

DOI: 10.5455/msm.2022.34.216-224

Received: Aug 12 2022; Accepted: Sep 14, 2022

© 2022 Dimitris Karaferis, Vassilis Aletras, Maria Raikou, Dimitris Niakas

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ORIGINAL PAPER

Mater Sociomed. 2022 Sep; 34(3): 216-224

Factors Influencing Motivation and Work Engagement of Healthcare Professionals

Dimitris Karaferis¹, Vassilis Aletras², Maria Raikou³, Dimitris Niakas¹

¹Department of Health Economics, Medical School, National and Kapodistrian University of Athens, Athens, Greece

²Department of Business Administration, University of Macedonia, Thessaloniki, Greece

³Department of Economics, University of Piraeus, Piraeus, Greece

Corresponding author: Dimitris Karaferis, Msc, PhD(c), Department of Health Economics, Medical School, National and Kapodistrian University of Athens. Address: 75, M. Assias Street, 11527, Athens, Greece. Phone: +30 6976191917. E-mail address: karafedis@yahoo.gr ORCID ID: <https://orcid.org/0000-0002-7287-8686>.

ABSTRACT

Background: Low level of health professionals' work motivation is a critical challenge for countries' health care system. A survey of ministries of health in many countries showed that low motivation was seen as the second most important health workforce problem after staff shortages.

Objective: The aim of the study was to examine in detail the factors which can affect motivation and work engagement, to assess the motivation levels of personnel working in public hospitals and to identify any differences between the various categories of healthcare professionals employed at the 1st Regional Health Authority of Attica. **Methods:** Frederick Herzberg's motivation-hygiene theory was used as the theoretical framework. Twelve phrases were used that correspond to intrinsic and extrinsic motivating factors, namely achievement, recognition, nature of work, responsibility, advancement, growth, organizational policies, supervision, interpersonal relationships, working conditions, salary and job security. Phrases 1-6 covered the internal motivators and 7-12 correspond to the external. Additional questions were added covering the socio-demographic characteristics of respondents. **Results:** The response rate was 81.95% and 3,278 questionnaires were collected. Findings suggest that extrinsic motivation factors have slightly higher mean scores (MS=8.30) than intrinsic motivation factors (7.81). The role of factors like salary (9.31), organizational policies (8.91), growth (8.89) and job security (8.86) was significant. However, every category of hospital staff is affected in a different way and degree by each factor. In periods of crisis, the need of extrinsic factors of motivation increased. **Conclusions:** Providing a motivating environment for employees becomes more fundamental in the healthcare system. Motivation of healthcare employees was affected by

factors related to supervision, financial benefits, job training and growth. Efforts should be made to provide such benefits to health employees as appropriate especially, to those who did not get any such benefits. Officially recognizing best performance is suggested.

Keywords: motivation, public sector, intrinsic factors, extrinsic factors.

1. INTRODUCTION

Health-care delivery is highly labor-intensive. Undoubtedly, efficiency and equity are all directly related to employees' willingness to accomplish their tasks. Improved productivity is driven by positively motivated employees (1). Every individual has unique needs and desires which need to be satisfied. These are related to the behavior they exhibit, and play a significant role in their preferences. Social, cultural and job factors all influence employees' behavior (2). Therefore, the motivation of health workers is reflected in their behavior in the workplace and affects the outcome of the health care system.

Low level of health professionals' work motivation is a critical challenge for countries' health care system. A survey of ministries of health in many countries showed that low motivation was seen as the second most important health workforce problem after staff shortages (3). It is crucial for any health care organization to be aware of the well-being of their internal customer (the employees), so they can be in a position to provide high quality care to the external customers (the patients). In fact, hospital staff finds it difficult to meet the needs of their patients if their personal needs are not satisfied (4).

Having an understanding of the attributes

that contribute to motivation can assist hospital administrators to better manage their organization with respect to employee attendance, effectiveness, turnover and productivity. Even more, with the challenges facing the public health care sector, including technological advancements, the transformation occurring in the demography and diversity of the workforce, the ever changing patient needs, the improvement of the relationships between the members of the healthcare team and patients, the increased cohesion required between employees, and the collaboration needed between the organization and its staff (5).

Herzberg two-factor theory was used as the framework for this study. The theory states that two sets of factors affect employees' motivation. One classified as "motivators" and the second as "hygiene" (6).

Review of Literature

Literature review showed that hospital performance is largely determined by the engagement of staff, especially regarding the increase of organizational effectiveness of a hospital. Motivation may be defined as the factors that influence people to behave in certain ways for achieving personal or organizational goals (7). Furthermore, motivation can be looked as the process of stimulating people by arousing, energizing, directing, and sustaining the behavior and performance to achieve a desired need or expectation (8). Employee motivation has a direct impact on employee performance, with many researchers arguing that only motivated employees can engage with the organization and show commitment, efficiency and job satisfaction (9, 10).

Herzberg's dual-factor theory also known as Motivation-Hygiene Theory states that motivation is driven by different factors, which are defined by personal experiences and values and determine the basis for a coherent and vital sense of self-esteem and integrity (11). Frederick Herzberg is highly recognized for this theory, because not only it is focused on the concern for the attainment of organizational goals but also on enabling personal growth and development of the employees. His findings suggest that there are two sets of factors in producing motivation (12, 13).

The first set of factors, which were named "motivational" factors or satisfiers, are intrinsic and relate to the content of the work itself. These motivate individuals to work harder and perform towards higher standards to the job and include achievement, recognition, responsibility for task, advancement to higher level tasks and growth. Their existence is meaningful and needed to motivate employees into higher performance. The second set of factors which Herzberg referred to as "hygiene" factors or dissatisfiers, is concerned with the job environment. These factors are extrinsic and include company policies and practices, remuneration, fringe benefits and working conditions, administration, quality of supervision, interpersonal relations, salary, status and security (11). These factors correspond to the first three levels of Maslow's hierarchy of needs, namely normal needs, security needs, and social needs. They serve as a starting point for motivation. However, improvement in these conditions does not necessarily bring about the anticipated motivation. In conclusion, when hygiene factors are maintained, dissatisfaction can be avoided; on the

other hand when dissatisfaction is most probable to occur, motivation can't take place.

Therefore, the motivation-hygiene theory of motivation suggests that certain factors (motivator factors) lead to job satisfaction, whereas others (hygiene factors) prevent dissatisfaction but cannot engender satisfaction. As a result, inadequate hygiene factors may lead to dissatisfaction, but at the same time adequate hygiene factors do not necessarily lead to job satisfaction. Hygiene factors are the prerequisite for allowing motivating factors to influence employee motivation. Poor implementation of systematic improvement is believed to be the critical challenge, and staff motivation can be a key component in an operational failure. The continuing significance of Herzberg's theory is that there must be some direct relationship between performance and reward, whether it is exogenous as in recognition or inherent as in naturally enjoyable work, in order to motivate employees to perform. At the same time, managers must ensure that work is encouraging and rewarding so that employees are motivated to work and perform better (14, 15).

2. OBJECTIVE

In the case of Greece, there is not enough research related to the needs of health workers and, consequently, the incentives that can motivate them. This present research aims to investigate the level of motivation of health care professionals in public hospitals of the 1st Regional Health Authority of Attica and further to assess its determining intrinsic and extrinsic factors and the underlying dynamics.

3. MATERIAL AND METHODS

Research tools and Data sampling

This survey aimed to explore the intrinsic and extrinsic motivating factors in public health care as well as to investigate demographic and other characteristics of the sample as potential determinants of employees' motives. Initially, out of a total of 24 hospitals of the 1st Regional Health & Welfare Service of Attica in Athens, 13 general public hospitals permitted the survey. Subsequently, a questionnaire was created based on Herzberg's Theory of Motivation-Hygiene, where based on the twelve main factors of this theory we formulated an equal number of phrases. Finally, the questionnaire was distributed from July 2019 to October 2020 to members of public sector organizations. Each participant was requested to rate twelve phrases for factors that motivated them in doing their work, on a Likert scale from 1 to 10; rate 1 corresponds to 'lowest motivating', and 10 to 'highest motivating'. In Table 1, phrases 1-6 covers the internal motivators, while phrases 7-12 correspond to the external motivators. Furthermore, some demographic questions were also included. The twelve phrases are presented in Table 1.

Ethical considerations

This study was conducted after review and written approvals by relevant institutional ethics and research committees were secured from all thirteen hospitals and the 1st Regional Health Authority of Attica (Approval No: 31707-7/6/2019). Additionally, the Ethical Committee of the National and Kapodistrian University of Athens approved

Phrase – Questionnaire item	Associated Factor	
1 Incentives for additional effort & productivity improvement	Achievement	
2 Recognition of contribution & progress	Recognition	
3 Opportunities to take initiatives & exploit resources	The work itself / nature of work	Intrinsic motivating factors
4 Ability to participate in making important decisions	Responsibility	
5 Ability to progress / promotion	Advancement	
6 Opportunities to develop new knowledge-skills	Growth	
7 Staff training, seminars & training in new systems-technologies	Organizational Policies	
8 Good supervision & support from senior executives	Supervision	
9 Appreciation and good reputation	Interpersonal Relationships	Extrinsic motivating factors
10 Flexible working hours	Working Conditions	
11 Satisfactory fees	Salary	
12 Permanence–Occupational Safety	Job Security	

Table 1. Intrinsic and Extrinsic motivating factors

Factors	Achievement	Recognition	The work itself / nature of work	Responsibility	Advancement	Organizational Policies	Supervision	Growth	Working Conditions	Interpersonal Relationships	Salary	Job Security
Achievement	1											
Recognition	0.642**	1										
The work itself / nature of work	0.502**	0.627**	1									
Responsibility	0.311**	0.406**	0.651**	1								
Advancement	0.398**	0.496**	0.460**	0.560**	1							
Organizational Policies	0.353**	0.386**	0.437**	0.524**	0.562**	1						
Supervision	0.440**	0.456**	0.418**	0.369**	0.413**	0.525**	1					
Growth	0.328**	0.361**	0.424**	0.537**	0.521**	0.763**	0.525**	1				
Working Conditions	0.308**	0.323**	0.246**	0.193**	0.314**	0.287**	0.325**	0.311**	1			
Interpersonal Relationships	0.411**	0.500**	0.384**	0.372**	0.442**	0.422**	0.459**	0.406**	0.502**	1		
Salary	0.280**	0.328**	0.263**	0.349**	0.494**	0.559**	0.361**	0.560**	0.313**	0.429**	1	
Job Security	0.210**	0.282**	0.148**	0.167**	0.275**	0.311**	0.249**	0.282**	0.314**	0.394**	0.491**	1

** Correlation is significant at the 0.01 level (2-tailed) / n=3,278

Table 2. Pearson’s correlations between factors

the study protocol. Furthermore, the contact details of the researchers and research information were included in the questionnaires. Participation in the study was voluntary and the questionnaires were completed anonymously.

Statistical analysis

Descriptive statistics were used to report the job satisfaction of respondents. Variables were expressed as mean scores (MS) and standard deviations (SD) and qualitative data as absolute and relative frequencies. Nonparametric chi-square, Mann-Whitney and Kruskal-Wallis tests were used for score comparisons according to gender, age, education, years spent in the hospital, etc. Pearson coefficients were used to explore intercorrelations among subscales. Reliability analysis included Cronbach’s Alpha for internal consistency.

The level of statistical significance was set at 0.05. All analyses were performed using IBM SPSS Statistics version 26.0.

4. RESULTS

Socio-demographic characteristics

Of the 4,000 questionnaires distributed, 3,278 were returned, so the respondents’ participation was 81.95%. Among sample participants 612 (18.67%) were male and 2,666 (81.33%) female. Regarding their age, 1.49% was under 25 years old, 15.86% were 26-35, 33.25% between 36 and 45, 38.16% between 46-55. The remaining 11.23% were older than 56 years. As far as the educational level is concerned, the majority was university graduates (59.55%), 19.37% had post-graduate studies, only 1.53% had compulsory education and the remaining 19.55% had secondary education. Concerning employment status, the majority worked as permanent staff (80.99%). As regards length of service, 19.37% had less than 5 years, 11.90% of study participants had worked from 6 to 10 years, 17.63% from 11 to 15 years, 22.45% from 16 to 20 years, while 28.65% had worked for more than 20 years. Economically, the majority of employees stated that they managed without having much money left aside.

Period < 13th of March 2020 Period > 14th of March 2020 Overall Sample																	
Intrinsic Motivation Factors		Mean Scores (MS)					Std. Deviation	Mean Scores (MS)					Std. Deviation	Mean Scores (MS)			Std. Deviation
Factors	Set phrase	Doctors (N=761)	Nurses (N=1,553)	Other Staff (N=659)	Overall Mean Score (N=2,973)	Doctors (N=42)		Nurses (N=183)	Other Staff (N=80)	Overall Mean Score (N=305)	Doctors (N=803)	Nurses (N=1,736)		Other Staff (N=739)	Overall Mean Score (N=3,278)		
1	Achievement	Incentives for additional effort & productivity improvement	6.90	7.05	6.91	7.02	1.98	6.48	6.39	6.17	6.35	0.77	6.88	6.98	6.96	6.95	1.91
2	Recognition	Recognition of contribution & progress	7.53	7.76	7.45	7.69	1.79	6.98	6.63	6.52	6.65	0.78	7.50	7.64	7.59	7.60	1.75
3	The work itself / nature of work	Opportunities to take initiatives & exploit resources	8.02	7.61	7.16	7.66	1.85	7.05	5.85	5.96	6.06	1.01	7.97	7.42	7.22	7.51	1.85
4	Responsibility	Ability to participate in making important decisions	8.59	7.93	7.08	7.94	1.94	8.67	7.97	7.11	7.85	1.13	8.59	7.94	7.20	7.93	1.88
5	Advancement	Ability to progress / promotion	8.07	8.05	7.53	7.94	1.84	8.52	8.38	7.81	8.25	0.85	8.09	8.09	7.57	7.97	1.77
6	Growth	Opportunities to develop new knowledge-skills	9.05	8.87	8.51	8.82	1.57	9.74	9.67	9.19	9.54	0.65	9.08	8.95	8.53	8.89	1.52
Average of Intrinsic Motivation Factors			8.03	7.88	7.44	7.85		7.90	7.48	7.13	7.45		8.02	7.84	7.51	7.81	
Period < 13th of March 2020 Period > 14th of March 2020 Overall Sample																	
Extrinsic Motivation Factors		Mean Scores (MS)					Std. Deviation	Mean Scores (MS)					Std. Deviation	Mean Scores (MS)			Std. Deviation
Factors	Set phrase	Doctors (N=761)	Nurses (N=1,553)	Other Staff (N=659)	Overall Mean Score (N=2,973)	Doctors (N=42)		Nurses (N=183)	Other Staff (N=80)	Overall Mean Score (N=305)	Doctors (N=803)	Nurses (N=1,736)		Other Staff (N=739)	Overall Mean Score (N=3,278)		
7	Organizational Policies	Staff training, seminars & training in new systems-technologies	9.07	8.90	8.50	8.86	1.67	9.55	9.47	9.00	9.36	0.70	9.09	8.96	8.58	8.91	1.61
8	Supervision	Good supervision & support from senior executives	7.82	7.68	7.72	7.75	1.74	7.90	7.86	7.57	7.79	0.75	7.83	7.70	7.81	7.75	1.67
9	Interpersonal Relationships	Appreciation and good reputation	7.72	8.00	7.90	7.91	1.72	8.21	8.27	7.76	8.13	0.88	7.74	8.03	7.91	7.93	1.66
10	Working Conditions	Flexible working hours	6.61	7.33	6.80	7.00	2.16	6.62	7.57	6.91	7.25	0.96	6.61	7.35	6.70	7.02	2.08
11	Salary	Satisfactory fees	9.25	9.29	9.21	9.25	1.58	9.88	9.94	9.83	9.90	0.30	9.28	9.36	9.23	9.31	1.52
12	Job Security	Permanence-Occupational Safety	8.48	8.93	9.02	8.82	1.58	8.90	9.31	9.42	9.29	0.70	8.50	8.97	9.00	8.86	1.53
Average of Extrinsic Motivation Factors			8.16	8.35	8.19	8.26		8.51	8.74	8.42	8.62		8.18	8.39	8.20	8.30	
Overall Average of Intrinsic and Extrinsic Motivation Factors			8.09	8.12	7.82	8.06		8.21	8.11	7.77	8.04		8.10	8.12	7.86	8.05	

Table 3. Intrinsic and Extrinsic Motivation Factors–Mean Scores (MS)

Normality Analysis

The Kolmogorov-Smirnov normality test was used for normality. Based on the results, the data was determined as not normally distributed, since the p-value was less than 0.05.

Validity and Reliability analysis

The correlations between factors were calculated using the pair wise Pearson’s correlation coefficient. These range between 0.148 and 0.763 (Table 2).

Cohen (1988) proposed the following interpretation for correlations: if the r-value equals 0.10 to 0.29 (positive) or -0.29 to -0.10 (negative), there is a small correlation between the two independent variables. If the r-value is

0.30 to 0.49 (positive) or -0.49 to -0.30 (negative), there is a medium correlation between the two independent variables (16). If the r-value equals 0.50 to 1.00 (positive) or -1.00 to -0.50 (negative), a large correlation between the two independent variables is indicated. In light of these ranges, correlations were large in sixteen (16) cases (24%), while there were also thirty seven (37) medium (58%) and eleven (11) low (18%) values.

Internal consistencies were calculated for every category (internal or external factors) of motivation and for the motivation scale as a whole. In the present study, overall motivation had alpha equal to 0.89. The category of internal factors motivation had an alpha of 0.85 and the category of

	Factors of Motivation	Gender (P-Sig ²)	Age (P-Sig ¹)	Marital Status (P-Sig ¹)	Level of Education (P-Sig ¹)	Employment Status (P-Sig ²)	Professional Experience (P-Sig ¹)	Economic Situation (P-Sig ¹)
1	Achievement	0.052	0.170	0.381	0.000	0.809	0.000	0.000
2	Recognition	0.002	0.000	0.001	0.000	0.382	0.000	0.000
3	The work itself / nature of work	0.892	0.005	0.000	0.000	0.030	0.066	0.000
4	Responsibility	0.025	0.047	0.008	0.000	0.514	0.002	0.034
5	Advancement	0.246	0.004	0.645	0.000	0.717	0.096	0.032
6	Organizational Policies	0.022	0.000	0.477	0.000	0.041	0.114	0.127
7	Supervision	0.054	0.675	0.001	0.001	0.276	0.004	0.000
8	Growth	0.715	0.030	0.201	0.000	0.049	0.016	0.047
9	Working Conditions	0.000	0.003	0.027	0.000	0.476	0.000	0.000
10	Interpersonal Relationships	0.017	0.005	0.148	0.000	0.000	0.000	0.000
11	Salary	0.013	0.000	0.000	0.084	0.000	0.000	0.000
12	Job Security	0.000	0.000	0.000	0.000	0.042	0.000	0.000

P-Sig¹ = Kruskal Wallis H Test
P-Sig² = Mann-Whitney U Test

Table 4. Associations between socio-demographic characteristics and factors of motivation

external factors motivation an alpha coefficient of 0.79. Acceptable values of Cronbach’s alpha are above 0.70 [17]. Regarding descriptive statistics, the mean of each motivating factor is shown below. The strongest employee motives refer to wage raise-salary (MS=9.31) and staff training through seminars and seminars in new technologies (8.91), as well as the development of new knowledge-skills (8.89). On the other hand, achievements (6.95), working conditions (7.02), and the nature of work (7.54) are ranked lower (see Table 3).

As the WHO declared Europe the epicenter of the pandemic on 13 March 2020, our survey was divided into two periods, before and after 13 March 2020 (18). In Table 3, it was found that a large number of respondents were mostly before March 13, 2020, the period before COVID and employees (2,973, 90.7% of the total) were mainly motivated by extrinsic factors 8.26 (Doctors 8.16, Nurses 8.35, Other health professionals 8.19) in relation to intrinsic factors (Doctors 8.03, Nurses 7.88, Other Health Professionals 7.44). After March 13, 2020, the first wave of the COVID-19 pandemic, for employees (305, 9.3% of the total) the gap between extrinsic and intrinsic factors seem to have increased compared to the pre-COVID period, as extrinsic factors were 8.62 (Doctors 8.51, Nurses 8.74, Other Health Professionals 8.42) in relation to intrinsic factors 7.45 (Doctors 7.90, Nurses 7.48, Other Health Professionals 7.13). In conclusion, our research suggests that in times of crisis (economic, health, etc.), organizations should strengthen the conditions that enhance external motivation.

Comparison of socio-demographic characteristics and factors of motivation

We examined for possible associations of gender, age, marital status, level of education, employment status, years of professional experience and financial situation in relationship with the factors of motivation. As our data does not follow the normal distribution, the Kruskal-Wallis H and Mann Whitney U tests were used and showed the relationships between the variables and the probabilities

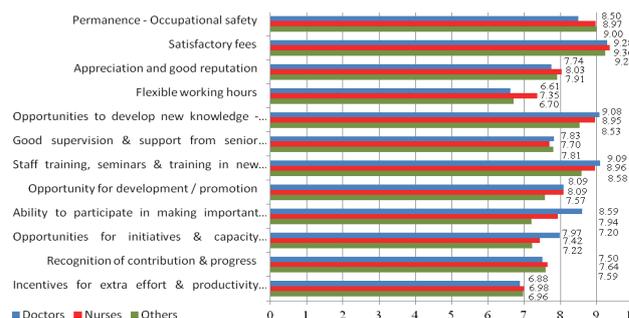


Figure 1. Comparison of motivators between the staff categories in the hospitals and factors of motivation

less the 0.05 represent significant associations in this study (Table 4).

As result, findings of the analysis regarding the gender of the respondents showed that there is a significant difference with respect to recognition, responsibility, organizational policies, working conditions, interpersonal relationships, salary, and job security (p<0.05), but no significant difference concerning nature of work (p=0.892), growth (p=0.715), advancement (p=0.246), supervision (p=0.054) and achievement (p=0.052). In incentives such as responsibility and work itself (opportunities to take initiatives & exploit resources), men scored higher. This difference indicates that males are more willing to take responsibilities compared to females.

Similarly, there is a significant difference in age with respect to all factors of motivation (p<0.05), but no significant difference with respect to supervision (p=0.675) and achievement (p=0.170). Further, searching for disparities among age in factors of motivation, we found that employees under 25 years old scored higher for achievements, recognition and job security. Employees between 26 and 35, scored higher for growth and organizational policies. Still, employees under 35 years, scored higher for better working conditions and up 46 years old scored higher for better sal-

ary. Finally, the means show a pattern that as age increases the strength of goal internalization also increases.

Again, a significant difference was observed in the marital status of respondents concerning recognition, nature of work, responsibility, supervision, working conditions, salary, and job security ($p < 0.05$), but no significant difference concerning achievement ($p = 0.381$), advancement ($p = 0.645$), organizational policies ($p = 0.477$), growth ($p = 0.201$) and interpersonal relationships ($p = 0.148$).

Moreover, there is a significant difference in the level of education of respondents concerning all factors of motivation ($p < 0.05$), but no significant difference concerning salary ($p = 0.148$). Those that had completed higher education scored higher for recognition, appreciation and reputation, more responsibilities, promotion and better salaries whereas those with lower education scored higher for job security and flexible working hours. Employees with less years of work experience were more satisfied than employees with over 16 years of experience. These findings could be due to the younger employees, at the start of their careers, having better and stronger relationships with their colleagues and their supervisors. In lower education levels, scores were higher for job security and flexible working hours.

What is more, there is a significant difference in employment status of respondents with respect to nature of work, organizational policies, growth, interpersonal relationships, salary and job security ($p < 0.05$), but no significant difference with respect to achievement ($p = 0.809$), recognition ($p = 0.382$), responsibility ($p = 0.514$), advancement ($p = 0.717$), supervision ($p = 0.276$) and working conditions ($p = 0.476$).

Looking closer at the results, there is a significant difference in professional experience of respondents with respect to all factors of motivation ($p < 0.05$), but no significant difference with respect to nature of work ($p = 0.066$), advancement ($p = 0.096$) and organizational policies ($p = 0.114$). Employees with less years of work experience were more satisfied than employees with over 16 years of experience. These findings could be due to the younger employees, at the start of their careers, having better and stronger relationships with their colleagues and their supervisors. Experienced employees scored higher for promotion, responsibility and recognition, implying that they are more intrinsically motivated.

Not to mention, there is a significant difference in economic condition of respondents with respect to all factors of motivation ($p < 0.05$), but no significant difference with respect to organizational policies ($p = 0.127$).

Job motivators by the category of staff

Medical Staff

The medical staff ranked the motivating factors as follows: satisfactory fees ($MS = 9.28$), training (9.09), opportunities for new knowledge-skills (9.08), the possibility of participating in the reception decisions (8.59), tenure and job safety (8.50), opportunity for development-promotion (8.09), opportunities for initiatives & capacity building (7.97), good supervision & support from senior executives (7.83), appreciation and good reputation (7.74), recognition of contribution & progress (7.50), incentives for extra effort & productivity (6.88) and flexible working hours (6.61).

Nursing Staff

Nurses constitute the largest human resource element in healthcare organizations and therefore appear to have a great impact on the quality of care and patient outcomes. The nursing staff pinpointed as key motivating factors in order: satisfactory fees ($MS = 9.36$), permanence and job safety (8.97), training (8.96), opportunities for new knowledge-skills (8.95), opportunity for development-promotion (8.09), appreciation and good reputation (8.03), the possibility of participating in the reception decisions (7.94), good supervision & support from senior executives (7.70), recognition of contribution & progress (7.64), opportunities for initiatives & capacity building (7.42), flexible working hours (7.35), incentives for extra effort & productivity (6.98).

Other Hospital Staff

According to the answers of the other hospital staff, all factors are compared with the others and their values are presented in the following figures: the salaries ($MS = 9.23$), the permanence-security (9.00), training (8.58), opportunities for new knowledge-skills (8.53), appreciation and good reputation (7.91), good supervision & support from senior executives (7.81), recognition of contribution & progress (7.59), opportunity for development-promotion (7.57), opportunities for initiatives & capacity building (7.22), the possibility of participating in the reception decisions (7.20), incentives for extra effort & productivity (6.96), flexible working hours (6.70).

Comparison of motivators between the staff categories in the hospitals

The three categories of hospital employees who took part in the survey revealed that the most significant motivation predictor for health professionals was salary. Coombs (1985) cited that when employees' salaries fail to keep pace with the cost of living, their morale suffers and the able ones shift to better paying jobs, thus pulling down the quality of healthcare service in public hospitals (19). Thus, salary is a clear prerequisite for motivation, indispensable for life and needed to satisfy the basic needs of survival and security. Still, higher needs such as self-esteem can also be satisfied, as with money people are able to buy things that show their status and create a visible sign of recognition (20, 21). The occurrence of the global economic crisis in 2007 that affected Greece during 2009 to 2019 had adverse effects on the public health care system and highlights the significance of salary in motivation (Figure 1).

All the categories of employees in hospitals don't have the same motivators. It seems like the medical staff has higher intrinsic motivation compared to other professional categories in hospitals. For many of them, it is the life that they had dreamt of and they look at no other better or even similar alternative around, being a doctor was their life goal. The profession by its nature gives them social recognition, as they have a responsibility, sense of control, challenging nature, creativity, and skill exploration that they possess due to their higher academic status. Similarly, doctors are encouraged to work harder when they are involved in decisions that concern their work. Participation can provide individuals with an opportunity to make key managerial decisions that have an impact on other employees, thus increasing motivation, job satisfac-

tion, responsibility, performance, and engagement (22, 23). Still, increased work responsibility and challenge may be related to many factors suggested in the two-factor model as recognition and interpersonal relationships have implications for individuals' identity (24).

In this same vein, it seems like nurses is a category of staff that is positively affected by supervisors' support (MS=7.70), appreciation and good reputation (8.03). Appreciation by seniors on the job, by patients and the community was found to be one of the most important motivating factors and it seems like that it is directly associated with organizational achievement and engagement at work (25). Furthermore, job-induced tension in the less experienced nurses was found to be higher than in the experienced ones because less experienced nurses might have the first-line duty and responsibility to provide good quality of bedside care for their patients. With less clinical experiences obtained, inadequate frontline staffs available and poor supervision and support from the senior staff, the inexperienced nurses are prone to experience a higher level of work related stress, especially when required independent and important clinical, decision-making for their patients in needs. In many hospitals of this research, nurses are responsible for the management of material resources in the units, in reality these resources must be performed by an administrative officer. Lastly, nurses (compared to the other categories of staff) pointed out the need for flexible working hours (MS=7.35).

5. DISCUSSION

Franco et al. (2002) claimed that the strength of motivation is influenced by how well individual health worker goals are in alignment with the goals of the employing organization, and that the motivation process is composed of both intrinsic and extrinsic factors (26). This study revealed that although extrinsic motivation factors were important (MS=8.30), healthcare employees emphasized also in intrinsic motivation (MS=7.81) such as having responsibilities, interaction between workers as well as recognition for achievements and respect for their profession (Table 4). Both intrinsic and extrinsic factors and the balance between them seem to be important for motivating hospital employees (27). Thus, the healthcare administrators must address the motivation of health service employees by designing a bundle of strategies (a mix of both hygiene and factors of motivation) to respond to their motivational needs.

In our survey, recognition correlates significantly with employee work motivation. The results of many other studies showed the same (28-30). As a matter of fact, social support helps employees to effectively mitigate workplace stress (31), and workplaces with strong perceived social support are associated with higher job satisfaction, higher morale, lower absenteeism, and reduced turnover intentions (32). The idea of "total life space" is a new concept for human resource managers, growing in importance as the number of employees grow. Employees want to be able to balance the demands of work and home. To do so, they want their managers to expect a reasonable amount of work, but not so much that the job interferes with personal life (33).

This study showed that there is a statistically significant

relationship between socio-demographic variables (gender, age, marital status, level of education, employment status, professional experience, economic situation) and their motivation. In incentives such responsibility and work itself (opportunities to take initiatives & exploit resources), men scored higher. This difference indicates that males are willing to take responsibilities compared with females state. Previous studies in the literature also support our findings and states that females' expectations could be lower for some factors such as responsibilities (34). In all other factors, females scored higher, especially women are motivated more by recognition and flexible working hours (35).

Moreover, there are motivators in common for all the categories of staff in hospitals. Job training (MS-Total=8.88) and growth (MS-Total=8.85) provide an essential role for personal development opportunities and help employees to be more specific with their job. Subsequently, trained employees are more motivated with their job. Yet, employee development programs improve workers' satisfaction level by giving them a sense of confidence, providing control over their career, increasing positive feelings towards their job and their organization (36). Moreover, a stable working environment (MS-Total=8.82) in relationship with harmonious interactions between an individual and their fellow employees, as well as relations between other fellow employees with each other, have a positive influence on an individual's level of organizational commitment and motivation (37). According to Okello and Gilson (2015) workplace trust relationships encourage social interactions and cooperation among health workers, have impact on the intrinsic motivation and have consequences for retention, performance and quality of care (38).

There are studies supporting the results of this research, which stated appropriate performance management (i.e., promotions, supervisions, continuous education and opportunities of new knowledge-skills) can positively influence the motivation of health employees. Berdud et al. (2016) researched motivation in healthcare organizations and found that some external factors (incentives) might undermine intrinsic motivation while others might encourage intrinsic motivation (39). This is in agreement with the conclusion of World Health Organization's report, which states "job description, criteria for promotion and career progression have positive association with inspiring motivation of health professionals" and suggests that the motivation of healthcare professionals should be considered as the main indicator of the quality of healthcare services (40). Employee participation and empowerment not only affect efficiency, effectiveness and innovation but also boost employee gratification, work motivation and trust in the organization (41).

6. CONCLUSION

Providing a motivating environment for employees becomes more important in the healthcare system and it helps to examine the motivational attributes that hospital employees consider important for their job satisfaction. Additionally, the process of building employee engagement is a key element of a personnel policy. Knowledgeable and effective employee, not only has specialist knowledge

and skills but also a high level of motivation. Low health employee motivation is characterized by poor practices, including negative attitudes towards patients, lateness and absenteeism, high turnover and migration. This study was conducted to test the Herzberg's motivation and hygiene theory and its focus of this research was to know the motivational factors that employees consider important for boosting their performance and effectiveness. Healthcare employees have different needs that are continuously competing with each other and vary across individuals. Each employee has a different mixture and strength of needs, as some people are driven by achievement while others are focusing on security. A combination of intrinsic and extrinsic motivators has been shown to improve health employee motivation, retention, and performance.

The supervisors must be able to understand, predict and control employee behavior. Also, they should know what the employees want from their jobs. Motivation is not a fixed trait but a dynamic phenomenon as it could change with changes in personal, psychological, financial or social factors. Furthermore, each employee would be triggered by different motivator drivers to feel a sense of inspiration within his/her work and achieve tasks effectively. A model of employee motivation should therefore be able to differentiate between different types of workers and treat the wants, expectations and attitudes towards work as culturally determined variables and not psychological constants. For that reason, it is essential for a hospital to understand what really motivates employees without making an assumption and enhance engagement. According to Dieleman et al. (2007), the issue of low motivation in the work place is one major contributor to the brain drain of health employees migrating from a country abroad or relocated from rural to urban areas within the same country. Investments in training, retention, and sustenance of skilled health care workers in combination with recognition of their performance is a promising approach.

Many studies mentioned that there is a positive relationship between the opportunities of training, the development of personal skills, and the need for promotion opportunities with motivation in organizations. The authors of these studies have argued that when workers become competent and more knowledgeable about their jobs through training, they have higher job satisfaction levels, and are therefore motivated to work hard, which in turn helps the organizations. So, it is also important for the organizational management to fulfil the training needs of their employees in order to make them more motivated and satisfied with their work. Furthermore, managers should create an open communication and consultation system among doctors, nurses and other healthcare staff to encourage their interaction and collaborations at work, so that workgroup cohesion, a team spirit and trust could be strengthened. Hence, this may help in promoting the quality of patient care with good interdisciplinary collaboration.

• **Institutional Review Board Statement:** The study was conducted according to the guidelines of the Declaration of Helsinki, and approved after review and written approvals from relevant institutional ethics and research committees were secured from all thirteen hospitals and the

1st Regional Health Authority of Attica (Approval No: 31707-7/6/2019). Additionally, the Ethical Committee of the National and Kapodistrian University of Athens approved the study protocol.

- **Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.
- **Acknowledgments:** We would like to express our heartfelt thanks to the participants in this study.
- **Author's Contribution:** D.K., V.A. and D.N. gave substantial contributions to the conception or design of the work in acquisition, analysis, or interpretation of data for the work. D.K. and V.A. had a part in article preparing for drafting or revising it critically for important intellectual content. V.A, M.R., and D.N. gave final approval of the version to be published and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- **Declaration of Interest:** The authors declare no conflict of interest.
- **Funding:** This research received no external funding

REFERENCES

1. Oosthuizen TFJ. Motivation influencing worker performance in a technical division of Telkom SA. *Acta Commercii*. 2001; 1: 19-20. 10.4102/ac.v1i1.4.
2. Gibson J, Ivanevich L, John M, Donnelly JH., *Organisations-Behaviour - Structure - Processes*. 10th Edition. Boston. McGraw-Hill, 2000.
3. Mathauer I, Imhoff I. Health Worker Motivation in Africa: the Role of Non-Financial Incentives and Human Resource Management Tools. *Human Resources for Health*. 2006; 4(24). <http://dx.doi.org/10.1186/1478-4491-4-24>
4. Linn MW, Sandifer R, Stein S. Effects of unemployment on mental and physical health. *Am J Public Health*. 1985 May; 75(5): 502-506. doi: 10.2105/ajph.75.5.502.
5. Kofi AA, Odoom E, Opoku M F. The impact of motivation on the work performance of health workers: Evidence from Ghana. *Hospital Practice and Research*. 2016; 1(2): 47-52. doi:10.20286/hpr-010245.
6. Herzberg F. first ed. World Publishing Company; Cleveland: 1966; *Work and the Nature of Man*.
7. Armstrong, M. *Human Resource Management Practice*, Kogan, Page, 2006: 251-269.
8. Mullins LJ. *Management and Organisational Behaviour*. Prentice hall. UK 7th Ed. 2005; 88(431):1052-1058.
9. Lee MT, Raschke RL. Understanding employee motivation and organizational performance: Arguments for a set-theoretic approach. *Journal of Innovation and Knowledge*, 2016; 1(3), 162-169. <https://doi.org/10.1016/j.jik.2016.01.004>
10. Sekhar C, Patwardhan M, Singh RK. 'A literature review on motivation', *Global Business Perspective*, 2013; 1(4): 471-487. <https://doi.org/10.1007/s40196-013-0028-1>
11. Herzberg FI, Mausner B, Snyderman B. *The motivation to work* (2nd ed.). New York: John Wiley, 1959.
12. Haque MF, Islam, Haque MA. Motivational Theories – A Critical Analysis. *ASA University Review*. 2014; 8(1): 61-64.
13. Herzberg F. One more time: How do you motivate employees? *Harvard Business Review*. 1968; Jan/Feb, 46(1): 53-63.
14. Daniel S. Resurrecting the Motivation-Hygiene Theory: Herzberg and the Positive Psychology Movement. *A Human resource development review*, 2007; 13.
15. Sheldon KM, Filak V. Manipulating autonomy, competence,

- and relatedness support in a game-learning context: new evidence that all three needs matter. *Br J Soc Psychol*. 2008 Jun; 47(Pt 2): 267-83. doi: 10.1348/014466607X238797.
16. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates. 1988.
 17. Cronbach LJ. Coefficient alpha and the internal structure of tests. *Psychometrika*, 1951; 16(3), 297-334. doi:10.1007/bf02310555.
 18. WHO. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19-13 March 2020. Available online: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-mission-briefing-on-covid-19--13-march-2020>
 19. Coombs PH. *The World Crisis in Education. The View from the Eighties*. N.Y.: Oxford University Press. 1985;
 20. Agrawal S. Motivation and Executive Compensation. *The IUP Journal of Corporate Governance*, 2010 Nov; 9(1-2): 27-46.
 21. Fu, Weihui & Deshpande, Satish. The Impact of Caring Climate, Job Satisfaction, and Organizational Commitment on Job Performance of Employees in a China's Insurance Company. *Journal of Business Ethics*. 2013; 124. 339-349. doi: 10.1007/s10551-013-1876-y.
 22. Jackson C. Addressing spirituality: A natural aspect of holistic care. *Holistic Nursing Practice*, 2011; 25(1): 3-7.
 23. Perry J L, Mesch D. Paarlberg L. Motivating Employees in a New Governance Era: The Performance Paradigm Revisited. *Public Administration Era*. 2006; 66(4): 89-122.
 24. Timmreck TC. Managing motivation and developing job satisfaction in the health care work environment. *Health Care Manag (Frederick)*. 2001 Sep; 20(1):42-58. doi: 10.1097/00126450-200120010-00007.
 25. Jun M, Cai S, Shin H. TQM practice in maquiladora: Antecedents of employee satisfaction and loyalty. *Journal of Operations Management*, 2006; 24, 791-812. <https://doi.org/10.1016/j.jom.2005.09.006>
 26. Franco LM, Bennett S, Kanfer R. Health sector reform and public sector health worker motivation: a conceptual framework. *Soc Sci Med*. 2002 Apr; 54(8):1255-1266. doi: 10.1016/s0277-9536(01)00094-6.
 27. Hee OC, Kamaludin NHB. Motivation and Job Performance among Nurses in the Private Hospitals in Malaysia. *International Journal of Caring Sciences*, 2016; 9: 342-347.
 28. Manzoor F, Wei L, Asif M. Intrinsic Rewards and Employee's Performance with the Mediating Mechanism of Employee's Motivation. *Front Psychol*. 2021 Jul 15; 12:563070. doi: 10.3389/fpsyg.2021.563070.
 29. Fort AL, Voltero L Factors affecting the performance of maternal health care providers in Armenia. *Hum Resour Health* 2004; 2, 8. <https://doi.org/10.1186/1478-4491-2-8>
 30. Manongi R, Marchant T, Bygbjerg C. Improving motivation among primary health care worker in Tanzania: A health worker perspective. *Human Resources for Health*, 2006; 4(6), doi:10.1186/1478-4491-4-6.
 31. Viswesvaran C, Sanchez J, Fisher J. The role of social support in the process of work stress: A meta-analysis, *Journal of Vocational Behavior*, 1999; 54(2): 314-334. <https://doi.org/10.1006/jvbe.1998.1661>
 32. Lowe G, Schellenberg G, Harry S. Correlates of Employees' Perceptions of a Healthy Work Environment. *American journal of health promotion: AJHP*. 2003; 17(6): 390-399. 10.4278/0890-1171-17.6.390.
 33. Kalimullah KU, Farooq SU, Ullah MI. The relationship between rewards and employee motivation in commercial banks of Pakistan. *Research Journal of International Studies*. 2010; 14, 37-52.
 34. Valentine SR. A Men and Women Supervisors' Job Responsibility, Job Satisfaction, and Employee Monitoring. *Sex Roles*, 2001; 45(3/4). doi: 10.1023/A:1013549710711
 35. Scandura TA, Lankau MJ. Relationships of gender, family responsibility and flexible work hours to organizational commitment and job satisfaction. *Journal of Organizational Behavior*, 1997; 18(4): 377-391. [https://doi.org/10.1002/\(SICI\)1099-1379\(199707\)18:4<377::AID-JOB807>3.0.CO;2-1](https://doi.org/10.1002/(SICI)1099-1379(199707)18:4<377::AID-JOB807>3.0.CO;2-1)
 36. Jin MH, Lee MY. The Effects of Autonomy, Experience, and Person- Organization Fit on Job Satisfaction: The Case of Public Sector. *The International Journal of Social Sciences*, 2012; 6(1): 18-44.
 37. Chmielewska M, Stokwizewski J, Filip J, Hermanowski T. Motivation factors affecting the job attitude of medical doctors and the organizational performance of public hospitals in Warsaw, Poland. *BMC Health Serv Res*. 2020; 20: 1-12.
 38. Okello DRO, Gilson L. Exploring the influence of trust relationships on motivation in the health sector: a systematic review. *Hum Resour Health*, 2015; 13: 16. <https://doi.org/10.1186/s12960-015-0007-5>
 39. Berdud M, Cabasés JM, Nieto J. Incentives and intrinsic motivation in healthcare. *Gaceta Sanitaria*. 2016; doi: 10.1016/j.gaceta.2016.04.013
 40. World Health Organization. *World health report 2006: working together for health*. Geneva: WHO; 2006.
 41. Beugré CD, Offodile IF. Managing for organizational effectiveness in sub-Saharan Africa: a culture-fit model, *The International Journal of Human Resource Management*, 2001; 12(4): 535-550. doi: 10.1080/713769650.