INVESTIGATING THE RELATIONSHIP OF THE COLLABORATIVE CULTURE AND THE FULL RANGE LEADERSHIP MODEL IN ALL-DAY PRIMARY SCHOOLS IN GREECE

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Abstract:

The investigation of the leadership behavior and the collaborative culture adopted by the teachers in the all-day primary schools in Greece and their subsequent interaction formed the basis for conducting the research, part of the results of which are presented in this article. Its field of application was a randomly selected nationwide sample of 782 teachers, while as research tools to record their perceptions were used the School Culture Survey - Teacher Form (S.C.S.-T.F.) questionnaire to assess the six dimensions (collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support and learning partnership) that shape the model of collaborative school culture and the Multifactor Leadership Questionnaire (M.L.Q. 5X-Short) to assess the three (3) styles of leadership behavior (transformational, transactional, laissez-faire leadership). The quantitative data collected were processed in the Statistical Package for the Social Sciences (SPSS, version 24). Descriptive, correlational analysis followed, and statistical tests were performed to answer the research questions.

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The findings clearly demonstrate that teachers adopt the collaborative culture model to a satisfactory degree (M=3.55), applying several forms of collaborative behavior, as reflected by the descriptive analysis of their perceptions of the six (6) dimensions/factors that shape the profile of the model with a variation of mean values from (M=3.35) for the dimension teacher collaboration to (M=3.71) for the unity purpose. In addition, the findings concerning the dominant form of leadership model in Greek public all-day primary schools, as perceived by classroom teachers and/or school leaders, highlight the transformational leadership behavior (M=2.97) as the dominant, one transactional leadership behavior (M=2.25) as secondary choice, while their distancing from the laissez-faire leadership model (M=1.39) is evident in the specific field of research. From the multiple regression analysis it is found that 40.5% of the variation of the transformational leadership variable is interpreted statistically significantly by the variation of the independent variables of the collaborative culture, while their classification in terms of their importance in the prediction is as follows: collaborative leadership (Beta=0.353, $p<0.05$), teacher collaboration (Beta=-0.176, $p<0.05$), professional development (Beta=0.053, $p>0.05$), unity of purpose (Beta=0.181, $p<0.05$), collegial support (Beta=0.231, $p<0.05$) and learning partnership (Beta=0.054, $p>0.05$). The 18.4% of the variation of the transactional leadership variable is interpreted statistically significantly by the variation of the independent variables of the collaborative culture, while their classification in terms of their importance in the prediction is as follows: collaborative leadership (Beta=0.113, $p<0.05$), teacher collaboration (Beta=0.382, $p<0.05$), professional development (Beta=0.081, $p<0.05$), unity of purpose (Beta=-0.133. $p<0.05$), collegial support (Beta=-0.192, $p<0.05$) and learning partnership (Beta=-0.043, $p>0.05$). The 11.1% of the variation of the laissez-faire leadership variable is interpreted statistically significantly by the variation of the independent variables of the collaborative culture, while their classification in terms of their importance in the prediction is as follows: collaborative leadership (Beta=-0.152, $p<0.05$) teacher collaboration (Beta=0.460, $p<0.05$), professional development (Beta=0.016, $p>0.05$), unity purpose (Beta=-0.178, $p<0.05$), collegial support (Beta=-0.168, $p<0.05$) and learning partnership (Beta=-0.052, $p>0.05$).

Keywords: Greek all-day primary schools, collaborative culture, multifactor leadership model, descriptive/multiple regression analysis, SCS-TF and MLQ 5X-Short questionnaires

1. Introduction

1.1 Statement of the Problem

In the modern era, with successive socio-economic, political, technological, scientific changes and changes in the context of globalization, a trend with a noticeable impact on international education policy, would be impossible not to affect the Greek education system, which is facing its own organizational and management problems.

The school itself, as a micro-community of the wider social system, is affected by the changes that occur, as it is in a process of constant interaction with society. In order to cope with the current changes, it seems indispensable that it incorporates processes to activate the members of the school community, demonstrating flexibility and adaptability so that it can cope with the demands of society and the educational needs of young people. Do education executives or potential school leaders have the opportunity to find a solution to improve and upgrade public education for the benefit of society as a whole?

The function performed by a teacher is difficult since he has to perform a quite complex and demanding task, while every day, he is confronted with a multitude of problems which he is asked to overcome in order to achieve his pedagogical goals. In this effort, the teacher needs the support of all the members of the school community.

Also, the promoted relative autonomy of school units leads to the development of an internal educational policy which, in turn, presupposes the formation of a culture beyond individualism and fragmentation that will have as its principles the collaboration of the members of the school community, participation in decision-making and the effort to adapt to the particular conditions that prevail in the internal and external environment of the organization.

Therefore, each school has the possibility to differentiate itself from other schools, to plan and implement actions that can contribute to its successful response and operation through a network of relationships defined by the collaborative culture. So, to what extent is the prevailing collaborative culture of leaders or potential school leaders formed a dynamic one to the point that it can influence school improvement to the benefit of the school community?

In addition, the hierarchical structure, bureaucracy and constant legislative educational changes of our educational system affect the context of exercising the administrative behavior of leaders and/or potential school leaders. So how are their perceptions formed in full-day elementary schools regarding their leadership behavior, and to what extent are they differentiated in daily school practice?

Predominantly, many studies focus on investigating a possible correlation between leadership behavior models and school culture, fostering a positive or negative relationship. However, the analysis is useful and of greater value if the determinants of collaborative culture are important or no predictor variables of the multifactor leadership model.

1.2 Purpose and Research Questions of the Study

The purpose of this study is to investigate the perceptions of teachers as leaders and/or potential leaders about the style of leadership behavior according to the multifactorial leadership model they adopt and, to a greater extent, choose the collaborative culture model in all-day public primary schools. In addition, it is tested by multiple regression analysis which of the collaborative culture dimensions have the best explanatory power

in predicting the multivariate leadership models. Based on the literature, we designed the current research questions (RQ), which are formulated as follows:

RQ1: To what extent is the model of school cooperative culture chosen in all-day primary schools?

RQ2: What is the dominant model of multifactorial leadership (transformational, transactional, passive) in all-day primary schools?

RQ3: Which of the six (6) independent variables/stretches of the school collaborative culture can hierarchically determine in terms of their interpretive ability the dependent variables «transformational», «transactional», and «laissez-faire» of the multifactor leadership model?

2. Literature Review

2.1 Collaborative School Culture

The organizational culture is the «compass» that directs and guides the way employees think and act and is critical to the values, beliefs, interpersonal behaviors and attitudes of stakeholders in the functioning of an organization (Tharp, 2009) providing a sense of identity, promotes achievement orientation, helping shape standards and patterns of behavior (Haberman, 2013). The role of school culture in classroom management and school improvement goes through the transformation of the culture of individualism to the culture of full collaboration (collaborative culture), based on the types of teacher culture recognized by Hargreaves (1995), which are:

- The model of individualism.
- The model of artificial fellowship.
- The seamless collaboration model.
- The fragmentation or Balkanization model.
- The collaborative culture model

Collaborative culture is considered the key to educational change, improvement and development of the school unit. A great challenge for a school leader is to manage to create a stable organizational educational culture (Alger, 2008), while the role of teachers in the formation of school culture is considered decisive, which is practically not easy and if it is not carried out slowly it can create many problems at school (Therianos, 2006). A necessary condition for the strengthening of the school culture is the collaborative effort of everyone and consequently the introduction of the collaborative culture seems to be strengthened over other forms of culture because the members of the school unit are motivated to search for more effective ways for the academic success of the students (Kythreotis et al., 2010; Waldron & McCleskey, 2010). In addition, through collaborative teacher learning and professional development, school unit members are motivated to look for more effective ways for students' academic success and tensions-conflicts are avoided (Waldron & Mcleskey, 2010; Giakoumi & Theofilidis, 2012; Kapachtsi & Kakana, 2014).

Indeed, following the collaborative culture model, its role goes beyond the exchange of information and opinions and ends up being a collective reflection on man, society, values and life in general that feedback the educational practice (Therianos, 2006). In schools where there is no help for the students and values and hope have stopped dominating their culture, they are characterized as «toxic» (Golia et al., 2013). On the contrary, there are schools where principals and teachers create a positive collegial and collaborative climate by showing special care for students and acting as patterns of people who wish to create a healthy school culture (Peterson and Deal, 1998).

Collaborative culture is an observable and important aspect of the organization's operation, and its basic characteristics that shape it are related to: The form of collaborative leadership that shares power with partners (Davis, 2003). The collaboration of teachers must be at the core of their approach in order for schools to truly provide a learning environment (Reeves, 2006). The professional development, where schools should be clear on the progress they expect of student learning as a result of teacher professional development (Pedder et al., 2005). The existence of a unified purpose, where in order for a group of people to work together in effective ways, there must be a common goal that everyone is working toward, and that is the mission and vision. In addition, collegial support and collegiality, the nature of which is a related but separate concept of collaboration and concerns the degree to which teachers collaborate, the relationships they form (Gabriel, 2005). The earning partnership is through which organizational change and learning are best achieved through the collaboration of all constituents of the school community (Davis, 2003).

2.2 Educational Leadership and Typology

The term leadership is a word that has been incorporated into the technical vocabulary of scientific fields, without being precisely redefined and in the attempt to place it in a conceptual framework, it has been defined based on the characteristics and behaviors of the persons who exercise it, the influence, the patterns of interaction, the role relationships and holding a managerial position (Yukl, 2013).

However, studying the international and Greek literature, the view of leadership as a process, a function of interaction between the leader and the members of the groups, an orientation towards the development of the organization with guidance and commitment to the achievement of common goals emerge as elements of common acceptance (Saitis, 2005). Additionally, differences regarding the identification of leaders and specifically regarding the person who exercises influence, the processes of leadership, the intended purpose of influence, the way in which it is exercised and the results it brings about (Yukl, 2013).

In the educational landscape, it is widely believed that effective leadership is fundamental to educational systems and schools' success (Bush, 2008). A review of the relevant literature identifies a number of alternative and competing theoretical models that provide a way of understanding and interpreting the actions of leaders and, at the same time, a guide to leadership practice (Bush et al., 2019). Thus, various theories were

gradually elaborated and a number of classifications of behavior patterns emerged which in the literature are referred to by the term «Leadership style», while since the mid-1980s the educational research on leadership continues and focuses on new studies with resulting in the creation of a trend called «New leadership» whose forms initially include the approaches of charismatic, visionary or transformational leadership (Bryman, 2017). At the same time, some authors tried to accumulate the varied perceptions in a wide range of typologies, the most famous being the typology of Leithwood, Jantzi and Steinbach (1999), who identified six models from the examination of 121 articles in 4 international journals. Bush and Glover (2003) extended the typology to eight models, and Bush (2008) to the following nine: Administrative or managerial, collaborative, transformational, ethical, contingent, directive, interpersonal, transactional, and postmodern. Added to these models are the newer ones of distributed leadership (Harris, 2010) and teacher leadership (Wenner & Campbell, 2017).

2.3 Full Range Leadership Theory - Multifactor Leadership Model

The introduction of the theory of transformational leadership is attributed to Burns (1978), according to which the characteristics and behaviors of leaders focus on engaging and motivating followers to work for goals that exceed their self-interest as well as interacting with environmental factors, such as culture. The transformational leadership model is differentiated from the corresponding transactional one, with the characteristics of the latter borrowing elements of social exchange between leader and followers (Bass & Riggio, 2014). Burns claims that these two leadership models are placed at opposite ends of a continuum, with leaders able to exhibit the characteristics of only one model, the transactional or the transformational.

Based on Burns' theory, Bass (1985) developed a model of transformational leadership by investigating the behavior of leaders in both public and private organizations. According to Bass, the forms of transformational and transactional leadership are distinct but interdependent and mutually complementary (Bass, 1985; Avolio et al., 1999). Transactional leadership, primarily in the form of reward contingency, provides the basis of effective leadership. The largest part of the effort, performance and satisfaction of the employees can come from the transactional form of leadership, but when it is enriched with elements of the transformational model. In fact, transactional practices refer to the handling of daily routine administrative tasks, while the corresponding transformational practices refer to the actions that bring about change in the organization (Leithwood et al., 1996). The above positions reinforce the view that leaders can implement both transactional and transformational policies, shaping their profile accordingly (Bass & Riggio, 2014) and enhancing their effectiveness (Yukl, 2013).

The evolution of the two theories, transactional and transformational leadership, led to the development of the Full Range Leadership Theory, by Avolio and Bass (1991). This theory constitutes the most modern model of New Leadership, known as the Multifactorial Leadership Model, which includes the laissez-faire or passive leadership and has the ability to explain the multidimensional nature of leadership and to record the

predictive factors of leadership outcomes (Antonakis et al., 2003). With reference to its dimensions:

The transformational leadership is characterized by the interaction of leaders with their subordinates, who enhance their creativity and motivation in the organization (Burns, 1978). A transformational leader deals with his subordinates, emphasizes their internal motivation and needs, and seeks not to maintain the "status quo", but provides an incentive for change and innovation to the organization for its benefit (Bass & Avolio, 1994).

The transactional leadership is based on a trading relationship between the leader and their existing team members by offering rewards (Bass, 1990). Transactional leaders cover the needs of their subordinates and try to satisfy them by redeeming their energy (Bass & Avolio, 1994).

A leader who practices laissez-faire leadership avoids making decisions, is usually absent when needed, delaying decisions, and uses his power little while giving complete freedom of action to subordinates to determine their goals and achieve them. This style of leadership can lead to the non-fulfillment of organizational goals, ineffectiveness, and chaos (Avolio & Bass, 2004; Antonakis et al., 2003).

Several studies have investigated the collaborative school culture (Gruenert & Valentine, 1998; Martin, 2009; Teasley, 2017; Veeriah et al., 2017; Tsipas, 2023), the impact of school culture on leadership style (Sahin, 2004; Martin, 2009; Bush, 2011; Ngang, 2011; Arokiasamy, 2017; Nogadas & Apostol, 2024) and the relationship between organizational culture of school improvement and effectiveness (Kythreotis et al., 2010; Menon-Eliophotou & Athanasoula-Reppa, 2011; Bland, 2012; Narayan, 2016). There are fewer references to Greece and limited to the role of culture and leadership in education (Athanasoula-Reppa, 2008; Golia et al 2013; Giatra, 2019), to the school improvement through collaborative action research (Kapachtsi, & Kakana, 2014).

3. Research Methodology

3.1 Research Design and Participant Profiles

Our study methodologically follows the principles of applied quantitative research in the social sciences, which requires as large a representative sample of participants as possible in order to reach generalizable conclusions to a wider population and includes descriptive and correlational analysis (Cohen et al., 2007). Descriptive analysis captures respondents' perceptions of the research variables, while correlational analysis explores the degree to which variables are related (Cresswell, 2012).

The sample of the research was nationwide and as representative as possible, with particular emphasis on its geographical stratification at the Region-Prefecture level and is part of a wider survey during the period 2019-2021. The population of the research was general education and specialist teachers in the randomly selected all-day public primary schools. Data distribution and collection were performed through the Google forms

online application, while the final sample included (N=782) correctly answered questionnaires.

The participation rate of the research sample was 40.2% men and 59.8% women. In terms of age, 11.51% are from 25 to 34 years old, 48.92% are from 35 to 44 years old, 29% are up to 35 years old, 38.8% are 36 to 45 years old, 28.4% are 45 to 55 years old, and 11.3% are up to 56 years old, while in terms of years of service, the majority of teachers (74.4%) have from 1 to 20 years of service. In relation to the position in the school unit, 18.3% are principals, 12.9% are deputy principals, and 68.8% are teachers. Regarding the level of education, 29.4% have a university first degree, 16.8% a second degree, 10.1% teacher training, 41.8% had a master's degree, and 1.9% had a doctorate. Regarding knowledge of a foreign language and of ICT, 75.3% and 89.1%, respectively, have certified training, while 24.7% and 10.9% respectively, no. In relation to the type of primary school in which the teachers serve, 47.4% serve in small rural schools and 52.6% in urban schools. Finally, depending on the geographical location of the school, a percentage of 30.2% serve in urban areas, 36.3% serve in semi-urban areas, and 33.5% serve in rural areas.

3.2 Research Instruments and Data Analysis

To assess the collaborative culture, the School Culture Survey-Teacher Form (SCS-TF) questionnaire by Gruenert and Valentine (1998), was used. This contains (35) items listed under six (6) dimensions/factors including collaborative leadership (12 questions), teacher collaboration (16questions), professional development (5 questions), unity of purpose (5 questions), collegial support (4 questions) and learning partnership (4 questions), while the scale is scored as follows:1=strongly disagree, 2=disagree, 3=slightly disagree, 4=agree and 5= strongly agree.

The Multifactor Leadership Questionnaire (MLQ-5X-Short) developed by Avolio and Bass (2004) was chosen in which the respondents were invited to declare the degree of agreement/ disagreement using a 5-point scale. This includes (36) questions that identify and evaluate the leadership components of the three styles of the Multifactor leadership model and, more specifically, (20 questions) for transformational, (12 questions) for transactional, and (4 questions) for laissez-faire leadership. The using scale is scored as: 0=not at all, 1=once in a while, 2=sometimes, 3=fairly often, 4=frequently, if not always.

The (SCS-TF) and (MLQ-5X-Short) questionnaires have been translated into the Greek language and weighted on the Greek data by Tsipas (2023) and Patsatzaki (2017), respectively. The data analysis was performed using the following tools of the S.P.S.S. (version 24) (Anastasiadou, 2013):

1) Cronbach's alpha indicators and normality tests.
2) Descriptive analysis methods were used to obtain frequency (N), percentage (%), mean (M), standard deviation (Sd), Xmin and Xmax.
3) The coefficient of determination R^2, a measure of the interpretative capacity of multiple regression analysis, is used to determine the percentage of the total variability of the dependent variables that is affected by the independent variables.

The reliability check of SCS-TF and MLQ 5x-short questionnaires showed Cronbach's alpha=0.815 and alpha=0.833, respectively, which confirm their reliability, as index values greater than 0.7 are considered satisfactory (Field, 2005). The survey sample was analyzed with the Kolmogorov-Smirnov test, and it was found that the data were normally distributed. Therefore, parametric tests could be used.

The significance level of statistical tests was set at $p < 0.05$.

4. Research Findings

4.1 Description of *Teachers' Perceptions* of the Collaborative School Culture

The descriptive analysis (Table 1) revealed that the mean score of collaborative leadership in the studied schools was (M=3.58, Sd=0.40). Despite the existence of some extreme values, with a minimum of 1.90 and a maximum of 5.00 the respondents are distinguished by their moderate to high perception of participative leadership that shares power with partners, given that one's school leadership is not exercised exclusively within the leader(s) because there are different members who can play different formal roles. The average for teacher collaboration in the studied schools was (M=3.35, Sd=0.42). Despite the existence of some extreme values, with the minimum value being (2.00) and the maximum being (4.70), the respondents are distinguished by their moderate to high perception of teacher collaboration. However, not all educators may readily embrace the idea of collaborative practices, which cannot be imposed on a school but must be an agreed principle, a seemingly inherent principle.

The average for the Professional development factor in the studied schools was (M=3.50, Sd=0.42). Despite the existence of some extreme values, with the minimum value being (1.60) and the maximum being (4.80), the respondents are distinguished by a relatively high perception of professional development, which is a series of activities to update knowledge-skills derived from their participation in certified activities.

Table 1: Descriptive analysis of the Collaborative
school culture and the Multifactor leadership model

	Mean	Sd	Xmin	Xmax
Collaborative school culture				
Collaborative leadership	3.58	0.40	1.90	5.00
Teacher collaboration	3.35	0.42	2.00	4.70
Professional development	3.50	0.42	1.60	4.80
Unity of purpose	3.71	0.47	1.80	5.00
Collegial support	3.59	0.49	1.50	5.00
Learning partnership	3.58	0.47	1.50	5.00
Multifactor leadership model				
Transformational leadership	2.97	0.56	1.0	4.0
Transactional leadership	2.25	0.62	0.0	4.0
Laissez-faire leadership	1.39	0.99	0.0	3.8

The mean score for the Unity of purpose factor in the studied schools was (M=3.71, Sd=0.47). Despite the existence of some extreme values, with a minimum (1.80) and a maximum (5.00), the respondents are distinguished by a fairly high perception of the formation of common goals that will push them into a more cohesive working relationship.

The average for collegial support in the schools surveyed was (M=3.59, Sd=0.49). Despite the existence of some extreme values, with the minimum value being (1.50) and the maximum being (5.00), the respondents are distinguished by a relatively high perception of the process of forming collective and peer support.

The mean score for the Learning partnership in the studied schools was (M=3.58, Sd=0.47). Despite the existence of some extreme values with a minimum of (1.50) and a maximum of (5.00), the respondents are distinguished by a relatively high perception of the adoption of educational partnership as a key means of achieving organizational change.

4.2 Description of Teachers' Perceptions of the Multifactor Leadership Model

From the analysis of the research data (Table 1), we conclude that the overall average value of transformational leadership is relatively high (M=2.97) with (Sd=0.56), which indicates that the majority of respondents adopt the specific leadership style behavior. It is thus established that they possess a sense of responsibility for their mission, inspire confidence in their partners, project a hopeful vision, encourage innovative thinking, perceive others as distinct personalities and facilitate the achievement of their individual needs.

Despite the existence of some extreme values, with the minimum value being (1.00) and the maximum being (4.00), the relatively high mean value suggests that respondents act with integrity, a high sense of responsibility, project an exciting ambitious vision for the future, emphasize development of a collective sense of the school's mission and have the ability to perceive their colleagues and subordinates as distinct personalities capable of acting according to their individual needs and interests. The overall mean value of transactional leadership is (M=2.25, Sd=0.62), which shows that although it is adopted and applied, it is not the prevailing choice by the respondents. It is found that the respondents have as a compass of their leadership behavior to fulfill their commitments to those who achieved their goals and reward them. It is this transaction reward for good performance and consequences for poor performance that characterizes the effectiveness of transactional leadership.

Despite the existence of some outliers, with the minimum value being (0.00) and the maximum being (4.00), it is found that most respondents express their satisfaction when staff meet their expectations, commit to a performance of rewards to team members for their performance when objectives are achieved and allow the ''status quo'' to exist as long as things are going well and do not appear to intervene in a perpetuating problem situation except in exceptional cases when standards and procedures are not followed.

For the laissez-faire leadership (M=1.39, Sd=0.99), it is found that most teachers distance themselves from this style of leadership behavior because, in practice, it represents a lack of leadership. In addition, they realize that avoiding making decisions on important issues, being absent when they are needed, and generally not exercising leadership duties can lead to non-fulfillment of organizational goals and inefficiency.

Despite the existence of some extreme values, with the minimum value being (0.00) and the maximum being (3.80), it is suggested that the leadership behavior of the respondents differs from the exercise of passive leadership because they do not fail to take responsibility or make decisions on serious matters.

4.3 Results of Multiple Regression Analysis

To investigate the research question (RQ3), a multiple regression analysis was carried out using the enter technique to determine which of the six (6) dimensions of the collaborative culture model has the best interpretive ability in terms of predicting the multifactorial leadership model with the selection of the coefficient of determination R^2. The R^2 coefficient of determination, as a measure of the explanatory power of the regression, identifies the proportion of the total variability of the multifactorial leadership model that the research model explains.

Table 2: Multiple regression results in prediction of the transformational leadership variable

	Model Summary					
	R	**R Square**	**Adjusted R square**		**Std. Error**	**N**
	0.640	0.410	0.405		0.3223	782
Model 1	**ANOVA**					
		Df	**Sum of Squares**	**Mean Square**	**F**	**Sig.**
	Regression	6	55.804	9.301	89.57	0.000
	Residual	775	80.478	0.104		
	Total	781	136.282			
	Coefficients					
Model 1		**Beta**	**Std. Error**	**t**	**Sig.**	**Lower Bound**	**Upper Bound**
Constant		0.379	0.139	2.737	0.006	0.107	0.651
Collaborative leadership		0.353	0.036	9.785	0.000	0.282	0.424
Teacher collaboration		-0.176	0.030	-5.776	0.000	-0.235	-0.116
Professional development		0.053	0.032	1.637	0.102	-0.105	0.116
Unity of purpose		0.181	0.030	6.009	0.000	0.122	0.240
Collegial support		0.231	0.028	8.287	0.000	0.176	0.286
Learning partnership		0.054	0.029	1.833	0.067	-0.004	0.111
Criterion variable: Transformational leadership **Predictors:** Constant, Collaborative leadership, Teacher collaboration, Professional development, Unity of purpose, Collegial support, Learning partnership							

Regarding the interpretive ability of the model, it emerged that 40.5% (Adjusted R square=0.405) of the variation of transformational leadership is explained by the variation of the model. Furthermore, the analysis shows that the slope of the regression line is significantly different from zero, with $F_{(6, 775)}=89.57$, $p<0.05$, with our model showing a good fit (Table 2).

In addition, the model proves as statistically significant the estimator of the coefficient of the constant (B=0.379, $p<0.05$), as statistically significant the positive impact of the collaborative leadership variable (Beta=0.353, $p<0.05$), of the unity purpose variable (Beta=0.181, $p<0.05$) and of the collegial support variable (Beta=0.231, $p<0.05$), as significant the negative impact of the teacher collaboration variable (Beta=-0.176, $p<0.05$), while rejecting as not statistically significant the positive effect of the professional development variable (Beta=0.053, $p>0.05$) and of the learning partnership variable (Beta=0.054, $p>0.05$).

Table 3: Multiple regression results in prediction of the transactional leadership variable

	Model Summary					
	R	R Square	Adjusted R square		Std. Error	N
	0.436	0.190	0.184		0.365	782
	ANOVA					
Model 1		Df	Sum of Squares	Mean Square	F	Sig.
	Regression	6	24.240	4.040	30.31	0.000
	Residual	775	103.306	0.134		
	Total	781	127.546			
	Coefficients					
Model 1		Beta	Std. Error	t	Sig.	Lower Bound	Upper Bound
Constant		1.379	0.157	10.605	0.000	1.357	1.973
Collaborative leadership		0.113	0.041	2.767	0.006	0.033	0.193
Teacher collaboration		0.382	0.035	11.069	0.000	0.314	0.449
Professional development		0.081	0.036	2.221	0.027	0.009	0.152
Unity of purpose		-0.133	0.034	-3.895	0.000	-0.200	-0.066
Collegial support		-0.192	0.032	-6.067	0.000	-0.253	-0.130
Learning partnership		-0.043	0.033	-1.287	0.108	-0.108	0.022
Criterion variable: Transactional leadership **Predictors:** Constant, Collaborative leadership, Teacher collaboration, Professional development, Unity of purpose, Collegial support, Learning partnership							

According to (Table 3) it appears that 18,4% (Adjusted R Square=0.184) of the variance of the dependent variable transactional leadership is explained by the variance of the model, which presents a good fit with the slope of the regression line being statistically significant different from zero with (Df=6, F=30.31, $p<0.05$).

Also, the model proves as statistically significant the estimator of the coefficient of the constant (B=1.379, $p<0.05$), as statistically significant the positive effect of the collaborative leadership variable (Beta=0.113, $p<0.05$), of the teacher collaboration

variable (Beta=0.382, p<0.05) and of the professional development variable (Beta=0.081, p<0.05), as significant the negative impact of the Unity purpose variable (Beta=-0.133, p<0.05) and of the collegial support variable (Beta=-0.192, p>0.05), while rejecting as not statistically significant the negative effect of the learning partnership variable (Beta=-0.043, p>0.05).

Table 4: Multiple regression results in prediction of the laissez-faire leadership variable

	Model Summary					
Model 1	R	R Square	Adjusted R square		Std. Error	N
	0.343	0.118	0.111		0.581	782
	ANOVA					
		Df	Sum of Squares	Mean Square	F	Sig.
	Regression	6	34.950	5.825	17.26	0.000
	Residual	775	261.623	0.338		
	Total	781	296.573			
	Coefficients					
Model 1		Beta	Std. Error	t	Sig.	Lower Bound	Upper Bound
Constant		2.324	0.250	9.303	0.000	1.833	2.814
Collaborative leadership		-0.152	0.065	-2.332	0.020	-0.279	-0.024
Teacher collaboration		0.460	0.055	8.381	0.000	0.352	0.567
Professional development		0.016	0.058	0.283	0.777	-0.097	0.130
Unity of purpose		-0.178	0.054	-3.285	0.001	-0.285	-0.072
Collegial support		-0.168	0.050	-3.349	0.001	-0.267	-0.070
Learning partnership		-0.052	0.053	-0.980	0.327	-0.155	0.052
Criterion variable: Laissez-faire leadership Predictors: Constant, Collaborative leadership, Teacher collaboration, Professional development, Unity of purpose, Collegial support, Learning partnership							

According to (Table 4) it appears, that 11,1% (Adjusted R Square=0.111) of the variance of the dependent variable transactional leadership is explained by the variance of the model, which presents a good fit with the slope of the regression line being statistically significant different from zero with (Df=6, F=17.26, p<0.05).

Also, the model proves as statistically significant to the estimator of the coefficient of the constant (B=2.324, p<0.05), as statistically significant to the positive effect of the teacher collaboration variable (Beta=0.460, p<0.05), as significant to the negative impact of the collaborative leadership variable (Beta=-0.152, p<0.05), of the unity of purpose variable (Beta=-0.178, p<0.05) and of the collegial support variable (Beta=-0.168, p<0.05), while rejecting as not statistically significant to the positive effect of the professional development variable (Beta=0.016, p>0.05) and the negative effect of the learning partnership variable (Beta=-0.052, p>0.05)

5. Discussion

Concerning Research Question (RQ1), teachers' perceptions are characterized by a relatively satisfactory mean score (M=3.55) of collaborative culture, which shows that they reduce and favor collaboration as their main philosophy, through which in a school with a collaborative culture they reflect and change their priorities and practice, constantly looking for more effective ways for school improvement, according to previous research (Gruenert & Valentine, 1998; Lucas & Valentine, 2002; Ngang, 2011; Menon-Eliophotou & Athanasoula-Reppa, 2011; Kapachtsi & Kakana, 2014; Goumouki, 2017; Patsatzaki 2017). In addition, the research data are in perfect correspondence with the theoretical and empirical analysis of many scholars (Martin, 2009; Waldron & Mcleskey, 2010; Koula, 2011; Teasley, 2017; Veeriah et al., 2017; Giatra, 2019), who demonstrated collaborative culture as the appropriate organizational culture for the development of a productive school unit.

Respondents are distinguished by their relatively high perception of Collaborative leadership (M =3.58, Sd=0.40), which shows that teachers contribute to the formation of a collaborative culture, as a result of their positive perceptions of participatory leadership, which is an important factor for achieving it, as other research supports (Davis, 2003; Veeriah et al., 2017). Moreover, the findings converge with the view of many researchers who argue that the traditional-centralized form of leadership is now outdated and suggest, as a solution, distributed-participative leadership (Harris, 2010), which makes teachers «equal leaders», co-responsible, able to collaborate and to identify with the school mission (Bush, 2011; Menon-Eliophotou & Athanasoula-Reppa, 2011).

The respondents are distinguished by their moderate opinion on the cooperation of teachers (M=3.35, Sd=0.42) which indicates that they have opportunities to collaborate on the design of educational topics and the development of programs and tasks, despite any weaknesses revealed from the absence of more practical forms of collaboration, such as teaching observations, co -teaching and the inability for disagreements in teaching practice to be openly expressed and discussed. Nevertheless, they converge to some extent with the view that for schools to truly provide a learning environment for their students, collaborative practice must be at the core of their approach (Reeves, 2006).

The respondents are distinguished by a relatively positive perception of professional development (M=3.50, Sd=0.42) and consider it quite to absolutely necessary for the modernization of their knowledge-skills. These perceptions are identified with the idea of their continuous training, which is a key element of successful schools (Pedder et al., 2005; Veeriah et al., 2017).

The respondents' relatively high perception of unity of purpose formation with (M=3.71, Sd=0.47) which is the educational mission and vision to which everyone strives to be more effective, seems to be in line with that of Gabriel (2005) which states, that "*a mission statement should focus on goals, what you intend to achieve, rather than theories*".

The respondents are distinguished by a relatively positive perception of the formation of collegial support with (M=3.59, Sd=0.49) which they consider quite

necessary, because they have the opportunity to create permanent relationships, develop into learning partners by investing in each other and improving their achievements, as reported by previous research (Pedder et al., 2005; Gabriel, 2005; Giatra, 2019).

The respondents are distinguished by a relatively positive perception of the adoption of the learning partnership with (M=3.58, Sd=0.47), as a basic means for achieving organizational change and learning. We conclude that the organizational behavior of teachers is in harmony with the views of several authors who argue that organizational change and learning are best achieved with the collaboration of all actors of the school community (Davis, 2003; Athanasoula-Reppa et al., 2010; Narayan, 2016).

Regarding Research Question (RQ2) it is found from the perceptions of the respondents, that they favor transformational leadership (M=2.97, Sd=0.56), as a dominant form of leadership behavior which is the most effective form of leadership (Bass & Avolio, 1994; Menon-Eliphotou, 2011; Day & Antonakis 2011). These results coincide with those of other research that showed moderate to satisfactory application of transformative practices by members of primary education (Goumouki, 2017; Antoniou et al., 2018; Kourkouta, 2018).

The prevailing perception of the transformational style of educational leadership can probably be attributed to the fact that because our country in recent years has experienced an economic and social crisis, supporters of transformational leadership in contrast to those of transactional leadership feel the need to identify the problems of existing unstable situation and thus reveal career opportunities, allay employee fears, project optimism, and promote a vision of the future that will motivate organizational members (Bass, 1990). In addition, another possible explanation is the adoption of transformational leadership practices mainly in centralized and bureaucratic systems, such as the Greek educational system, according to another research (Antonakis, 2001).

The transactional leadership style, although adopted by the respondents to a lower degree (M=2.25, Sd=0.62), reveals their willingness to help their colleagues when they see them trying, despite the fact that the rewards in Greek education are limited to some form of reward or facilitation (grant of leave of absence, more attractive program, etc.). In addition, the adoption of some transactional leadership practices can be attributed to the highly bureaucratic and centralized model applied in Greek education that is classified in the typical management models, according to Bush's (2011) typology and corresponds to transactional leadership, despite claims of greater school autonomy and decentralization of the Greek educational system (Saiti & Saitis, 2012).

Finally, the distancing of the respondents from the laissez-faire leadership style (M=1.39, Sd=0.62), is particularly encouraging and is probably due to the process of selecting leaders in recent years (after 2015), who are assessed on the basis of additional qualifications and not antiquity.

Referring to Research Question (RQ3), it is found that 40.5% of the variance of the dependent variable Transformational leadership is interpreted statistically significantly by the variance of the independent variables collaborative leadership, teacher

collaboration, unity of purpose, collegial support, while the strongest correlation in terms of the collaborative leadership variable shows its importance in the prediction.

The 18.4% of the variance of the dependent variable transactional leadership is statistically significantly interpreted by the variance of the independent variables collaborative leadership, teacher collaboration, professional development, unity of purpose, and collegial support, while the strongest correlation in terms of its importance in the prediction is presented by the variable teacher collaboration.

The 11.1% of the variance of the dependent variable laissez-faire leadership is interpreted statistically significantly by the variance of the independent variables collaborative leadership, teacher collaboration, unity of purpose, collegial support, while the strongest correlation in terms of its importance in the prediction is presented by the variable teacher collaboration.

Interpreting the results of the multiple regression models, we find the emergence of a mild intensity mainly positive relationship between transactional leadership and most of the dependent variables of the collaborative culture, a finding that also appears in previous studies that record a strong positive correlation between transformational leadership and a culture of collaboration and collegiality (Lucas & Valentine, 2009; Martin, 2009; Giakoumi, & Theofilidis, 2012); Turan & Bektas, 2013; Bass & Riggio, 2014; Arokiasamy, 2017; Antoniou et al., 2018; Giatra, 2019).

A similar picture is recorded for the relationship of transactional leadership with most dimensions of the collaborative culture, a finding that agrees with the views of Bass (1998) who states that transformational and transactional leadership, although independent, are still connected to each other because both are related to the needs and desires of employees, while there are specific characteristics of them related to the collaborative culture (Martin, 2009).

An expected finding of the multiple regression models is the negative correlation of laissez-faire leadership with most variables of the collaborative culture except teacher collaboration, which is identical to previous research (Antonakis et al., 2003; Martin, 2009), although the avoidance of exercising leadership is often as important as exercising any form of F.R.L.T. leadership (Judge & Piccolo, 2004).

6. Recommendations

The results of the survey can serve in the field of educational policy to create a culture that leads to the improvement of the quality of public primary education.

Our proposal is to include and develop as a supporting tool in our educational effort the collaborative culture, since the planners of the educational policy help us by providing more space-time and opportunities because this constitutes the atmosphere of the school climate, decisively influencing active participation, collaboration, the introduction of innovative actions, the teacher's professional development, closely related to the formation of their leadership characteristics hence playing an important role in school improvement.

In addition, our suggestion is that leaders and/or potential school leaders should adopt a bipolar practice in their role. To maintain the administrative practices for the orderly functioning of the school and at the same time to integrate in their leadership style elements from the modern theories that best suit their school, cultivating to a greater extent the expanded model of transformational leadership which is recognized as contributing to the transformation and school improvement.

7. Conclusion

In conclusion, a common finding is that it is indeed possible to form and reinforce a healthy collaborative culture and develop more meaningful partnerships.

Also, the findings reveal that the formation of the transformational leadership style in the Greek all-day primary schools is constantly gaining ground in the leadership practices among the educational staff, despite the centralization and rigidity of the Greek educational system. In fact, the cultivation of transformational and collaborative leadership probably indicates a shift towards the modern model of integrated leadership that places special emphasis on the combination of the transformational, collaborative-distributed and pedagogical leadership (Krüger & Scheerens, 2012).

In general, the multiple regression correlations of the explanatory variables of collaborative culture to the prediction of the variables of the multifactorial leadership model were weaker in intensity and presence than expected.

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