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Investigating the relationship between the professional burnout of Greek nursing staff and their leadership styles

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Abstract

The present research investigated the relationship between the burnout syndrome and the different types of leadership adopted in nurses and compared these variables in the public and private sectors. The sample consisted of 150 nursing staff working in public hospitals and 90 nursing staff working in a private hospital. The Maslach Burnout Inventory (MBI), Bass and Avolio's (1994) Multifactor Leadership Questionnaire (MLQ) and a demographic and work- related questionnaire were used in order to assess the variables under investigation. Moderate levels of scores were noted in each subscale of the Maslach Burnout Inventory, with the highest scores observed in the emotional exhaustion subscale and the lowest in the depersonalization subscale. The Multifactor Leadership Questionnaire identified transformational leadership as the form of leadership with the highest mean, specifically the dimension of charismatic leadership as a characteristic, but with a slight difference from transactional leadership, while the lowest mean was shown by non-leadership behaviour and the dimension of passive maintenance of the status quo of transactional leadership. Results from linear regression indicated non-leadership or laissez-faire behaviour as a predictor of emotional exhaustion and systematic reinforcement, a dimension of transactional leadership, as a predictor of depersonalization levels (negative direction) and a sense of personal accomplishment. Public sector nurses reported higher levels of burnout than those in the private sector, and public sector nurses also displayed higher ratings of passive forms of leadership, such as maintaining status quo and non-leadership behaviour, which indicates that employees in the private sector appear to be more satisfied and effective.

Keywords

burnout syndrome, leadership, nursing staff, public sector, private sector

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1. Introduction

1.1 The burnout syndrome

The burnout syndrome is a physical, mental and emotional syndrome accompanied by feelings of low self-esteem or low self-efficacy, which are a result of both prolonged exposure to intense stress and its reactions (1). Many definitions have been given, the most prevalent being that of Maslach, Jackson and Leiter (2), according to which it is a syndrome of emotional exhaustion, depersonalization and reduced personal achievement that can occur in people who work with other individuals. The pioneer of research on burnout was the psychiatrist Herbert Freudenberger (3) who collaborated with volunteers that worked in substance abuse treatment settings. Around the same time, social psychology researcher Christina Maslach addressed the same term, focusing her research on health professionals. The fact that it emerged as a tangible social problem that occurs mainly in professionals who come into close contact with people and are carers, such as doctors, nurses, teachers, psychologists and social workers, has attracted an increased research interest (4).

As for the conceptual approaches and models that have been proposed, the most important ones are Maslach's three-dimensional model, Pines' existential motivational model, the Shirom-Melamed (SMBM) model, Edelwich& Brodsky's model, Cherniss' interactive model as well as the mediation model. Considering the first model (2,5) burnout is a multidimensional concept, i.e., it refers to several but related dimensions which are considered as a single theoretical concept. These are:

1. *Emotional exhaustion*. It refers to the feeling of having exhausted one's emotional resources and is the main individual stressor of the syndrome, but also a central element of the syndrome in general.
2. *Depersonalization*. It involves negative, cynical or extremely detached reactions to other people at work and represents the interpersonal element of the syndrome.
3. *Sense of personal accomplishment*. It refers to the feeling of having reduced efficiency and productivity, as well as a reduced sense of self-efficacy. Itis the self-evaluation component of the syndrome.

The symptoms of Burnout are divided into three categories, psychological, physical and behavioural (4,6,7). In more detail:

1. *Psychological symptoms*. Intense stress, boredom, low morale, low job satisfaction, inability to cope with various situations, irritability, apathy, cynicism, negative mood, reduced self- confidence, feelings of failure, difficulty in concentrating and making decisions, loss of sense of humour, isolation and lack of flexibility (4,6,7). Furthermore, according to Shirom and Melamed (8), symptoms of depression, anxiety and physical discomfort are observed.
2. *Physical symptoms*. Characteristics related to the typical manifestations of stress and anxiety such as headaches, sleep disturbances, hypervigilance, palpitations, sexual dysfunction, appetite disorders, musculoskeletal pains, exhaustion, weight problems, gastrointestinal problems, prolonged or frequent illnesses-colds, nausea and loss of sexual interest. The severity of the syndrome is also emphasized through other indirect causal pathways that affect the immune system and inflammatory processes and in the long term can lead to conditions such as cancer, cardiovascular disease, infectious diseases, type 2 diabetes, rheumatoid arthritis, hypertension, high cholesterol and triglyceride levels, asthma, allergies and dermatological conditions (4,6,7). However, according to Shirom and Melamed (8), there are conflicting findings arguing that job burnout is not sufficient to make individuals seriously ill.
3. *Behavioural symptoms*. Increased use of alcohol and drugs, frequent absences and resignations, withdrawal, reduced performance, accident proneness, lack of enthusiasm and conflicts (7).

As for the consequences, Leiter and Maslach (9) refer to high economic costs due to frequent absenteeism and reduced employee performance and productivity, but also to legal problems arising from conflicts and disputes within the workplace. The individual factor should not be neglected (9), as the symptoms are often precursors to serious illnesses, both physical and mental (6). In addition, the social and personal life of the individual is affected since problems from the working environment are transferred to a personal level including family and friends. This further increases conflicts and reduces interest in social interactions (4).

1.2 Leadership

The theory around leadership has been dynamic and it changes over time. The earliest references can be found around 1840 by Thomas Carlyle (1). According to these, the leader possesses a certain charisma, which leads to the development of the great man theory and cognitive theories. Since then, several theories have been formulated, as well as many definitions of what ultimately constitutes a leader. Despite being a recent term, it seems to have several meanings. For Chapin (10,11) it is a point of polarization for teamwork, while for Bitpipe it is a management skill that aims to develop and evolve the vision, mission and strategy as well as cultivate and motivate the workforce. Through their observations Bales as well as other researchers (1,11), have concluded that leadership is a result

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of the phenomenon of team dynamics. For Geras (12), a leader is one who influences or guides the members of a group more than others and argues that the term is not limited to political contexts only but encompasses any leadership social role.

Finally, Hollander (1,4,11) defines leadership as the process by which an individual influences a group, with the aim of achieving its desired goals. What is certain though is that there is no single definition broad enough to incorporate all the parameters of leadership since researchers and theorists do not fully agree on its content. Therefore, if we want to give a more comprehensive definition, we could say that leadership is the dynamic process through which one or more individuals emerge that influence the group more than the other members to achieve common goals (1,11,12).

Focusing on the theories around transactional and transformational leadership, early references can be found by Downton (13) in 1973 and later by Burns in 1950, while formal theory, model, metrics and factors were also formulated by Bass. For Burns (4,11,14,15) these two forms are the two poles of the same dimension while for Bass they are two complementary but separate forms of leadership that are equally necessary.

In transactional leadership the leader rewards or punishes the follower according to the adequacy of his performance (4,13,14,16). It takes the following forms:

1. *Positive potential reward through mentoring or participation. It is effective in motivating followers.* To achieve it, the leader assigns a task, communicates what needs to be done and promises rewards or rewards the followers in return for satisfactorily completing the assigned task (4, 11, 13, 14, 16).
2. *Active leadership by exception.* The leader actively monitors deviations and errors and takes corrective action when required (4, 11, 13, 14, 16).
3. *Passive leadership by exception.* The leader waits passively and acts after mistakes occur (4, 11, 13, 14, 16).
4. *Laissez-faire leadership.* It is the avoidance or absence of leadership (4, 11, 13, 14, 16).

A major criticism against the transactional leader is that he sees others as either facilitators or obstacles to his goals, manipulates them, does not trust them and therefore he is not as interested in their well-being as he is in his own, finding it difficult to suspend or synchronize his goals and personal agenda (4).

Transformational leadership extends beyond the completion of tasks and has as a core characteristic vision and investment in quality relationships with fans. It embraces individual differences and provides new learning opportunities along with fostering a supportive climate (4,17). The leader can influence the workers indirectly through behaviors and actions that serve as role models to achieve goals. At the same time, personal contact with followers, careful listening, and control exercised without employees feeling it, provides the leader with a necessary source of information (13). The relationship between ethics and transformational leadership is very important, since as a concept it is central to the leadership process in general. The morality of the transformational leader is one of the main characteristics of the transformational leader. For Burns (14) the primary goal is to elevate the followers' morale to higher levels of morality to achieve the transformation into a better self. Furthermore, transformational leadership is directly related to emotional intelligence. Transformational leaders' control and manage their emotions more effectively, use emotional intelligence to solve problems and better understand the emotions of others. Their efforts to inspire and "transform" their followers are accompanied by emotional strategies such as enhancing self-esteem and self-awareness (4, 14, 16, 17).

The dimensions of Transformational Leadership, according to Athinaiou & Antoniou (17) and Antoniou & Galaktidou (4) are:

1. *The idealized influence (as behaviour)*. It is related to charismatic leadership and concerns the leader's behaviour which emerges as a model of emulation.
2. *Idealized influence (as a trait).* Recognition of the leader's mission and vision by followers and identification with the leader.
3. *Inspirational motivation*. Behaviour that motivates and inspires by giving meaning.
4. *Intellectual stimulation.* The leader encourages engagement in creative and innovative endeavours.
5. *Personalized care.* Achieved through a supportive climate, recognition and respect for individual differences.

2. Aim

The purpose of this study is to investigate the relationship between the burnout syndrome in nursing staff and the leadership styles adopted in healthcare organizations. More specifically, it was examined whether a particular leadership style is associated with the higher levels of the burnout syndrome as reported by nurses and whether a particular leadership style is systematically adopted in healthcare facilities (10, 18). These variables were compared in nurses working in public and private institutions.

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3. Method

3.1 Participants

A total of 240 nurses participated in this research. More specifically, 90 (37,5%) participants came from a private clinic in Athens and 150 (62,5%) from two public hospitals in the prefecture of Attica. Women were most of the sample (N=173, 72.1%). The predominant age group was that of 31 to 35 years (N=64, 26.9%), while fewer nurses were aged between 46 to 50 years (N=13, 5.5%). The remaining participants were 20 to 25 years old and made up 13% of the sample (N=31), 26 to 30 years (N=48, 20.2%), 36 to 40 years (N=39, 16.4%), 41 to 45 years (N=23, 9.7%) and over 50 years (N=20, 8.4%). The majority of the participants were married (N=97, 40.4%) and single (N=92, 38.3%). The smallest percentage were the divorced (N=24, 10%), while another low proportion of the sample were cohabiting (N=27, 11.3%). Regarding the level of education, most participants were graduates of higher education (N=163, 67.9%), while 4.6% (N=11) of the participants were graduates of vocational upper secondary education and 27.5% (N=66) were graduates of two-year courses. 43.1% (N=85) of the nurses held a specialty. Years of service ranged from six months to 38 years with a mean of 11.98 years (S.D.=8.10). Participants worked in pathology (N=31, 13%), surgical (N=71, 29.7%) and other departments (N=137, 57.3%). Promotion was expected in one to five years by 8.8% (N=20) of the participants and in five to 10 years by 5.3% (N=12), while the majority did not know when their next promotion would take place (N=194, 85.8%). Finally, the largest part of the sample was composed of nurses (N=145, 61.7%) and the smallest of senior nurse managers (N=11, 4.7%). Department managers made up 5.5% (N=13) and nursing assistants 28.1% (N=66) of the sample.

3.2 Research Instruments

3.2.1 The Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) (5), designed to measure burnout across a wide range of occupations involving human services, was administered to the participants. It consists of 22 items divided into three subscales: emotional exhaustion, depersonalization, and a sense of diminished accomplishments. These are self-assessment statements which are rated on a Likert scale ranging from 0 "it never happens to me" to 6 "it happens to me every day". The higher the score on emotional exhaustion and depersonalization, the higher the degree of burnout. Conversely, the higher the score on personal accomplishment, the lower the degree of burnout (5,19). Regarding internal consistency, Cronbach's α was at 0.88 for emotional exhaustion, 0.75 for depersonalization and 0.87 for diminished accomplishments.

3.2.2 The Multifactor Leadership Questionnaire

The second questionnaire used was Multifactor Leadership Questionnaire (MLQ) (13), designed to measure the extent to which each leader adopts the types of transformational and transactional leadership, influencing the motivation, performance and satisfaction level of their subordinates. This revised version consists of 45 four-point Likert scale questions with responses ranging from 0 "not at all" to 4 "almost always" and differs from the original as it consists of nine scales. Of these, five scales refer to transformational leadership: charismatic leadership or idealized influence as a behaviour (α=0.59), charismatic leadership or idealized influence as a trait (α=0.75), inspirational motivation (α=0.82), intellectual stimulation (α=0.71) and personalized care (α=0.78). Another three scales refer to transactional leadership: systematic reinforcement (α=0.76), passive maintenance of existing state (α=0.71) and active maintenance of existing state (α=0.62). In addition, one scale refers to non-leadership or laissez- faire behaviour (α=0.82) and finally, three more variables are included: job satisfaction (α=0.67), effectiveness (α=0.88) and additional work effort (α=0.91) (4,20).

Finally, participants were given a self-report questionnaire in order to examine demographic (gender, age, marital status, number of children under and over 18 years, level of education) and occupational data exclusively for nurses (specialty or other training, attendance of seminars- conferences, years of work, position, department and field of work, expected promotion, shifts and number of employees), also including questions on the participants' habits, lifestyles (e.g. smoking and alcohol consumption) and relationships with other nurses.

3.3 Procedure

The present research was approved by the scientific council of the hospitals. Convenience sampling was performed, and hospitals were selected based on the immediacy of approval as to the conduct of the survey. The inclusion of both public and private hospitals was aimed at the final comparative study between the two sectors in terms of burnout syndrome and leadership styles adopted. Participants were informed of the survey's anonymity and were reassured that their responses would be treated confidentially. Their consent was obtained verbally. The process of completing the questionnaires took 10 to 15 minutes and participation was voluntary. Due to the participants' workload and the difficulty in reaching them during working hours, most of the questionnaires were dis-

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tributed to the respective department under the responsibility of their supervisors. Participants could either complete the questionnaires directly at their workplace or take them home and return them. Supervisors were responsible for collecting and storing them until they were finally collected, usually after a period of three to five days. The distribution of the questionnaires in the private clinic and in one of the two public hospitals started in January 2017 and the collection process was completed in March 2017, while in the second public hospital the whole endeavour started in July 2017 and was completed in November 2017.

4. Results

4.1 Descriptive Statistics

Table 1 presents the basic descriptive data regarding the Maslach Burnout Inventory (MBI) and the Bass and Avolio Multifactor Leadership Questionnaire (MLQ). The mean, standard deviation and maximum and minimum values were calculated. Furthermore, because these complex variables derived from several sentences that make up each scale, the number of sentences was reported, and the Cronbach's α reliability coefficient was calculated for each scale. As shown in the table, in the Burnout Scale a higher mean score is given to the sense of reduced achievement (M = 32.24, SD = 9.50) and lower mean score is given to the levels of depersonalization (M = 10.08, SD = 6.49). As mentioned in the method section, the higher the score on the subscale of personal accomplishment, the lower the burnout (this score indicates moderate levels) and the lower the score on the other two subscales, the higher the levels of the syndrome. In this case, both subscales have moderate scores.

In the Multivariate Leadership Questionnaire, the lowest mean score is for laissez faire or non-leadership behaviour (M = 5.31, SD = 3.98) and the highest for effectiveness (M = 10.58, SD = 3.91). In more detail, looking at the different forms of leadership, the highest mean score is for transformational leadership, specifically the dimension of charismatic leadership or idealized influence as a trait (M = 10.06, SD = 4.04) and the lowest for non-leadership behavior as mentioned above. The means of the dimensions of transactional leadership are only slightly lower than those of transformational leadership and even exceed the dimensions of intellectual stimulation (M = 8.98, SD = 3.29) and individualized care (M = 8.43, SD = 4.00), except for the low mean of passive maintenance of existing status (M = 5.80, SD = 3.49). Finally, as for the additional dimensions - variables, the highest mean is efficiency as mentioned and the lowest is job satisfaction (M = 5.42, SD = 2.03)

Table 1. Descriptive statistical indicators and reliability coefficients of the scales under study for the total sample

	Items	M.	S.D.	Alpha
Burnout				
Emotional	9	24.62	11.33	0.88
Levels of depersonalization	5	10.08	6.49	0.75
Sense of personal accomplishment	8	32.24	9.50	0.87
Transformational leadership				
Charismatic leadership/ behaviour	4	9.59	3.39	0.59
Charismatic leadership/trait	4	10.06	4.04	0.75
Inspirational motivation	4	9.65	3.60	0.82
Intellectual stimulation	4	8.98	3.29	0.71
Personalized care	4	8.43	4.00	0.78
Transactional leadership				
Systematic reinforcement	4	9.36	3.36	0.76
Passive maintenance of the status quo	4	5.80	3.49	0.71
Active maintence of the status quo	4	9.21	3.10	0.62
Laissez-faire	4	5.31	3.98	0.82
Job satisfaction	2	542	2.03	0.67
Effectiveness	4	10.58	3.91	0.88
Additional work effort	3	7.41	3.35	0.91

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4.2 Inductive Statistics

Examining the relationship between the subscales of the Burnout Scale, Pearson's r correlation coefficients were calculated. As expected, the correlations between emotional exhaustion and depersonalization levels were in the positive direction, while the correlations between these two and personal accomplishment were in the negative direction. Also, all the indicators were statistically significant. The magnitude of the indices ranged from -0.30 (depersonalization levels X personal accomplishment) to 0.51 (emotional exhaustion X depersonalization levels). The higher the levels of depersonalization and emotional exhaustion, the lower the sense of personal accomplishment. However, it should be noted that the levels of correlations were low to moderate. For more details see Table 2.

Then, Pearson's r correlation coefficients were calculated between the scales of the Multivariate Leadership Questionnaire. All the indices were statistically significant and of positive direction, except for those expressing relevance to laissez- faire behaviour or passive maintenance of status quo, which were of negative direction. However, these two scales had a positive directional correlation between them. These results were to be expected. The magnitude of the indices ranged from -0.62 (laissez-faire X effectiveness) to 0.91 (effectiveness X job satisfaction). For more details on the correlations between the leadership scales see Table 3.

Table 2. Correlation (Pearson r indicators) between the subscales of the Burnout Scale

	1.	2.	3.
1. Emotional exhaustion	1.00		
2. Levels of depersonalization	0.51**	1.00	
3. Sense of personal accomlishment	-0.29**	-0.30**	1.00

Note: ** $p < 0.01$

Table 3. Correlation (Pearson r-indices) between the leadership scales of the Multifactor Leadership Questionnaire

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Charismatic leadership/behaviour	1.00								
2. Charismatic leadership/trait	0.82**	1.00							
3. Inspirational motivation	0.66**	0.70**	1.00						
4. Intellectual stimulation	0.70**	0.75**	0.59**	1.00					
5. Personalized care	0.66**	0.72**	0.68**	0.66**	1.00				
6. Systematic reinforcement	0.72**	0.79**	0.80**	0.72**	0.78**	1.00			
7. Passive maintenance of the status quo	-0.40**	-0.48**	-0.41**	-0.45**	-0.40**	-0.47**	1.00		
8. Active maintence of the status quo	0.43**	0.40**	0.42**	0.35**	0.57**	0.49**	-0.22**	1.00	
9. Laissez-faire	-0.43**	-0.55**	-0.56**	-0.52**	-0.48**	-0.58**	0.79**	-0.36**	1.00

Note: ** $p < 0.01$

In the leadership scales the highest correlation index was 0.82 (charismatic leadership as a trait X charismatic leadership as a behaviour) and lowest -0.58 (laissez-faire X systematic reinforcement). For the congruence between the consequence scales see Table 4.

In the consequence scales the highest correlation index was 0.91 (effectiveness X job satisfaction) and the lowest 0.83 (additional work effort X job satisfaction). For the correlations between the transformational leadership and consequences scales see Table 5.

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Table 4. Correlation (Pearson r-indices) between the consequence scales of the Multifactor Leadership Questionnaire

	1.	2.	3.
1. Job satisfaction	1.00		
2. Effectiveness	0.91**	1.00	
3. Additional work effort	0.83**	0.87**	1.00

Note: ** $p < 0.01$

It is observed that all the consequence scales show the highest degree of relevance with the dimension of charismatic leadership as a trait and the lowest with the dimension of charismatic leadership as a behaviour. For the congruence between the transactional leadership and consequences scales see Table 6.

Table 5. Correlation (Pearson r-indices) between transformational leadership scales and consequence scales

	1.	2.	3.	4.	5.	6.	7.	8.
1. Charismatic leadership/behaviour	1.00							
2. Charismatic leadership/trait	0.82**	1.00						
3. Inspirational motivation	0.66**	0.70**	1.00					
4. Intellectual stimulation	0.70**	0.75**	0.59**	1.00				
5. Personalized care	0.66**	0.72**	0.68**	0.66**	1.00			
6. Job satisfaction	0.65**	0.74**	0.69**	0.68**	0.68**	1.00		
7. Effectiveness	0.66**	0.76**	0.73**	0.68**	0.73**	0.91**	1.00	
8. Additional work effort	0.65**	0.77**	0.64**	0.71**	0.73**	0.83**	0.87**	1.00

Note: ** $p < 0.01$

Table 6. Correlation (Pearson r-indices) between transactional leadership scales and consequence scales

	1.	2.	3.	4.	5.	6.
1. Job satisfaction	1.00					
2. Passive maintenance of the status quo	-0.47**	1.00				
3. Active maintence of the status quo	0.49**	-0.22**	1.00			
4. Job satisfaction	0.75**	-0.49**	0.47**	1.00		
5. Effectiveness	0.77**	-0.56**	0.46**	0.91**	1.00	
6. Additional work effort	0.73**	-0.47**	0.64**	0.39**	0.87**	1.00

Note: ** $p < 0.01$

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It is observed that all the consequence scales show the highest degree of relevance with the dimension of systematic reinforcement and the lowest with the dimension of passive maintenance of the status quo. For the congruence between laissez- faire behaviour and consequences see Table 7.

Table 7. Correlation (Pearson r-indices) between the non-leadership scale and the consequence scales

	1.	2.	3.	4.
1. Laissez-faire	1.00			
2. Job satisfaction	-0.60**	1.00		
3. Effectiveness	-0.62**	0.91**	1.00	
4. Additional work effort	-0.49**	0.83**	0.87**	1.00

Note: ** $p < 0.01$

As it can be seen, the consequence scales show a negative directional correlation with laissez- faire behaviour and lower than all the effectiveness scales, as mentioned above. The dimensions of transformational and transactional leadership generally show little difference in their degree of congruence with the consequences of leadership behaviours, except for passive maintenance of status quo of transactional leadership.

To investigate the relationship between the individual dimensions of burnout and the dimensions of various leadership behaviours and their consequences, the following procedure was followed: multiple regression analysis (enter method) was used to test the ability to predict the degree of emotional exhaustion from the dimensions of various leadership behaviours and their consequences. Charismatic leadership as a behaviour, charismatic leadership as a trait, inspirational motivation, intellectual stimulation, personalized care, systematic reinforcement, passive maintenance of the status quo, active maintenance of the status quo, non-leadership behaviour, job satisfaction, effectiveness and additional work effort were used as predictor variables. The multiple relevance index is equal to 0.53 and the adjusted coefficient of determination R2 is equal to 0.23. The slope of the regression line is quite different from zero, $F (12, 180) = 5.72$, $p < 0.001$. The review of the regression coefficients shows that one (of the 12) independent variable contributes significantly to the prediction of the dependent variable: 'non- leadership behaviour ($b = 0.42$, $t = 3.31$, $p = 0.001$). That is, the greater the degree of non- leadership behaviour, the greater the degree of emotional exhaustion (See Table 8).

Table 8. Regression analysis for statistical prediction of the degree of emotional exhaustion from the dimensions of leadership behaviors and their consequences (N = 192)

Forecast variables	B	SE B	beta
Charismatic leadership/behaviour	0.22	0.40	0.07
Charismatic leadership/trait	0.19	0.39	0.07
Inspirational motivation	0.11	0.38	0.04
Intellectual stimulation	-0.21	0.38	-0.06
Personalized care	-0.89	0.36	-0.32
Systematic reinforcement	-0.37	0.52	-0.11
Passive maintenance of the status quo	0.06	0.35	0.02
Active maintence of the status quo	0.49	0.30	0.13
Laissez-faire	1.19	0.36	0.42***
Job satisfaction	0.67	0.98	0.12
Effectiveness Emotional	0.28	0.58	0.10
Additional work effort	-0.30	0.49	-0.09

Note: *** $p < 0.001$. Dependent variable: Degree of emotional exhaustion (enter method). $R2 = 0.28$, $F (12, 180) = 5.72$, $p < 0.001$

Then, multiple regression analysis (enter method) was used to test the ability to predict the degree of depersonalization levels from the dimensions of different leadership behaviours and their consequences. Charismatic leadership as a behaviour, charismatic leadership as a trait, inspirational motivation, intellectual stimulation, personalized care, systematic reinforcement, passive maintenance of the status quo, active maintenance of the status quo, non-leadership behaviour, job satisfaction, effectiveness and additional work effort were used as predictor variables. The multiple relevance index is equal to 0.53 and

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the adjusted coefficient of determination R2 is equal to 0.24. The slope of the regression line is quite different from zero, F (12, 188) = 6.17, p < 0.001. An overview of the regression coefficients reveals that one (of the12) independent variable contributes significantly to the prediction of the dependent variable: "systematic reinforcement" (b= -0.50, t = -3.30, p = 0.001). The smaller the systematic enhancement, the higher the degree of depersonalization levels (See Table 9).

Table 9. Regression analysis for the statistical prediction of the degree of depersonalization levels of the dimensions of leadership behaviors and their consequences (N = 200)

Forecast variables	B	SE B	beta
Charismatic leadership/behaviour	0.14	0.22	0.07
Charismatic leadership/trait	-0.10	0.22	-0.06
Inspirational motivation	0.56	0.21	0.31
Intellectual stimulation	0.00	0.21	0.31
Personalized care	0.18	0.20	-0.12
Systematic reinforcement	-0.94	0.29	-0.50***
Passive maintenance of the status quo	0.23	0.19	0.13
Active maintence of the status quo	0.32	0.16	0.16
Laissez-faire	0.34	0.20	0.21
Job satisfaction	0.46	0.54	0.15
Effectiveness Emotional	-0.36	0.32	-0.22
Additional work effort	0.23	0.27	0.13

Note: *** p < 0.001. Dependent variable: Degree of depersonalization levels (enter method). R2 = 0.28, F (12, 188) = 6.17, p < 0.001

Finally, multiple regression analysis (enter method) was used to test the ability to predict the degree of personal accomplishment from the dimensions of different leadership behaviors and their consequences. Charismatic leadership as a behaviour, charismatic leadership as a trait, inspirational motivation, intellectual stimulation, personalized care, systematic reinforcement, passive maintenance of the status quo, active maintenance of the status quo, non-leadership behaviour, job satisfaction, effectiveness, and additional work effort were used as predictor variables. The multiple relevance index is equal to 0.57 and the adjusted coefficient of determination R2 is equal to 0.28. The slope of the regression line is quite different from zero, F (12, 183) = 7.16, p < 0.001. An overview of the regression coefficients reveals that one (of the 12) independent variable contributes significantly to the prediction of the dependent variable: "systematic reinforcement" (b = 0.82, t = 5.34, p < 0.001). The greater the systematic reinforcement, the greater the degree of feeling of reduced achievement (See Table 10).

Table 10. Regression analysis for the statistical prediction of the degree of personal accomplishment from the dimensions of leadership behaviors and their consequences (N=195)

Forecast variables	B	SE B	beta
Charismatic leadership/behaviour	0.78	0.32	0.28
Charismatic leadership/trait	-0.51	0.32	-0.32
Inspirational motivation	-0.77	0.31	-0.30
Intellectual stimulation	-0.31	0.31	-0.11
Personalized care	-0.66	0.28	-0.29
Systematic reinforcement	2.26	0.42	0.82***
Passive maintenance of the status quo	-0.74	0.29	-0.28
Active maintence of the status quo	-0.03	0.23	-0.13
Laissez-faire	-0.30	0.29	-0.21
Job satisfaction	1.21	0.80	0.26
Effectiveness	-0.92	0.47	-0.38
Additional work effort	-0.21	0.39	-0.08

Note: *** p < 0.001. Dependent variable: Degree of personal accomplishment (enter method). R2 = 0.32, F (12, 183) = 7.16, p < 0.001

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For the comparative study between the public and private sectors, the mean score of employees in each sector in each subscale of the Maslach Burnout Scale were tested using the t test for independent samples. More specifically, on the emotional exhaustion subscale, nurses in the public sector (M = 26.62, SD = 11.65) report higher scores than nurses in the private sector (M = 21.26, SD = 9.97), t (200,71) = 3.71, $p < 0.001$. In the subscale of depersonalization levels, public sector nurses (M = 10.85, SD = 6.81) report higher scores than private sector nurses (M = 8.81, SD = 5.72), t (236) = 2.37, p = 0.019. Finally, on the subscale of personal accomplishment, nurses in the public sector (M = 31.81, SD = 9.50) report lower scores than nurses in the private sector (M = 32.95, SD = 9.51), t (227) = -0.88, p = 0.381. These results are summarized in Table 11. What is observed is that any differences between the samples are statistically significant, except for the score on the subscale of personal accomplishment.

Table 11. Means, Standard Deviations and t-test of the Maslach Burnout Scale subscales by sector

Burnout scale	Sector				
	Public		Private		
	M.	S.D.	M.	S.D.	T-value
1. Emotional exhaustion	26.62	11.65	21.26	9.97	3.71***
2. Levels of depersonalization	10.85	6.81	8.81	5.72	2.37***
3. Sense of personal accomplishment	31.81	9.50	32.95	9.51	-0.88

Note: *** $p < 0.05$

Finally, in the context of this comparative study, the mean of public and private sector employees was tested on each dimension of the Multifactor Leadership Questionnaire using the t criterion for independent samples. In more detail: On the dimension of charismatic leadership as a behaviour, public sector employees (M = 9.13, SD = 2.99) report lower mean than private sector employees (M = 10.35, SD = 3.86), t (146.03) = -2.51, p = 0.013. On the dimension of charismatic leadership as a trait, public nurses (M = 9.66, SD = 3.93) report a lower mean than private nurses (M = 10.73, SD = 4.17), t (234) = -1.98, p = 0.049. On the dimension of inspirational motivation, public employees (M = 9.33, SD = 3.66) have a lower mean than private employees (M = 10.16, SD = 3.45), t (227) = -1.70, p = 0.091. On the intellectual stimulation dimension, public sector nurses (M = 8.51, SD = 3.22) report a lower mean than private sector nurses (M = 9.75, SD = 3.27), t (230) = -2.84, p = 0.005. On the dimension of personalized care, public sector workers (M = 7.99, SD = 3.98) report a lower mean than private sector nurses (M = 9.17, SD = 3.92), t (232) = -2.21, p = 0.028. On the dimension of systematic support, public nurses (M = 8.94, SD = 3.16) report a lower mean than private nurses (M = 10.03, SD = 3.59), t (228) = -2.41, p = 0.017. On the dimension of passive maintenance of the status quo, public sector nurses (M = 5.94, SD = 3.33) report a higher mean than private sector nurses (M = 5.56, SD = 3.75), t (230) = 0.80, p = 0.424. On the dimension of actively maintaining the status quo, public sector workers (M = 8.66, SD = 3.26) report a lower mean than private sector workers (M = 10.11, SD = 2.60), t (231) = -3.56, $p < 0.001$. On the dimension of non-leadership behaviour, public sector employees report a higher mean (M = 5.51, SD = 3.91) than private sector employees (M = 5.00, SD = 4.10), t (231) = 0.96, p = 0.337. On the dimension of job satisfaction, public nurses report a lower mean (M = 5.36, SD = 2.11) than private nurses (M = 5.51, SD = 1.90), t (235) = -0.52, p = 0.606. On the dimension of effectiveness, public sector nurses report a lower mean (M = 10.39, SD = 3.92) than private sector nurses (M = 10.90, SD = 3.88), t (233) = -0.97, p = 0.334. Finally, on the dimension of additional work effort, public nurses have a lower mean (M = 7.20, SD = 3.51) than private nurses (M = 7.76, SD = 3.06), t (236) = -1.25, p = 0.213. Statistically significant differences were observed: in the dimensions of charismatic leadership as a behaviour, charismatic leadership as a trait, intellectual stimulation, personalized care, systematic reinforcement and active maintenance of the status quo (See Table 12).

Table 12. Means, Standard Deviations and t-test of the Multifactor Leadership Questionnaire dimensions by sector

MLQ	Sector				
	Public		Private		
	M.	S.D.	M.	S.D.	T-value
Charismatic leadership/ behaviour	9.13	2.99	10.35	3.86	-2.51***
Charismatic leadership/trait	9.66	3.93	10.73	4.17	-1.98***
Inspirational motivation	9.33	3.66	10.16	3.45	-1.70
Intellectual stimulation	8.51	3.22	9.75	3.27	-2.84***
Personalized care	7.99	3.98	9.17	3.92	-2.21***
Systematic reinforcement	8.94	3.16	10.03	3.59	-2.41***

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Passive maintenance of the status quo	5.94	3.33	5.56	3.75	0.80
Active maintence of the status quo	8.66	3.26	10.11	2.60	-356***
Laissez-faire	5.51	3.91	5.00	4.10	0.96
Job satisfaction	5.36	2.11	5.51	1.90	0.52
Effectiveness	10.39	3.92	10.90	3.88	-0.97
Additional work effort	7.20	3.51	7.76	3.06	-1.25

Note: *** $p < 0.05$

5. Discussion

Regarding the results on the Burnout Scale, scores of moderate levels are noted in each subscale (21), which is not entirely consistent with the existing literature since the nursing profession is characterized by high levels of the syndrome due to its nature (22, 23). Indeed, this may be since nurses, despite any adversity, have a specific personality type oriented towards giving, caring and interpersonal contact or have developed functional defense mechanisms in combination with other protective factors (6, 22-26).

In general, higher scores were noted on the emotional exhaustion subscale and lower on depersonalization levels. Literature review (21, 26) is confirmed by the results, since emotional exhaustion shows higher scores. However, they argue that lower scores are noted in personal accomplishment (21). The lower the score on this scale, the higher the level of burnout. Considering that, in general, all subscales ranged at moderate levels and nurses are interpersonal oriented individuals, it is not surprising that it was the depersonalization levels that had the lowest scores and not the sense of personal accomplishment. It seems that ultimately nurses feel that they give and derive pleasure from this.

There was low to moderate statistical significance in the correlations between the subscales. The findings are consistent with those of Maslach, Jackson and Leiter (2). More specifically, emotional exhaustion and depersonalization levels showed a positive directional correlation with each other, which was the highest, while each of these two subscales with personal accomplishment showed a negative directional correlation (21). The lowest was that one between personal accomplishment and depersonalization levels. Therefore, up to some extent, emotional exhaustion and depersonalization coexist, while personal accomplishment is not really associated with depersonalization. This can be explained by the fact that the less nurses enjoy and manage interpersonal contact with patients and their relatives, the less they feel that they do their job well based on this aspect. However, according to the existing literature, there is little evidence supporting this notion.

Moving on to the Multifactor Leadership Questionnaire, it appears that in nursing units one encounters many leadership styles (23, 27-33). Transformational leadership had a higher mean score on the leadership scales with small differences from transactional leadership, since depending on the circumstances, any form of leadership can be effective (1, 4, 17, 30, 31). Non-leadership behaviour had a lower mean score, though, since some organizations, such as hospital units, are not particularly receptive to some leadership styles (16, 30-34). Regarding the dimensions of transformational leadership, charismatic leadership seems to predominate as a trait, while the dimensions of intellectual stimulation and personalized care lag slightly behind the dimensions of transactional leadership (32, 34). The only dimension of transactional leadership that shows levels like non-leadership behaviour is passive maintenance of the status quo, since, behaviours that are not oriented towards alertness, immediate response to situations and task delineation are not effective or even applicable in a nursing unit (31). Of the scales related to the consequences of leadership behaviors, effectiveness has a higher mean, having overall the highest mean in all the scales of the questionnaire. This can be interpreted based on how imperative it is to be effective in this profession, which is reinforced by the attitude of supervisors and managers towards job satisfaction that presents the lowest mean of consequences (31, 32).

Statistical significance was observed in the correlations of the questionnaire scales (30-35). Looking in more detail at the correlations between the leadership scales, they were all in the positive direction except for those that showed correlations with non-leadership behaviour and passive maintenance of the status quo (30-34). The highest was between charismatic leadership as a behavior and as a trait, since it appears natural that the two coexist (33). The lowest was between non-leadership and systematic reinforcement, indicating that lack of leadership cannot possibly coexist with the reinforcement factor (30-34). In the covariances between the consequence scales, the highest was between effectiveness and job satisfaction, which was also the highest in the covariances of all scales. This indicates the coexistence of the two factors and that as one increases the other increases as well. Finally, concerning the congruence between the leadership and consequence scales, the highest congruence was found

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for additional work effort with the dimension of charismatic leadership as a trait belonging to transformational leadership (33, 35) and effectiveness with the systematic enhancement of transactional leadership (30-34). Therefore, a form of leadership that inspires and motivates seems to coexist with effort on the part of employees, but effectiveness, which is the key issue in an organization, coexists mainly with reinforcement. The lowest correlation was that of effectiveness with non-leadership behaviour (30-36) which was even in a negative direction, indicating that more directive and proactive leadership is required to produce significant work.

Regarding the primary objective of the research, namely, to investigate the relationship between the burnout syndrome and leadership styles, it was found that there are few predictors of the syndrome (37). Non-leadership behaviour appears to be responsible for emotional exhaustion (23, 35, 38-40). This implies that lack of leadership and organization can tire and frustrate employees (30, 35, 37-40). Systematic reinforcement, on the other hand, plays an important role in both depersonalization and personal accomplishment (23,30, 38-40). The less it is, the greater the depersonalization, while the greater it is, the greater the sense of personal accomplishment (39). The latter relationship appears easy to interpret. One understands that one contributes and is effective when there is appropriate feedback and is rewarded for one's actions. What has not been confirmed, however, is the negative effect of transformational leadership on the occurrence of the syndrome (23, 35, 37-42).

Finally, within the comparative study between the public and private sectors, the burnout syndrome had a higher mean in the public than in the private sector (39,43) (higher emotional exhaustion, higher levels of depersonalization and a lower sense of personal accomplishment), which is not entirely consistent with previous research (21). It is likely that working conditions are much more difficult due to basic shortages of staff and materials, making the new reality in public hospitals a fertile ground for further research. Still, one cannot rule out the fact that in a much more controlled structure such as that of a private clinic, responses provided by employees would not aim to cause the displeasure of their superiors. It is worth noting that there were fewer participants from the private sector than those from the public sector, and it might be worthwhile to further study the conditions prevailing in a private clinic. Consistent with previous findings (10), nurses in the private sector make more positive evaluations of their supervisors and the consequences of their leadership styles. In general, in the public sector the means of all dimensions are lower than in the private sector (39), except for passive maintenance of status quo and non-leadership, where they are higher. Again, this can be attributed to reasons of lack of organization but also to "acceptable" responses. However, the differences between the two sectors are not vast.

In conclusion, the burnout syndrome is likely to occur in people belonging to the nursing profession, but it is of low to moderate severity, and it does not seem to affect employees' functionality and well-being. Furthermore, it does not seem to be significantly influenced by demographic factors but rather by occupational characteristics such as the work department, which in turn is linked to other factors such as the nature of the work, workload and working conditions (21, 31-43). In relation to the leadership style adopted, both transformational and transactional styles coexist and are applied in a complementary way (27), enhancing additional work effort and effectiveness, respectively (30-33, 44). On the other hand, in terms of the occurrence of the syndrome, there is no apparent relationship with the application or not of transformational leadership. Finally, employees in the private sector appear to be more satisfied and effective, while the lack of organization and initiatives prevalent in the public sector is evident.

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