

# The Demographic Profile of School Principals in Greece in Relation to Their Personality and Authentic Leadership

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**Abstract** This paper presents the results of a study conducted in Greece among the principals of the primary and the junior/senior high schools. The study collected information on the principals' personality, authentic leadership and demographics. Characteristics such as their gender, age, teaching experience and educational level comprise their demographic profile which is useful knowledge when attempting to implement targeted leadership training for school principals. Next, these characteristics were related to the five factors of personality to unveil which of them and to what extent affect the well-known and widely used in research traits of extraversion, agreeableness, conscientiousness, emotional stability and openness to experience. Also, they were used to pinpoint their level of effect on the four factors of authentic leadership, namely self-awareness, balanced processing, relational transparency and internalized moral perspective. The results provide interesting insight as to how the demographic characteristics, which have not been researched widely, are related to the Greek principals' personality and authentic leadership. This paper suggests that demographic profiling should be given more attention in research as it seems to significantly relate to both personality and leadership. Therefore, it should be included and taken into consideration by any research aimed to pinpoint the needs, skills and inclinations of school

principals in order to prepare and deliver to them appropriate leadership training.

**Keywords** School Principals, Demographic profile, Personality, Authentic Leadership

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## 1. Introduction

When it comes to attempting to initiate any change or innovation to the school environment, the first factor to take into consideration is the school principal. The principals directly influence the school's performance, the teachers' satisfaction and the students' achievements [1,2]. The principals are the leaders of the school and the leadership model they implement is crucial to its overall trajectory [3]. Therefore, the question for a suitable leadership model for school environments arises. According to recent research, authentic leadership is an appropriate and effective leadership model for schools as it fosters open relationships, positive feelings, job satisfaction and commitment to the organization [4,5]. However, the choice of leadership model and the consistency with which it is implemented is a matter that relates to the principals' personality characteristics [6].

Consequently, in order to acquire a fuller picture of the existing situation in schools, information on the principals' leadership style and their personality should be sought after. In this light, a study conducted in Greek public schools [7] set out to identify several aspects of the school principals' personality and authentic leadership and explore their relationship, given the fact that the leaders' personality is considered a predictor of the development of authentic leadership [8].

Apart from the principals' personality, there are other characteristics that influence their leadership. These characteristics include different elements that pertain to the principals' age, gender, educational background and work experience. The investigation of these characteristics can also be a useful tool before deciding on changes regarding educational policies or management and leadership issues. They can also lead to targeted leadership training, tailored to the principals' abilities and inclinations [9]. The study, therefore, included questions that aimed to unveil the principals' demographic profile and its relationship to their personality as well as the authentic leadership they exercise. The data that were gathered revealed interesting details about the Greek school principals' demographic profile which had not been recorded by research, and these data allowed for conclusions to be drawn in relation to the principals' most prevalent personality characteristics, as well as in relation to their level of authentic leadership.

## **2. Demographics, Personality and Authentic Leadership: A Well Founded Relationship**

Leadership is a central issue to all businesses and organizations since effective leadership ensures the financial and psychological success of all the stakeholders [10]. It bears particular value when it pertains to the school environment, as successful school leaders are responsible for the achievement of the goals and the well-being of all the parties involved – students, teachers, and parents. The relevant literature has attempted to explore several issues that contribute to the choice and implementation of successful leadership. One of these issues that weighs significantly is the leader's personality and in the case of schools, the principals' personality [11,12,13]. Hogan and Kaiser [10] purport that personality tests provide us with the tools to find future leaders and train them accordingly, even though we do not use them as often as we should. Personality is considered an antecedent to leadership in all organisational contexts and should be taken into consideration in choosing and shaping leaders.

Regarding the model that the leaders implement, authentic leadership is the one that has attracted attention in recent years, especially in relation to the school environments. Authentic leadership has been proposed as the model of leadership that can best answer the challenges of our times. The corporate world is stigmatised by

illegitimate practices and bad managerial decisions that result in financial problems, disappointment and distrust [14,15]. Authentic leadership is rooted in the leader's strong moral values and deep self-awareness. It is a positive, unbiased, balanced, value-laden model of leadership that promotes trust, transparency and word-action consistency [16]. It is considered a model that can inspire and urge all the involved parties to achieve organisational goals and preserve well-being [17]. Schools are considered an appropriate context that can benefit from the implementation of authentic leadership [4] since they are complex environments that are largely responsible for the education and the mental, emotional, interpersonal and social development of the most sensitive members of society, children and adolescents. Authentic leadership can contribute to the creation of a trusting, supportive, ethical, optimistic environment for teachers and students to take advantage of. The development of such an environment is the responsibility of the principal [3].

Since the choice and implementation of a leadership model is the principals' responsibility, research has taken an interest in their personality as well as their demographic profile, as they are considered factors that affect such a choice [11]. Several studies have engaged in researching the relationship between personality, demographic characteristics and leadership. According to Furnham, Eracleous, and Chamorro - Premuzic [18] any attempts to change leadership attitudes without considering the effects of individual differences may not be successful. Individual differences, as they are outlined by the leaders' personality and demographical profile, can affect the success of an intervention and contribute to the design of effective plans that are better suited to the principals' personal characteristics. Furthermore, a study attempting to contribute to the question whether leaders are born or developed along with their personalities over time, concluded that the characteristics of gender, age, working experience and educational background significantly predict the preferred leadership style [19]. In addition, accurate information on personality and the demographic profile can be used to ameliorate other aspects of an organizational context the leader is responsible for, such as employee performance [20].

Barbuto Fritz, Matkin and Marx [21] pinpoint that the age and the educational level in relation to leadership have not been included in relevant studies as independent variables, with existing research mainly focusing on retired leaders, leaving out the age-critical period of actual leadership exercising. Zacher, Rosing, and Frese [22] also identify a lack of research regarding age and its relationship to leadership. This issue requires further research as the leaders' knowledge and motivations evolve with age because of the accumulation of critical life events, so they are likely to adapt or change their leadership style. Rosing and Jungmann [23] purport that the age-leadership relationship has begun to emerge in studies and its value is now recognised. According to

their review of relevant studies, as the leaders' age increases, the more they care about their relationship with the group and prioritize decisions made based on common ground. This view is reinforced by more research which purports that age affects the decision making process, as older leaders are more open to cooperation and joint decision making [24]. Other research also claims that the leaders' age and educational level affect their leadership styles [25].

Further research has concluded that the leader's demographic profile can modify leadership behaviors [26], and demographics and personality can influence the perceptions of leader effectiveness [27]. More specifically, gender seems to affect the decision making process in organizations, with women residing to more democratic and inclusive ways to reach consensus, opting for more collaboration and open communication when compared to men [28]. According to Eagly, Johannesen-Schmidt and van Engen [29], women score higher in transformational leadership than men. Also, women are more oriented to the interpersonal part of communication [30] and to personalized interest [31]. However, even though gender is an important factor examined in relation to a number of human activities, from risk-taking to leadership exercising [32,33], the relation between gender and authentic leadership specifically, has been examined only in recent years [34]. Apart from the notion that authentic leadership can be the next effective model that will reinstate trust to the damaged business environment, the idea that had women occupied leading positions, problematic decisions would have been avoided, has emerged [35]. In this light, Kotzé and Nel [36] purport that the relationship between gender and authentic leadership has not been explored as most researches treat authenticity as neutral regarding gender; this happens due to the theoretical construct of authentic leadership, which does not include gender as a contributing factor for its development. Liu, Cutcher, and Grant [35] pinpoint that authenticity is likely related to prevailing socially defined gender norms, so there is a need to investigate the relationship between gender and authentic leadership in order to elucidate its true dynamics. Other researches purport that gender is not a crucial factor for leadership attitudes, but other demographic characteristics are, such as experience and time spent on the job [37]. Regarding the years of experience, it is interesting to note that one research suggests that experienced women in leadership positions show no difference in their leading skills in comparison to experienced men [38], signifying that the experience and the time spent in leadership positions may balance any differences between genders.

In light of the above, the present study aims to add to the relevant literature that explores the relationships that exist between the principals' demographic profile and their personality, as well as authentic leadership in the context of Greek public schools.

### 3. Participants and Materials

The sample comprises of the population of the 7,582 principals of the public elementary and junior/senior high schools in Greece (N=7,582); with a confidence level at 95% the answers should amount to approximately 380. The questionnaires were answered by 492 principals. The study employed the Big Five Inventory (BFI) to outline the school principals' personality according to the Five Factor Model, which purports that personality comprises of extraversion, agreeableness, conscientiousness, emotional stability/neuroticism and openness to experience. The Authentic Leadership Questionnaire (ALQ) was used to pinpoint the level of their authentic leadership as a whole; simultaneously, the level of the four factors authentic leadership is composed of (self-awareness, balanced processing, relational transparency and internalized moral perspective), was revealed. The study also included demographic questions, which were chosen on the basis of the nature and the status of the profession in Greek public schools. All school principals in Greece hold a university degree in specific fields related to education, they are all experienced teachers, as spending several years teaching before applying for the principal's position is mandatory, and they all receive the same salary, according to their years of service, regardless of their qualifications. Therefore the questions included in the study sought information on the following characteristics: the principals' gender, age, years of teaching experience, training and post graduate studies.

These demographic characteristics are treated as the independent variables of the research. The study's aim was twofold; to clarify the relationship between these characteristics and the five categories of personality traits according to the Five Factor Model and to pinpoint the relationship between these characteristics and the four authentic leadership factors.

## 4. Results

### 4.1 The Principals' Demographic Profile

Regarding the outline of the principals' demographic profile, the descriptive statistics' results revealed that:

- 56.3% are principals of junior/senior high schools while 43.7% are principals of elementary schools.
- 58.2% are men and 41.8% are women.
- 88.1% of the principals are older than 50 years old. (30-39 years old: 3.1%; 40-49: 8.8%; 50-59: 70.6%; over 60:17.5%)
- 67.9% have more than 25 years of experience as teachers. (10-14 years: 3.3%; 15-19: 8.7%; 20-24: 20%; over 20: 67.9%)
- 69.3% hold a post graduate degree, 13.9% hold a doctorate degree and 67.9% have attended training in management.

The next step was to employ inductive statistical analysis in order to pinpoint to what extent the characteristics of the principals' demographic profile, as the independent variables of the study, affect the principals' personality and their authentic leadership.

### 3.2. The Relation between the Demographic Profile and Personality

A two-sample t-test was performed to compare the personality characteristics of principals in primary and secondary education. A significant difference in the trait of openness to experience between primary ( $M = 3.9181$ ,  $SD = .55569$ ) and secondary education principals appeared ( $M = 4.0732$ ,  $SD = .51336$ );  $t = -2.943$ ,  $p = .003 < .01$ : (Table 1)

- The principals employed in junior/senior high schools are more open to experience than those employed in primary education.

A two-sample t-test was performed to pinpoint the relation regarding the principals' gender and their demographic profile. There was a statistically significant difference in the trait of extraversion between male ( $M = 3.549$ ,  $SD = .48688$ ) and female principals ( $M = 3.8406$ ,  $SD = .51306$ );  $t = -6.251$ ,  $p = .000 < 0.01$ . Also, there was a significant difference in the trait of conscientiousness between male ( $M = 4.2586$ ,  $SD = .54092$ ) and female principals ( $M = 4.4116$ ,  $SD = .44809$ );  $t = -3.278$ ,  $p = .001 < .01$ . Finally, there was a significant difference in the trait of openness to experience between male ( $M = 3.9559$ ,  $SD = .53058$ ) and female principals ( $M = 4.1073$ ,  $SD = .52554$ );  $t = -3.043$ ,  $p = .002 < .01$ : (Table 2)

- Women principals score higher in extraversion, conscientiousness and openness to experience.

**Table 1.** Personality factors and primary/secondary education principals

Personality factors		N	Mean	Std. Deviation	Std. Error Mean
Extraversion	Primary Education	147	3.6259	.50500	.04165
	Secondary Education	315	3.6877	.53018	.02987
Agreeableness	Primary Education	145	4.1326	.46523	.03864
	Secondary Education	313	4.1711	.49378	.02791
Conscientiousness	Primary Education	143	4.2774	.51526	.04309
	Secondary Education	301	4.3407	.50856	.02931
Emotional Stability	Primary Education	148	2.3590	.64274	.05283
	Secondary Education	305	2.2803	.73126	.04187
Openness to Experience	Primary Education	149	3.9181	.55569	.04552
	Secondary Education	306	4.0732	.51336	.02935

**Table 2.** Personality and gender

Gender		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
Male	N	276	274	266	271	272
	Mean	3.5498	4.1606	4.2586	2.3215	3.9559
	Std. Deviation	.48688	.45588	.54092	.67471	.53058
Female	N	196	194	186	191	193
	Mean	<b>3.8406</b>	4.1684	<b>4.4116</b>	2.2644	<b>4.1073</b>
	Std. Deviation	.51306	.51476	.44809	.73323	.52554
Total	N	472	468	452	462	465
	Mean	3.6706	4.1638	4.3215	2.2979	4.0187
	Std. Deviation	.51765	.48064	.50987	.69928	.53318

A one-way ANOVA was performed to compare the effect of age on personality. It revealed that there was a statistically significant difference in extraversion between at least two groups; the LSD test for multiple comparisons showed that the mean value of extraversion was significantly different between the age groups 50-59 and 60+ ( $p = .006 < .05$ , 95% CI = [.0569, .3290]). Also, it revealed a statistically significant difference in agreeableness between at least two groups; the LSD test for multiple comparisons showed that the mean value for agreeableness was significantly different between the age groups 30-39 and 50-59 ( $p = .028 < .05$ , 95% CI = [-.5973, -.0340]); 30-39 and 60+ ( $p = .009 < .05$ , 95% CI = [-.6985, -.0995]); 40-49 and 50-59 ( $p = .041 < .05$ , 95% CI = [-.3555, -.0078]); and 40-49 and 60+ ( $p = .010 < .05$ , 95% CI = [-.4665, -.0636]). Lastly, a one-way ANOVA revealed statistically significant difference in conscientiousness between at least two groups; the LSD test for multiple comparisons showed that the mean value of Conscientiousness was significantly different between the age groups 50-59 and 60+ ( $p = .006 < .05$ , 95% CI = [.0585, .3469]): (Table 3)

- The trait mostly related to age is agreeableness. The principals aged 50-59 years old score higher in this characteristic than younger principals, while those over 60 score even higher. Also, the principals aged 50-59 score higher in extraversion and conscientiousness than the other age groups.

A one-way ANOVA was performed to compare the effect of the years of teaching experience on personality traits. It revealed a statistically significant difference in agreeableness between at least two groups; the LSD test for multiple comparisons showed that the mean value of agreeableness was significantly different between the years 10-14 and 15-19 ( $p = .026 < .05$ , 95% CI = [-.5993, -.0388]); 10-14 and 20-24 ( $p = .017 < .05$ , 95% CI = [-.5742, -.0566]); 10-14 and 25+ ( $p = .000 < .05$ , 95% CI = [-.6967, -.2043]); 20-24 and 25+ ( $p = .015 < .05$ , 95% CI = [-.2411, -.0261]). It also revealed a statistically significant difference in emotional Stability between at least two groups; the LSD test for multiple comparisons showed that the mean value of emotional stability was significantly different between the years 15-19 and 20-24 ( $p = .001 < .05$ , 95% CI = [.1676, .6776]), 15-19 and 25+ ( $p = .012 < .05$ , 95% CI = [.0634, .5167]). Finally, a one-way ANOVA revealed a statistically significant difference in openness to experience between at least two groups; the LSD test for multiple comparisons showed that the mean value of openness to experience was significantly different between the years 10-14 and 15-19 ( $p = .000 < .05$ , 95% CI = [-.9154, -.3071]); 10-14 and 20-24 ( $p = .000 < .05$ , 95% CI = [-.8777, -.3215]); 10-14 and 25+ ( $p = .000 < .05$ , 95% CI = [-.8028, -.2758]): (Table 4)

- The principals with 10 to 14 years of teaching experience score lower in agreeableness, neuroticism and openness to experience.

**Table 3.** Personality and age

Age (years)		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
30-39	N	12	12	12	12	11
	Mean	3,6146	3,8333	4,1667	2,2917	3,6000
	Std. Deviation	.44100	.51137	.61864	.46568	.76158
40-49	N	33	34	31	32	33
	Mean	3,6932	3,9673	4,3513	2,3984	4,0091
	Std. Deviation	.50495	.54880	.49864	.76493	.53231
50-59	N	262	264	251	260	263
	Mean	<b>3.6985</b>	<b>4.1490</b>	<b>4.3307</b>	2.2822	4.0163
	Std. Deviation	.51414	.48395	.52970	.68499	.53752
60+	N	68	66	66	66	67
	Mean	3.5055	<b>4.2323</b>	4.1279	2.4697	3.9448
	Std. Deviation	.49740	.45069	.52956	.83062	.52636
Total	N	375	376	360	370	374
	Mean	3.6603	4.1371	4.2898	2.3260	3.9906
	Std. Deviation	.51173	.49082	.53431	.71556	.54516

**Table 4.** Personality and teaching experience

Teaching Experience		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
10-14 years	N	15	15	14	14	16
	Mean	3.5083	3.7630	3.9921	2.4911	3.4813
	Std. Deviation	.46162	.67829	.74912	.74270	.90570
15-19	N	43	42	38	41	40
	Mean	3.6657	<b>4.0820</b>	4.2456	<b>2.5884</b>	<b>4.0925</b>
	Std. Deviation	.39219	.50416	.56014	.69498	.52349
20-24	N	94	95	92	95	94
	Mean	3.7141	<b>4.0784</b>	4.3623	<b>2.1658</b>	<b>4.0809</b>
	Std. Deviation	.56369	.51146	.43702	.69989	.48621
25+	N	321	317	309	313	316
	Mean	3.6636	<b>4.2135</b>	4.3323	<b>2.2983</b>	<b>4.0206</b>
	Std. Deviation	.52181	.44668	.50953	.69063	.50877
Total	N	473	469	453	463	466
	Mean	3.6689	4.1599	4.3206	2.3026	4.0204
	Std. Deviation	.51813	.48185	.51132	.70093	.53222

**Table 5.** Personality and post graduate degree

Degree		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
Yes	N	314	309	301	305	305
	Mean	<b>3.7054</b>	4.1453	4.3415	2.2734	<b>4.0918</b>
	Std. Deviation	.54013	.46927	.50162	.68090	.49161
No	N	134	134	128	132	136
	Mean	<b>3.5644</b>	4.2048	4.2812	2.3362	<b>3.8640</b>
	Std. Deviation	.45102	.52433	.53277	.72495	.56328
Total	N	448	443	429	437	441
	Mean	3.6632	4.1633	4.3235	2.2923	4.0215
	Std. Deviation	.51864	.48675	.51123	.69427	.52481

A two-sample t-test was performed to compare the principals' postgraduate studies and their personality. There was a significant difference in extraversion between principals with postgraduate studies ( $M = 3.7054$ ,  $SD = .54013$ ) and those without ( $M = 3.5644$ ,  $SD = .45102$ );  $t = 2.851$ ,  $p = .005 < .05$ . Additionally, there was a significant difference in openness to experience between principals with postgraduate studies ( $M = 4.0918$ ,  $SD = .49161$ ) and those without ( $M = 3.8640$ ,  $SD = .56328$ );  $t = 4.293$ ,  $p = .000 < .05$ : (Table 5)

- Principals who have completed post graduate studies score higher in extraversion and openness to experience.

A two-sample t-test was performed to compare principals with doctorate studies and their personality characteristics. There was a significant difference in emotional stability between principals with doctorate studies ( $M = 2.0530$ ,  $SD = .66315$ ) and those without ( $M = 2.3504$ ,  $SD = .71422$ );  $t = -2.995$ ,  $p = .003 < .05$ . Additionally, there was a significant difference in openness to Experience between principals with doctorate studies ( $M = 4.1702$ ,  $SD = .57971$ ) and those without ( $M = 3.9904$ ,  $SD = .52093$ );  $t = 2.385$ ,  $p = .018 < .05$ : (Table 6)

- Principals who have completed doctorate studies score higher in openness to experience and emotional stability.

**Table 6.** Personality and doctorate degree

Doctorate degree		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
Yes	N	57	59	59	59	57
	Mean	3.6754	4.2072	4.4162	<b>2.0530</b>	<b>4.1702</b>
	Std. Deviation	.56540	.52175	.42415	.66315	.57971
No	N	367	363	350	361	365
	Mean	3.6604	4.1576	4.3070	<b>2.3504</b>	<b>3.9904</b>
	Std. Deviation	.51962	.48314	.53002	.71422	.52093
Total	N	424	422	409	420	422
	Mean	3.6624	4.1646	4.3227	2.3086	4.0147
	Std. Deviation	.52532	.48837	.51706	.71405	.53208

**Table 7.** Personality and training

Training		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experience
Yes	N	310	307	303	307	305
	Mean	<b>3.7097</b>	4.1716	<b>4.3663</b>	2.2679	4.0403
	Std. Deviation	.51149	.46364	.48799	.67488	.49767
No	N	147	146	136	142	145
	Mean	<b>3.5621</b>	4.1438	<b>4.2206</b>	2.3926	3.9414
	Std. Deviation	.51318	.52053	.55957	.76544	.58566
Total	N	457	453	439	449	450
	Mean	3.6622	4.1626	4.3212	2.3073	4.0084
	Std. Deviation	.51610	.48231	.51503	.70630	.52900

A two-sample t-test was performed to compare the principals with training and their personality characteristics. There was a significant difference in extraversion between principals who have attended training (M = 3.7097, SD = .51149) and those without (M = 3.5621, SD = .51318); t = 2.879, p = .004 < .05. Additionally, there was a significant difference in conscientiousness between principals with training (M = 4.3663, SD = .48799) and those without (M = 4.2206, SD = .55957); t = 2.762, p = .006 < .05: (Table 7)

- Training in management positively affects the principals' extraversion and conscientiousness.

### 3.3. The Relation between the Principals' Demographic Profile and Authentic Leadership

No statistically significant differences were found regarding school principals employed in primary and secondary education and their authentic leadership (Table 8).

A two-sample t-test was performed to compare the principals' gender and the authentic leadership factors.

There was a significant difference in relational transparency between male (M = 4.3570, SD = .45332) and female principals (M = 4.4382, SD = .40381); t = 2.081, p = .038 < .05. Also, there was a significant difference in internalized moral perspective between male (M = 4.3424, SD = .56397) and female principals (M = 4.5294, SD = .48979); t = -3.902, p = .000 < .05. Finally, there was a significant difference in self-awareness between male (M = 4.1083, SD = .53079) and female principals (M = 4.2341, SD = .53400); t = 2.576, p = .010 < .05 (Table 9)

- Women score higher in relational transparency, self-awareness and internalized moral perspective

A one-way ANOVA was performed to compare the effect of age on authentic leadership. It revealed a statistically significant difference in relational transparency between at least two groups; the LSD test for multiple comparisons showed that the mean value of relational transparency was significantly different between the age groups 40-49 and 50-59 (p = .022 < .05, 95% CI = [-.3452, -.0270]), 40-49 and 60+ (p = .033 < .05, 95% CI = [-.3838, -.0162]). A one-way ANOVA revealed a statistically significant difference in balance processing

between at least two groups; the LSD test for multiple comparisons showed that the mean value of balance processing was significantly different between the age groups 30-39 and 50-59 ( $p = .023 < .05$ , 95% CI = [-.7355, -.0561]), 40-49 and 50-59 ( $p = .002 < .05$ , 95% CI = [-.5431, -.1243]), 40-49 and 60+ ( $p = .016 < .05$ , 95% CI =

[-.5409, -.0571]): (Table 10)

- Principals aged over 60 score higher in relational transparency while those aged 50-59 score higher in balanced processing. Relational transparency and balanced processing are positively affected by age.

**Table 8.** Authentic leadership factors and primary/secondary education

Authentic Leadership factors		N	Mean	Std. Deviation	Std. Error Mean
Relational Transparency	Primary Education	153	4.3752	.42010	.03396
	Secondary Education	325	4.3926	.44160	.02450
Internalized Moral Perspective	Primary Education	153	4.4183	.49240	.03981
	Secondary Education	325	4.4269	.56335	.03125
Balanced Processing	Primary Education	153	4.2440	.57099	.04616
	Secondary Education	325	4.2728	.58452	.03242
Self-awareness	Primary Education	153	4.1422	.50309	.04067
	Secondary Education	325	4.1662	.55389	.03072

**Table 9.** Authentic leadership factors and gender

Gender	Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self-awareness
	N	284	284	284
Male	Mean	4.3570	4.3424	4.2559
	Std. Deviation	.45332	.56397	.56207
	N	204	204	204
Female	Mean	<b>4.4382</b>	<b>4.5294</b>	4.2598
	Std. Deviation	.40381	.48979	.60425
	N	488	488	488
Total	Mean	4.3910	4.4206	4.2575
	Std. Deviation	.43473	.54162	.57947



**Table 10.** Authentic leadership and age

Age (years)		Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self-awareness
30-339	N	12	12	12	12
	Mean	4.1333	4.3125	3.8889	3.9375
	Std. Deviation	.71520	.62272	.57443	.57530
40-49	N	34	34	34	34
	Mean	4.2059	4.3309	3.9510	3.9853
	Std. Deviation	.46315	.55637	.72536	.55712
50-59	N	274	274	274	274
	Mean	4.3920	4.4453	<b>4.2847</b>	4.1953
	Std. Deviation	.43045	.52954	.57281	.54698
60+	N	68	68	68	68
	Mean	<b>4.4059</b>	4.2868	4.2500	4.1140
	Std. Deviation	.43705	.63959	.56244	.51910
Total	N	388	388	388	388
	Mean	4.3701	4.4034	4.2371	4.1546
	Std. Deviation	.44864	.55714	.59418	.54683

A one-way ANOVA was performed to compare the effect of the years of teaching experience on the authentic leadership factors. It revealed a statistically significant difference in relational transparency between at least two groups; the LSD test for multiple comparisons showed that the mean value of relational transparency was significantly different between the years 10-14 and 15-19 ( $p = .000 < .05$ , 95% CI = [-.6931, -.2005]), 10-14 and 20-24 ( $p = .001 < .05$ , 95% CI = [-.6255, -.1720]), 10-14 and 25+ ( $p = .000 < .05$ , 95% CI = [-.6756, -.2451]). Also, a one-way ANOVA revealed a statistically significant difference in balanced processing between at least two groups; the LSD test for multiple comparisons showed that the mean value of balanced processing was significantly different between the years 10-14 and 15-19 ( $p = .005 < .05$ , 95% CI = [-.8000, -.1457]), 10-14 and 20-24 ( $p = .000 < .05$ , 95% CI = [-.8761, -.2736]), 10-14 and 25+ ( $p = .000 < .05$ , 95% CI = [-.9275, -.3556]). Finally, a one-way ANOVA revealed

that there was a statistically significant difference in self-awareness between at least two groups; the LSD test for multiple comparisons showed that the mean value of self-awareness was significantly different between the years 10-14 and 15-19 ( $p = .014 < .05$ , 95% CI = [-.6845, -.0757]), 10-14 and 20-24 ( $p = .003 < .05$ , 95% CI = [-.7120, -.1515]), 10-14 and 25+ ( $p = .000 < .05$ , 95% CI = [-.7408, -.2087]): (Table 11)

- Principals with 10 to 14 years of experience score lower in relational transparency, balanced processing and self-awareness compared to the other age groups.

No statistically significant differences were found regarding school principals with postgraduate studies and doctorate studies and the authentic leadership factors (Tables 12, 13).

- Post graduate and doctoral studies are not related to any of the four factors of authentic leadership.

**Table 11.** Authentic leadership and teaching experience

Teaching Experience (years)		Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self awareness
10-14	N	16	16	16	16
	Mean	3.9625	4.1250	<b>3.6667</b>	<b>3.7187</b>
	Std. Deviation	.80073	.88506	.86066	.92139
15-19	N	43	43	43	43
	Mean	4.4093	4.3663	4.1395	4.0988
	Std. Deviation	.38780	.57048	.65155	.52366
20-24	N	98	98	98	98
	Mean	4.3612	4.4362	4.2415	4.1505
	Std. Deviation	.47594	.48867	.61441	.54765
25+	N	332	332	332	332
	Mean	4.4229	4.4420	4.3082	4.1935
	Std. Deviation	.39232	.53027	.52501	.49888
Total	N	489	489	489	489
	Mean	4.3943	4.4238	4.2590	4.1610
	Std. Deviation	.43472	.54199	.57946	.53443

**Table 12.** Authentic leadership and post graduate degree

Post graduate studies		Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self-awareness
Yes	N	320	320	320	320
	Mean	4.3906	4.4211	4.2875	4.1797
	Std. Deviation	.43748	.52506	.53376	.51213
No	N	142	142	142	142
	Mean	4.3972	4.4190	4.1878	4.1250
	Std. Deviation	.43661	.58917	.65047	.57793
Total	N	462	462	462	462
	Mean	4.3926	4.4205	4.2569	4.1629
	Std. Deviation	.43675	.54492	.57330	.53318

**Table 13.** Authentic leadership and doctorate degree

Doctorate studies		Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self-awareness
Yes	N	61	61	61	61
	Mean	4.4066	4.4877	4.2295	4.2131
	Std. Deviation	.38982	.50503	.56615	.53587
No	N	378	378	378	378
	Mean	4.3942	4.4134	4.2566	4.1587
	Std. Deviation	.44216	.54954	.58091	.54225
Total	N	439	439	439	439
	Mean	4.3959	4.4237	4.2528	4.1663
	Std. Deviation	.43487	.54363	.57832	.54109

**Table 14.** Authentic leadership and training

Training		Relational Transparency	Internalized Moral Perspective	Balanced Processing	Self-awareness
Yes	N	321	321	321	321
	Mean	4.4255	4.4696	4.3198	4.2134
	Std. Deviation	.37811	.49099	.50362	.47724
No	N	152	152	152	152
	Mean	4.3329	4.3470	4.1294	4.0641
	Std. Deviation	.52283	.62246	.68844	.62342
Total	N	473	473	473	473
	Mean	4.3958	4.4302	4.2586	4.1654
	Std. Deviation	.43157	.53914	.57577	.53256

A two-sample t-test was performed to compare the principals who have attended training and the authentic leadership factors. There was a significant difference in internalized moral perspective between principals who have had training (M = 4.4696, SD = .49099) and those who have not (M = 4.3470, SD = .62246);  $t = 2.320$ ,  $p = .021 < .05$ . Also, there was a significant difference in balanced processing between Principals with training (M = 4.3198, SD = .50362) and those without (M = 4.1294, SD = .68844);  $t = 3.046$ ,  $p = .003 < .05$ . Finally, there was a significant difference in self-awareness between principals with training (M = 4.2134, SD = .47724) and those without (M = 4.0641, SD = .62342);  $t = 2.611$ ,  $p = .010 < .05$ : (Table 14)

- Principals with training in management score higher in internalised perspective, balanced processing and self-awareness.

## 5. Discussion

### 5.1. Demographics and Personality

Secondary education principals are 56.3%, while 43.7% are employed in primary education. Regarding their gender, men are 58.2% and 41.8% are women. This marks a rise in women holding the principal’s position in Greek schools, compared to the results of similar researches by Brinia and Papantoniou[39] and by Argyriou[40]. Lazaridou and Beka [41] point out that the relationship between the school principals’ gender and their personality traits needs to be addressed further by the relevant research. Their research did not find significant differences regarding the principals’ personality traits and their gender, a finding which, as they note, contradicts the relevant literature. For example, differences in personality characteristics attributed to gender were revealed by the research of Costa, Terracciano and McCrae [42]. The present research found that women are more extroverted, more conscientious, and more

receptive to experience than men, marking therefore differences in their personalities.

Regarding the principals’ age, given the fact that in order for teachers to apply for the position of principal they must have some years of experience in teaching, most principals are expected to be over 40 years old. In particular, the vast majority of principals belong to the age group of 50-59 years old (70.6%); therefore the traits of this age group are of particular importance. More specifically, the age group 50-59 years old scores higher in agreeableness. The trait of agreeableness appears to improve over the years; the principals over 60 also show increased agreeableness, a finding that agrees with the view that agreeableness increases with age [42]. The age group 50-59 years old also scores high in conscientiousness, higher than principals over 60 years old. Therefore, the characteristics that emerge as dominant in the principals aged 50-59 years old who constitute the majority of principals in Greek schools pinpoint that they are agreeable, conscientious and hardworking.

Since nearly 9 in 10 principals (87.9%) have worked as teachers for over 20 years before becoming principals, they are definitely experienced in the fields of teaching and school culture in general. The findings show that teaching experience relates positively to extraversion, agreeableness, conscientiousness, and openness to experience. Principals with more than 15 years of teaching experience score higher on all these characteristics than principals with less experience as teachers (10-14 years). According to Patrick [43], the desirable characteristics for a teacher are extraversion, agreeableness, conscientiousness and openness to experience, while high neuroticism is not. If these traits are enhanced through the years of teaching experience, they will be put to practice when teachers become principals. This may counter balance the findings by Haris Afdaliah, Budiman and Haris[44], who claim that teachers do not become successful school leaders because they lack relative preparation. Experience in teaching positions may not boost the principals’ leadership skills,

but it does increase extraversion, agreeableness, conscientiousness, and openness to experience, characteristics which contribute to successful leadership.

Another interesting finding concerns the principals' education and training, in addition to their undergraduate studies. Specifically, 69.3% have a master's degree and 13.9% have a doctorate, while 67.9% have completed training in management and leadership. Since there is no mandatory introductory or in-service leadership training, nor are graduate studies in leadership required for school principals, these findings reflect their willingness and engagement to enhance their knowledge and develop their skills in management and leadership issues. Still, these percentages fall behind those noted in other countries [45]. Focusing on their personality traits, it is stressed that principals with a master's degree score higher in extraversion and openness to experience. Therefore a master's degree positively relates to extraversion, an important personality trait associated with successful leadership [46]. Additionally, doctorate degree holders score higher in openness to experience and lower in neuroticism, i.e. they are characterized by emotional stability. Thus, they are more creative, more open to ideas and they seek new knowledge [47]. They are also more calm, self-confident and stable. Johnson and Hill [48] note that effective leaders score low on neuroticism, that is, they possess high emotional stability. Finally, principals with training in management also score higher on extraversion and conscientiousness.

## 5.2. Demographics and Authentic Leadership

Regarding the relationship between gender and authentic leadership, the present study showed that the independent variable of gender relates to the factors of authentic leadership. Women score higher on relational transparency, internalized moral perspective, and self-awareness. Therefore, authentic leadership seems to be influenced by gender and specifically women are more authentic leaders than men, reinforcing the view that women make authentic leaders. In relevant studies women also score high in transformational leadership [29,39]. In addition, women are more engaged to their working positions [49].

The present research found that age relates to the factors of authentic leadership, all of which increase as principals get older. Principals aged 60+ score the highest on relationship transparency while those aged 50-59 score the highest on balanced processing. Similar findings are reported by Barbuto et al. [21], who found that leaders over 46 years old scored higher in transformational leadership, specifically in influence, effectiveness, intellectual alertness and individualized interest than younger leaders. Most principals are 50-59 years old (70.6%) and the fact that their balanced processing is enhanced means that they have developed the skills related to understanding issues in their right

dimensions in order to choose the best course of action [50].

Teaching experience is considered essential for successful school principals as it provides them with solid knowledge of teacher-learner interaction as it occurs in the classroom [51,52]. Teachers are considered to become better school leaders as their proximity to the core of the teaching process increases the possibility that their leadership will make a difference in the school climate and the students' performance [53]. The years of teaching experience are treated as an independent variable in this research in order to reveal the correlation between teaching experience and authentic leadership. Principals with little experience in teaching (10-14 years), record worse results in relational transparency, balanced processing and self-awareness, compared to all the others. As the years spent in teaching positions increase, so do the factors of transparency, balanced processing and self-awareness.

Regarding the principals' educational level, training in leadership shows correlation with authentic leadership while masters' and doctoral degrees do not appear to be related. This does not confirm the findings by Barbuto et al. [21], who purport that as the educational level increases, transformational leadership increases - although the scale they used differs as it includes high school graduates, bachelor's and master's degree holders, while for the principals in Greece, the minimum qualification is a university degree. The findings of the present research show that principals who have had training in leadership score higher in internalized moral perspective, balanced processing and self-awareness. This seems to reinforce the view that the most appropriate way to develop authentic leadership is through targeted training in authentic leadership practices [54-56]. According to Whetten and Cameron [57] the abilities of the successful leader are perfectly possible to develop and evolve. Another research examined teacher leadership in relation to gender, teaching experience, educational level and targeted training on professional development. All these elements positively correlated with teacher leadership, with targeted training affecting it the strongest [58]. This is why training and the development of practical leadership skills are so important. The finding regarding leadership training pinpoints the importance and the necessity for targeted training in authentic leadership for school principals in Greece.

## 6. Conclusion

The need for focused and effective principals' training in leadership should be central in any effort for school reform on national level. A good example is the Swedish national principal training programme, which is compulsory for school principals and covers important aspects of leadership for schools [59]. However, the content of such training should focus on the participants themselves, their

needs and their characteristics in order to achieve maximum results. If the new leading skills the training intends to instill to the participants are not aligned to their level of abilities, the training may not succeed [60]. Elements such as the principals' age, gender, experience and educational level are considered antecedents to the development of leadership [61]. This research indicates that the demographic profile of the school principals relates both to their personality and their authentic leadership. Therefore the mapping of their profile will facilitate deciding on and implementing appropriate leadership training. Another positive result of the research is the fact that the school principals in Greece are active in pursuing further academic degrees and training and are willing to enhance their knowledge and skills, striving to ameliorate their performance [62]. It is therefore important that authorities take advantage of their positive stance towards learning and organize training suited to their profile and needs to help them cope with the growing demands of their position.

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