-efficacy was path analysis and specifically structural equation modelling analysis.

Findings of CFA showed that first-order two-factor model fits best the data of TSES. It should be reminded that the TSES subscale, "Efficacy in Instructional Strategies" was excluded from the analysis. These findings are in line with Wertheim and Leyser (2002) study, in which they also found no significant correlation between pre-service teaching efficacy and teachers' willingness to use differentiated instructional strategies. Findings of path analysis (SEM analysis) showed that principal's individualized support creating a culture of trust and respect, could influence efficacy of teachers related only to student engagement. Results are in line with prior studies where principals with supportive behavior were statistically associated with teachers' self-efficacy related to student engagement (Mathews, 2017). However, different results showed a study of Alrefaei (2015) where teachers' efficacy beliefs for classroom management and for instructional strategies were statistically significant but not for student engagement (Alrefaei, 2015).

Implications

Overall, our findings provide glimpses about how principals' supportive and coaching behavior may contribute to teachers' self-efficacy. Findings have implications for strategies to improve principals practices. This study confirms what some previous studies have indicated (Holzberger *et al.*, 2013) that if principal provide individualized learning support for students as well as assisting students' parents in helping students do well in school then may increase teachers' ability in create a lesson close to students interests and provide. By excluding from the analysis two facets of TSES (classroom management, instructional strategies) measures teachers' beliefs about their ability to use different instructional methods in their teaching and ability to manage effective students' classroom behaviour, it seems that Greek teachers may need support to attend educational training programmes on how to implement new teaching strategies, like individualized differentiated instruction and assessment for instruction as well as learn how to discipline in the classroom, and how to control disruptive behaviors of students (Gkolia *et al.*, 2016).

Overall, the results suggested that principals may need to attend similar training programmes to learn on how to support and assist teachers in issues related to classroom management and applications of instructional strategies. It is very important to help teachers to focus tightly on how to increase their self-efficacy on instructional strategies in classroom (i.e. cooperative learning, group discussion, independent study, issue-based inquiry) and in classroom management and this because teachers who are satisfied with their job are less likely to be stressed and more likely to believe in their abilities and use high-quality instructional strategies in their classroom (Klassen and Chiu, 2010; Mathews, 2017).

Another possible reason of the findings may be that some teachers may not have experienced in previous implementing successful classroom instructional strategies or success in classroom management and this may be the reason of why their efficacy could be lower than other teachers (Mathews, 2017). Bandura (1977) suggests that efficacy comes through personal accomplishments, where teachers are more able to achieve desirable outcomes if they have had success in teaching previously. What are the link between current results and previous results? By investigating the variables in this study further, we suggest further longitudinal and empirical studies to investigate the impact of principals individualized support how directly and indirectly affect teachers' job satisfaction, students' learning and overall school improvement. Using carefully designed longitudinal studies one could enhance a consistent investigation or exploration of different outcomes across different school years and across the same individuals over time (Kyriakides and Creemers, 2008). Last, but not least, these studies may not only help the educational community to understand the importance of teachers' self-efficacy and the association of principals' individualized support in teachers' self-efficacy but also to bring a substantial change to improve school effectiveness.

Expanding on these efforts might be a goal for future research to explore self-reported efficacy of different teachers (i.e. pre-service vs in-service teachers). Future research could provide a more in-depth examination between principals individualized support, principals background characteristics and different types of teachers' important aspects such as self-efficacy, burnout, school culture or on how teachers background characteristics may affect principals supported behavior and teacher's self-efficacy.

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