



Master in Health Care Management

Thesis

“Leadership and employee’s attitudes among healthcare professionals- Evidence from healthcare in Greece.”

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Dedication

This thesis is dedicated to my parents Konstantinos Faniadis and Maria Ntouroutli.

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Summary

The aim of this study is to examine the relationship between team leadership and the attitudes of healthcare professionals regarding job performance, burnout, job satisfaction and well-being of employees. The hypothesized model of this research, following the JD–R (job demands–resources model) will investigate the role of effective clinical leadership (defined as those displaying both transformational and transactional leadership characteristics) as a valuable job resource which might lead to the well-being of employees. Moreover, the model will investigate the relationship between the three different leadership styles (transformational, transactional and laissez-faire) and well-being, job performance, burnout and job satisfaction.

For the purpose of this study, an empirical quantitative research was conducted. Therefore, a questionnaire, including in its first section demographic traits concerning the gender, age, working experience, profession and formal position of responsibility and in its second section validated instruments related to the hypothesized model of this research was designed. The study population consisted of doctors, nurses and allied healthcare professionals working in public tertiary and secondary hospitals in the Regions of Central and Western Macedonia, Greece. Totally, 351 questionnaires were completed.

The data were transferred into the statistical software SPSS. v25 for analysis. The reliability of the scales used was tested with the Cronbach's Alpha statistic, and the scores constructed from those scales were tested for normality with the Kolmogorov-Smirnov and Shapiro-Wilk Tests. In order to answer the seven hypotheses of this study, the parametric t-test and one-way ANOVA tests were used. For relations between interval variables, this study utilized the Pearson correlation coefficient test and for relations between categorical variables the Chi-square test was conducted. The confidence level was set to $\alpha = 0.05$.

The results rejected the hypothesis that effective leadership is related to job satisfaction, burnout, job performance and well-being of healthcare professionals. However, the study demonstrated that transformational leadership style is positively correlated to job performance and well-being, and negatively correlated to burnout. Furthermore, job satisfaction was depicted as positively correlated to job performance and well-being. Finally, burnout was shown to be negatively correlated to job

performance and well-being, whereas job performance was found to be positively correlated to employee's well-being.

These findings illustrate the beneficial role of transformational leadership style in promoting job satisfaction, job performance, mitigating the effects of burnout, ensuring the well-being of healthcare professionals in the multidimensional, dynamic, challenging, and complex context of healthcare systems.

Key words: Team leadership; Effective Leadership; Clinical Leadership; Transformational Leadership; Transactional Leadership; Laisser-faire Leadership; Well-being; Job satisfaction; Burnout; Job performance; Healthcare professionals

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1. Introduction

1.1 Leadership

The concept and the practice of leadership is synchronous with the birth of human civilization (Sarachek, 1968) since people tried to form and manage teams effectively in order to achieve their goals. However, there is not a universal definition of the term “leadership” in the literature.

According to Kotter (1995), leadership could be defined as “a set of processes that creates organizations in the first place or adapts them to significantly changing circumstances. Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles”. Furthermore, Fiedler (1967), defines leadership as an “interpersonal relationship in which power and influence is unevenly distributed and one person directs and controls the behaviors of others”. Northouse (2009) suggests that “leadership plays the role of a power relationship between the leader and the followers”.

Leadership is the most influential factor in shaping organisational culture. The leadership task is to ensure direction, alignment and commitment within teams and organisations. (Drath, McCauley, Palus, Van Velsor, O’Connor, McGuire, 2008). Organisational culture is defined as “the values and beliefs that characterise organisations as transmitted by the socialisation experiences newcomers have, the decisions made by management, and the stories and myths people tell and re-tell about their organisations”(West *et al.*, 2015)..According to Schein (1985), leadership and culture can be thought as “two sides of the same coin” and additionally, “the unique and essential function of leadership is the manipulation of the culture”.

Organizational leadership is a multidisciplinary field which has been studied by scholars from a wide range of scientific domains such as sociology, psychology, management, education and political science and healthcare (Asrar-ul-Haq and Anwar, 2018). Leadership is one of the most discussed topics, but there is not a universal acceptance of which leadership approach or style seems to be the most appropriate concerning a particular context or culture (Goethals, Sorenson, & Burns, 2004).

Interestingly, different leadership theories have been established to highlight different organizational problems and to “predict proposed circumstances as a result of different behaviors” (Bass & Avolio, 1993; Hoy & Miskel, 2008).

The trait theory of leadership, known as “Great Man theory” was introduced in the early 20th century (Northouse 2007, 2009). Although trait theories of leadership underlined the importance of the traits of leaders, they never specified if these leadership competencies are innate as being part of the leader’s personality or they could be acquired through effective teaching and training (Allen 1998). Kirkpatrick and Locke (1991) mentioned six characteristics of effective leadership: “motivation, honesty, integrity, self-confidence, cognitive ability and knowledge of the business”, while Kouzes and Posner (2003) introduced four major leadership traits: “honesty, forward-looking, inspiring, and competence”.

Furthermore, the behavioral theories emphasize on behaviors of the leaders: “what leaders do and how leaders act” (Northouse 2004), including two types of behaviors: task behaviors and relationship behaviors (Northouse 2007). The task behaviors are associated with the task fulfillment, whereas the relationship behaviors encourage the followers to continue their efforts. According to Allen (1998), behavioral theories of leadership could be acquired through adequate education and training.

Additionally, it should be mentioned that Blake & Mouton (1994), Likert (1967) and Gill (2006) divided leadership styles into four categories: “exploitative autocratic, benevolent autocratic, consultative and democratic”. Moreover, Goleman (2000) proposed the existence of six basic leadership styles: “coercive leader who demands immediate compliance, authoritative leader who mobilizes people toward a vision, affiliative leader who creates emotional relations, democratic leader who reaches consensus through participation, pacesetter leader who expects excellence and sets high standards of performance and coaching leader who develops people for the future”. Each leadership style has its origins in different emotional intelligence competencies, is suitable for specific situations, influences the organizational climate in different ways and plays a great role in the working environment and the improvement of the performance of a working team or an organization. What is more, it is pointed out that the most effective leaders are those who are able to benefit from more than one leadership style depending on the particular circumstances they have to cope with (Goleman, 2000).

The contingency theories of leadership suggest that successful leaders select different leadership styles depending on the situation and followers. According to Goldsmith (2003), effective leadership could be defined as the “best correlation between the behavior, context and need”. Path-goal leadership theory introduced by House and Mitchell (1974), describes that the key role of a leader is to support their followers in their effort to cope with their problems and to accomplish their goals.

Leader-member exchange (LMX) theory determines the effectiveness of leaders as “the result of psychodynamic exchange between leaders and followers” (Gill, 2006). It highlights the characteristics of the leaders, followers and the relationship between leaders and followers, which is highly related to followers’ job satisfaction, job performance, and organizational commitment (Martin, Thomas, Charles, Epitropaki & McNamara, 2005).

Burns (1978) classified leadership styles based on followers’ motivation into either **transformational** or **transactional**. He defined transformational leadership as a “process of motivating followers by focusing on their values to positively influence their performance and articulating a vision of a clear future to them”. Moreover, transformational leaders empower their followers by persuading them that it would be in their own interest to serve efficiently the organizational goals, whilst they motivate their team members to fulfill their role, accomplish their tasks, enhance their job performance and seek their personal development. On the other hand, a transactional leader controls his followers through different types of rewards/penalties, in exchange for task achievement. Transactional leadership is a “process of social exchange to have an impact on the performance of employees towards established goals”. It should be underlined that in most cases, transactional leadership is the preferred style regarding short term goals while the transformational leadership is most suitable for the accomplishment of long-term strategies.

Bass (1985) proposed Transformational Leadership Theory which suggests that most of the leaders have the characteristics of both the transformational and transactional leadership styles. The **effective leaders** use both leadership styles at various situations based on the task and the followers (Bass and Avolio 1994). Transformational and transactional leadership styles are “interdependent or interrelated” (Northouse, 2004).

Bass and Avolio (1994) developed a leadership model called the Full Range Leadership (FRL) model. This model proposes that leaders use multiple behaviors to influence their followers. The **Full Range Leadership** model includes three leadership styles: **transformational, transactional, and passive/avoidant leadership.**

The **transformational** leadership style illustrates the importance to inspire and motivate followers through compelling vision, individual support, and empowerment. It includes five behaviors: idealized influence (attributed), idealized influence (behavioral), inspirational motivation, intellectual stimulation, and individual consideration.

The **transactional** leadership style emphasizes the necessity of exchange rewards or punishment for any positive work performance or lack of satisfactory performance of the followers. Transactional leadership is linked to three behaviors: contingent reward, management-by-exception (active) and management-by-exception (passive). Leaders showing an active management-by-exception style detect timely possible difficulties before performance is endangered, whereas laissez-faire leaders react only when performance levels have already decreased (Avolio *et al.*, 1999).

According to Northouse (2004), “**Laissez-faire**” constitutes the “absence of leadership”. It could be defined as the “most inactive and the most ineffective leadership” (Avolio 2011), as “laissez-faire” “becomes apparent when the leaders avoid responsibility, do not care about what is happening around them, delay decisions and do not make any effort to motivate and satisfy their followers’ needs”. According to Bass (1990) “laissez-faire leadership is adversely correlated with followers’ efforts, attitude, and performance”. Consequently, it is deduced that some leadership styles might be ineffective or might even be detrimental to the interest of the followers and the organisations. It should be noted that Derue *et al.* (2011) supported that passive leadership styles lead to deleterious effects on the healthcare workforce.

What is more, it should be underlined that the literature classifies leadership styles in two categories: as “focusing on human relationships or task completion”. “Relationally focused leadership” focalizes on people and relationships, for instance transformational leadership (Bass and Avolio, 1994), resonant leadership which emphasizes on the better comprehension of the individuals’ needs (Boyatzis and McKee, 2005, Goleman *et al.*, 2002), authentic leadership which highlights “leader’s

insight, relational transparency and fairness on the part of leaders working with followers; while authentic leadership promotes a positive ethical climate to foster greater self-awareness, an internalized moral perspective, balanced processing of information and positive self-development” (Walumbwa *et al.*, 2008), engaging leadership which is characterized by “integrity, openness, transparency and genuinely valuing and respecting others and their contributions, the ability to unite different groups of stakeholders in developing a joint vision and a developmental culture”(Alimo-Metcalfe *et al.*, 2008).

On the other hand, “task focused leadership” styles are mainly transactional leadership, in which leaders reward their followers in exchange for tasks completed (Bass and Avolio, 1994) and dissonant leadership styles, whereby leaders focus on commanding and pace-setting behaviours to accomplish results (Goleman *et al.*, 2002). Leaders who utilize task focused leadership styles might fail to establish and maintain constructive relationships with their followers, who may need an emotionally intelligent leader in order to thrive as effective team members.

Globally, the contemporary healthcare sector is confronted with workforce challenges, changing and rapidly rising consumers’ expectations and demands, fiscal constraints, financial pressures, increasing demands for access to healthcare system, the necessity to improve patient centered care and issues concerning the quality and safety of healthcare services and legitimate concerns about unacceptable variations in clinical practice. Consequently, healthcare professionals are constantly evaluated regarding their professional performance, while clinicians and healthcare organizations are obliged to acknowledge the inevitability of increased accountability. (Taplin, Foster and Shortell, 2013), (Ayeleke *et al.*, 2018), (Daly *et al.*, 2014).

Moreover, the healthcare field has dramatically been changed in the past few years, posing special leadership challenges due to the complexity of health care institutions.

Hartley, *et al.* (2008), Alloubani, Almatari and Musa Almkhtar, (2014), West *et al.*, (2015), and Shanafelt and Noseworthy (2017), highlight the features of the contemporary healthcare setting which address unique challenges for leadership:

1. “The external environment (insurance, reimbursement,) is very complex and dynamic.

2. Healthcare internationally is facing new challenges and has new goals. Healthcare leadership is invited to shape new goals linking ideas with practice in the current workplace.

3. New technologies are constantly emerging and the evidence about their effectiveness may be incomplete.

4. Healthcare organizations are dynamic, constantly changing either structurally or culturally.

5. The multi-professional healthcare workforce poses a great challenge to manage.

6. The goals of healthcare delivery are multiple and conflicting such as the conflict between cost, clinical care, and quality of healthcare services.

7. New and widely acknowledged information about healthcare have augmented the expectations of patients, healthcare providers and communities.”

Specifically, hospitals are very costly, dynamic, complex environments, which constitute the cornerstone of the health care system. Health care organisations are comprised of human systems where individuals of diverse social, cultural, educational and professional backgrounds interact with one another in an effort to achieve successful management of the health care system ensure the provision of safe, efficient, and high-quality healthcare services and the realization of healthcare system reform, care redesign and continuous performance improvement (Shanafelt and Noseworthy, 2017), (Garman and Lemak, 2011), (Taplin, Foster and Shortell, 2013). Therefore, the successful fulfilment of these goals depends on two factors: “shaping effective care teams and good management of local operations (clinical microsystems) (Bohmer,2013) (Hargett *et al.*, 2017), while clinicians are called to play a significant role in this multidimensional process. “Clinical microsystems are composed of frontline clinicians whose primary work is patient care” (Bohmer, 2013), (Stoller, 2014).

It is widely recognized that healthcare leaders are invited to play a fundamental role in confronting these great challenges. In healthcare, there is distinction between leadership regarding the chief executive (or his or her directors) and team or clinical leadership which refers to healthcare professional groups such as

doctors, nurses and multidisciplinary teams who constitute the “face” of care the patients are mostly familiar with(Ham, 2003),(West *et al.*, 2015). According to Garrubba *et al* (2011), clinical leadership could be defined as the “ability to influence peers to act and enable clinical performance, provide peers with support and motivation, play a role in enacting organizational strategic direction, challenge processes, to possess the ability to drive and implement the vision of delivering safety in healthcare”. It is well accepted that clinical leadership is considered to play an important role in improving organizational performance, including the quality of care, patient safety and cost-efficient care (Daly *et al.*, 2014).

Specifically, Nicol, Mohanna and Cowpe, (2014) suggest that clinical leadership should encompass all clinical healthcare workforce, regardless of profession; whereas all members of the health care team are potential leaders in a concept of ‘distributed leadership’, which underlines that healthcare professionals are eligible to become ‘leaders’ without having a formal leadership position of managerial authority. This statement is in agreement with the findings of (Berghout *et al.*, 2017) that revealed two broad definitions concerning the healthcare leadership: “a formal managerial role with a specific appointment and an informal role, where leadership constitutes part of healthcare professionals’ daily practice”.

In this context, clinical leaders could be approached as team leaders who are encouraged to create a strong sense of team identity by ensuring that the team has formed a clear and inspiring vision of the team’s work and clarify the team’s members’ job description and responsibilities; while team members agree on challenging, measureable team objectives (Taplin, Foster and Shortell, 2013), there is shared leadership and finally members are fully involved in decision making and fruitful discussions about how to obtain and maximize the quality of healthcare services (Taylor, Taylor and Stoller, 2008),(Stoller, 2009) , (Nowacki *et al.*, 2016), (Wheeler and Stoller, 2011), (Stoller, 2014). Futhermore, Stoller (2017) stated that “clinicians lead all the time. They lead patients through the difficult maze of illness, families through the travails of ill loved ones, their peers through the challenge of studying the science of medicine and nursing and controlling both tough decisions and complex organizations.” Clinicians are well “established leaders who lead in hierarchical, highly structured environments such as wards, intensive care units, emergency departments or operating rooms; the supervisors oversee their clinical fellows, the chief physicians or chief nurses oversee residents and nurses of a

particular nursing unit respectively, physicians lead patients” (Stoller ,2017), (Maykel, 2013).

Frontline clinicians not only make decisions affecting the quality and efficiency of healthcare services, but they also have the technical knowledge to promote strategies about longer-term patterns of healthcare delivery. Their key role is to establish the group’s shared goals, cultivate a collaborative culture, unify diverse multidisciplinary teams, and align these with the patients’ expectations and needs, the local environment’s economic demands and the healthcare organization’s mission (Daly *et al.*, 2014), (West *et al.*, 2015), (Nicol, Mohanna and Cowpe, 2014).

In hospital settings, distinguished healthcare professionals undertake leadership roles in the hierarchical structure of healthcare workforce as Chair of Department, Chief of Section/Division, Chief Medical Officer, Head Nurse, Nurse Manager, Head allied healthcare professional or other formal leadership positions (Arroliga *et al.*, 2014). However, the need for leadership roles undertaken by clinicians usually without any formal title, authority or leadership job description, is well documented in the literature (van de Riet *et al.*, 2019), (Maykel, 2013), (Stoller, 2017), (Bohmer, 2013), (Berghout *et al.*, 2017).

Recently, head nurses have undertaken the responsibility to serve as leaders rather than simply managing nursing functions, while their main purpose is to drive positive changes in their working environment and simultaneously to motivate and empower nurses to accomplish the best outcomes for both patients and the organization. (Balsanelli and Cunha, 2014), (Nelson *et al.*, 2014), (Amestoy *et al.*, 2017). In parallel, physicians undertake numerous leadership responsibilities in their daily clinical practice such as the discussion of care plans, teaching medical trainees, functioning effectively as members of multi-professional teams, while ensuring the safety and high quality of healthcare services (Stoller, 2009), (Maykel, 2013), (Reinertsen, 1998), (Firth-Cozens and Mowbray, 2001).

Additionally, the clinicians’ challenging aim is to shape effective teams regarding the appropriate organizational environment (Taplin, Foster and Shortell, 2013), (Ayeleke *et al.*, 2018). Team leaders act as a catalyst in creating environments that support team success, organizational culture that values teamwork, a safety culture where medical teams are more likely to reduce medical errors and establish more innovative changes in their practices to improve quality, offering rewards to support team effectiveness, providing the necessary resources and organizing their

colleagues into highly functional multidisciplinary teams (Goodall and Stoller, 2017), (Daly *et al.*, 2014),(Arroliga *et al.*, 2014). The necessity for multidisciplinary teams is due to the increased specialization within healthcare professions in order to provide integrated health care and the fact that multidisciplinary teamwork is associated with continuous quality improvement (Wheeler and Stoller, 2011), (Arroliga *et al.*, 2014) . Moreover, robust data support the notion that desirable clinical outcomes, for instance, decreased surgical mortality rates, enhanced diagnostic accuracy and lower error rates in emergency care are positively correlated to teamwork among caregivers. Also, patients appreciate their care based on the teamwork among their healthcare caregivers (Wheeler and Stoller, 2011), (Welp, Meier and Manser, 2016).

Effective clinical leadership, in the context of these dynamic and challenging hospital settings, has been associated with a broad range of positive consequences. Furthermore, effective clinical leadership “emerges” as a prerequisite to sustain the optimal healthcare system performance, to accomplish healthcare reform plans, to deliver healthcare services in a timely manner, to enhance healthcare system’s integrity and quality, to ensure efficient patient safety healthcare systems and to establish healthier workplaces by driving cultural change among all health professionals. Therefore, clinical leaders should be characterized as being clinically credible, which means to be recognized by colleagues as being committed to clinical work and having clinical competence and social skills as well (Daly *et al.*, 2014), (West *et al.*, 2015), (Saravo, Netzel and Kiesewetter, 2017), (Stoller, 2017).

The effective 21st century clinical leader will not only be excellent and able to come up with innovative ideas but will also be able to “go 3 levels down and broadly comprehend what the person at the third level is doing. The leader is obliged to get in touch with the third-level employee (bottom-level staff) who has to feel empathy derived from the leader. This third-level employee also should understand that the leader desires to develop healthy patients and communities, whereas employee is invited by the team leader to contribute to the realization of this goal” (Arroliga *et al.*, 2014).

Strong data from literature suggest that healthcare leaders should acquire the ‘core competencies’, which are defined as the skills and abilities, that will enable them to lead their team with regard to the multidimensional hospital setting (West *et*

al., 2015), (Joyce and Adams, 2010), (Herd *et al.*, 2016), (Nowacki *et al.*, 2016), (Taylor, Taylor and Stoller, 2008).

Boyatzis, (1982) has suggested the following leadership competencies:

- “Technical competence: knowledge about the organisation, its strategy, structure and processes, knowledge about health care services, treatments and technologies.
- Conceptual skills: having an understanding of the complex environments of healthcare organisations (both internal and external).
- Interpersonal skills: understanding the needs and feelings of followers, monitoring the effects of own behaviours and being aware of emotional reactions to others.”

Additionally, the clinical leadership competencies, which include factors such as “expertise, direct involvement in patient care, high level interpersonal and motivational skills, emotional intelligence, professionalism, commitment to high quality practice, empowerment of others, having a vision and ‘organizational altruism’ which could be interpreted as the understanding of the institution as well as dedication to its success even at personal expense,” play a central role in establishing effective clinical leaders (Taylor, Taylor and Stoller, 2008). Kouzes and Posner (2002) stated that leadership traits could be mastered by teaching and that “leaders are made, not born”, whereas they suggested five leadership traits that characterize great leaders: “Challenging the process, inspiring a shared vision, enabling others to act, modeling the way and encouraging the heart”.

Clinical leadership demands clinician engagement and forms of citizenship behaviors (“altruism, courtesy, conscientiousness, collegiality and civic virtue”) within the clinical context (Daly *et al.*, 2014). On the other side, despite the crucial role of teamwork in healthcare, there are barriers against teamwork among healthcare professionals. Specifically, healthcare organisations and in particular hospitals, are “classically siloed structures” and healthcare professionals are organised in ‘tribal’ ways around their department, a fact that undermines the effective cooperation among diverse healthcare professions and specialties (Goodall and Stoller, 2017), (Stoller, 2009). Lee (2010) clearly stated that “Working in teams does not come easily to physicians who still often see themselves as ‘heroic lone healers’, who may be

‘collaboratively challenged’. However, developing teams is a key leadership function for health care providers of all types.”

“Medical and nursing school education focuses on the human body and the delivery of patient care”. However, usually there is no adequate training for the other “parts of the job”, such as running a department, a unit, a medical or a nurse team, motivating employees, developing collaboration within a team, mentoring employees, shaping strategies, and coping with failures” (Maykel, 2013).

For this reason, health care organisations form and activate the function of competency-based training or professional development programmes in order to enhance the capabilities of aspiring healthcare leaders, a concept known as ‘leader development’. Leadership development programmes are characteristic traits of successful organisations and are being welcomed by front-runner healthcare organisations. The need to train leaders is by no means limited to physicians. Nurses, and allied healthcare providers must also acquire the essential competencies to lead, to follow, and to be emotionally intelligent clinicians (West *et al.*, 2015), (Nicol, Mohanna and Cowpe, 2014), (Edmonstone, 2011), (Goodall and Stoller, 2017), (Stoller, 2017), (Goodall, 2011).

It should be mentioned that one of the most well recognised healthcare leadership competency models, is the National Center for Healthcare Leadership (NCHL) (Calhoun *et al.*, 2008), (Garman A.N., Lemak C.H.,2011) which proposes that self-development obtained by building self- awareness of one’s strengths and challenges, talent development, team leadership interpreted as communicating with team members, establishing goals and positive attitudes, keeping the team members engaged (Calhoun *et al.*, 2008) and “people”-related competencies might act as the fundamental competencies for current and future healthcare leaders (Garman A.N., Lemak C.H.,2011), (Herd *et al.*, 2016). At the Cleveland Clinic, the leadership model and curriculum is organized around four dimensions: “leading change, developing self and others, fostering teamwork, and demonstrating character and integrity”(Nowacki *et al.*, 2016). The NHS Leadership Framework (West *et al.*, 2015) states that leadership can and should derive from anybody, not only those in formal positions of authority, while the Duke Healthcare Leadership Model was structured based on the core principle of “patient centeredness and core competencies of emotional intelligence, integrity, selfless service, critical thinking, pursuing excellence and teamwork” (Hargett *et al.*, 2017).

1.2 Well-being

According to the Constitution of the World Health Organisation (1948), **health and wellbeing** is “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”. This description underlines the broader definition of the term as “encompassing physical, mental, and social health” (Paparella 2015). Furthermore, according to the World Health Organization (WHO), “a healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of workplace”. Employee wellbeing is a form of domain-specific wellbeing. Van de Voorde *et al.* (2011) distinguish the three dimensions of “**employee wellbeing**: happiness, health and relationship wellbeing”. Work-related happiness is defined as job satisfaction, work-related health is defined as burnout; specifically emotional exhaustion and relationship wellbeing is defined as “harmonious work relationships between colleagues and leaders”.

It should be mentioned that health care professionals constitute a significant proportion of the workforce in every developed country and the need to support them will be constantly increased in the future. Indeed, according to the Green Paper on the European Workforce for Health in 2008, it was estimated that 70% of the health budget in Europe was distributed to salaries and employment-related costs, while roughly 10% of the active EU workforce is engaged in the health sector (European Observatory on Health Systems and Policies, 2010). However, there are shortages in this large and critical working group because of aging workforce, limited capacity to train new healthcare professionals, job dissatisfaction, increased demand for clinical staff to provide holistic healthcare (Montgomery, 2016).

The positive side of being well was defined by Shanafelt *et al.*, (2003) as: “Wellness goes beyond merely the absence of distress and includes being challenged, thriving, and achieving success in various aspects of personal and professional life.” Additionally, healthcare professionals’ stress, fatigue, burnout, depression, or general psychological distress negatively influences health-care systems and patient care. Healthcare workers’ well-being might not only be beneficial to the individual clinician, but also be valuable to the delivery of high-quality health care. Beyond the impacts of workload and fatigue, healthcare workforce might be negatively affected

by other specific factors related to the nature of the healthcare profession as they work in “emotionally-charged situations associated with suffering, fear, failures and death, which usually leads to ‘painful’ interactions with patients, families, and other clinical staff”. Furthermore, excessive cognitive demands caused by the need for processing of complex information for long periods can negatively influence work quality (Wallace, Lemaire and Ghali, 2009), (Casalino and Crosson, 2015), (Paparella 2015), (Thomas, Ripp and West, 2018).

The health care sector, in terms of increasing demands, reduced resources and the need to provide high quality healthcare to an aging population with chronic and multisystem diseases, leads to the deterioration of physician well-being. Therefore, clinical leaders are engaged to elaborate organizational and individual strategies in order to develop effective coping mechanisms of resilience against this great organizational threat (Thomas, Ripp and West, 2018), (Wallace, Lemaire and Ghali, 2009), (Brand *et al.*, 2017).

All medical organizations evaluate patient admission rates, quality, patient safety, patient satisfaction, and financial data. However, there is evidence that physician well-being is equally essential to long-term viability of the organization and therefore it should be measured (Shanafelt, Goh and Sinsky, 2017). Dimensions of physician well-being which could be measured include burnout, engagement, professional fulfillment/satisfaction, fatigue, emotional health/stress, various dimensions of well-being/quality of life, negative medical consequences of physician impairment (for instance: professional or diagnostic errors, fatigue, medical errors, sick leave, sleep deprivation, cognitive impairment) (Lall *et al.*, 2019), (Dyrbye *et al.*, 2018).

Nowadays, it becomes apparent that to “the ‘triple aim’ of healthcare delivery (improving patient experience and outcomes, reducing costs) a fourth dimension should be added: improving healthcare staff experience and therefore well-being of healthcare workforce” (Brand *et al.*, 2017). For this reason, **team leadership** is invited to set an example from “the top” in order to shape a culture where both **wellbeing** of team members and **patient-centered healthcare** are highly valued.

1.3 Job satisfaction

According to Smith *et al.* (1975), **job satisfaction** is defined as the “feeling employees have about their job in general”. Additionally, job satisfaction is described as a “multidimensional construct with specific facets of satisfaction related to income, work, supervision, professional opportunities, benefits, organizational practices and relationships with colleagues” (Misener *et al.* 1996). Research demonstrates that employees who are characterized as being “satisfied with their job are more likely to be productive and might intent to stay on the job” (McNeese-Smith 1997).

Furthermore, literature points out that job satisfaction rates are linked to individual and organisational performance, while different leadership styles could impact patient outcomes through the positive and negative influences on healthcare staff and their work environment (Wongand Cummings, 2007; Wong *et al.*, 2013). Factors influencing job satisfaction should be examined, as decreased job satisfaction could be adopted as an “indicator of quality care”. Job satisfaction is also associated with the healthcare professionals’ intent to stay or leave, staff safety, continuity in care, and client health outcomes including increased patient mortality” (Aiken *et al.*, 2002).

1.4 Burnout

The health care field is experiencing unprecedented changes that threaten the survival of many health care organizations. Specifically, “requirements for ‘meaningful use’ of electronic health records have dramatically increased bureaucratic burden for staff (Shanafelt and Noseworthy, 2017) (Reith, 2018), (Bridgeman, Bridgeman, and Barone, 2018). In parallel, healthcare sector faces great economic challenges due to demanding expectations for healthcare professionals (caring for more patients with the same amount of time/resources), efforts to enhance efficiency and constant pressure to decrease the cost of healthcare services (doing more with less)” (Dyrbye *et al.*, 2017), (Shanafelt and Noseworthy, 2017). Furthermore, work process inefficiencies (computerized order entry and documentation), excessive workloads (work hours, night shifts, overnight call frequency, nurse-patient ratios, physician-patient ratios), work-home conflicts, organizational climate factors (management culture, lack of physician-nurse collaboration, “value congruence, opportunities for advancement and social support), deterioration in control, autonomy

and meaning at work have been associated with burnout among physicians and nurses (Shanafelt, Goh and Sinsky, 2017),(Mudallal, Othman and Al Hassan, 2017), (Portoghese et al., 2014) ,(Reith, 2018).

What is more, the shortage of clinical staff impedes the adequate staffing. A 2006 World Health Organization (WHO) report underscored “the matter of the health care provider shortage, particularly the shortage of nurses, and how it will interfere with national and international efforts to improve the health and well-being of the global population”.

Unfortunately, today’s health care leaders cope with these challenges with an increasingly exhausted and fatigued healthcare staff. Studies indicate that at least 50% of US physicians are suffering from professional burnout. Burnout in US physicians has increased during the past decade and is higher than that of US professionals in other working domains (Shanafelt *et al*,2012), (Dyrbye *et al.*, 2017), The rate of burnout among physicians varies, with many of the specialties at the front line of care (eg, family medicine, general internal medicine, emergency medicine, gynecology, intensive care medicine, neurology) at highest risk (Shanafelt *et al*,2012), (Reith, 2018). More specifically, 22% of physicians in the USA, 27% of physicians in Great Britain 20% of physicians in Germany and between 22% and 32% of physicians in Italy, are estimated to present high level of burnout (Wiederhold *et al.*, 2018). The European Agency for Safety and Health at Work estimated that the annual financial cost of work-related stress disorders in the EU was about 20 billion Euros, underlining that burnout has a dramatic impact on quality of patient care and huge economic burden on health systems (Shanafelt, Goh and Sinsky, 2017),(Wiederhold *et al.*, 2018). Studies demonstrate that burnout influences quality of care, patient safety, and patient satisfaction. Physician distress has also been linked to physician prescribing habits, test ordering, the risk of malpractice suits, and whether or not patients adhere to physicians’ medical recommendations (Shanafelt and Noseworthy, 2017), (Fahrenkopf *et al.*, 2008), (West *et al.*, 2006), (Shanafelt *et al.*, 2002), (DiMatteo *et al*,1993).

Burnout also influences nurses and other health care staff; the Agency for Healthcare Research and Quality estimated that burnout may affect 10–70% of nurses and 30–50% of physicians, nurse practitioners, and physician assistants (Lyndon,2015).The study of Aiken *et al* (2001) presented that 43% of nurses working at US hospitals suffer from emotional exhaustion, while the study of McHugh *et al*

(2011) showed that the prevalence of burnout was 37% among nurses working in nursing homes and 33% among hospital nurses.

Burnout is a combination of **exhaustion**, **cynicism** and **perceived inefficacy** resulting from long-term job stress. It was first described in 1974 by the clinical psychologist Herbert Freudenberger, who volunteered at a free clinic in East Village, New York City. Over time, Freudenberger observed emotional depletion and accompanying psychosomatic symptoms among the clinic's volunteer staff. He described the phenomenon "**burnout**," and defined burnout as exhaustion resulting from "excessive demands on energy, strength, or resources" in the workplace, characterizing it by symptoms including malaise, fatigue, frustration, cynicism and inefficacy (Reith, 2018b). Afterwards, Christina Maslach developed a model of burnout consisting of three dimensions: **emotional exhaustion**, **depersonalization**, and a **diminished sense of personal accomplishment**. In 1981, she proposed the Maslach Burnout Inventory (MBI), which consists of three subscales, to measure an individual's symptoms regarding each scale and is widely utilized by scholars regarding research in the domain of burnout and well-being.

Burnout is defined as a "prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach,1996). It results from an intense and strongly asymmetrical relationship between the "giver" and the "receiver" (Leiter,2009). Burnout is the result of a complex interaction between environmental stressors, genetic vulnerabilities and coping styles, whereas it is negatively correlated to job performance and social relationships (Dyrbye *et al.*, 2017),(Reith, 2018)

The main organizational impacts of burnout include: "decreased productivity, low level of job satisfaction, job withdrawal, absenteeism, sick leave, and job turnover" (Williams *et al.*, 2007). Furthermore, burnout is also associated with negative psychological feelings, such as loss of work meaning, disillusionment and physiological outcomes as well (Bakker, Demerouti and Sanz-Vergel, 2014). According to Salvagioni *et al* (2017), the individuals suffering from this occupational syndrome might present disorders such as muscle pain, headache, insomnia, respiratory illnesses, gastrointestinal disorders, cardiovascular diseases, metabolic syndrome, anxiety, depressive symptoms, and substance abuse (mainly antidepressant drugs). However, it should be emphasized that burnout, as an identity, is not identical to depression as burnout involves a person's relationship to his or her work, whereas depression affects all the aspects of an individual's life (Shanafelt *et al.*, 2002).

Many factors lead to burnout including heavy workloads, an inefficient working environment, issues with work–life integration, lack of flexibility, decision making, autonomy, control over the clinical practice and loss of meaning at work (Swensen, Kabcenell and Shanafelt, 2016). Other factors include medical specialty, personality type, sleep deprivation, exposure to emotionally charged environment with suffering patients, medical errors and malpractice suits (Shanafelt, Boone, et al., 2012; Shanafelt, Sloan, & Habermann, 2003). Physicians who suffer from burnout are impaired (Shanafelt et al., 2010) and along with their organizations are at risk of having higher rates of medical errors (Dyrbye et al., 2010; Shanafelt et al., 2010), low level of professionalism (Dyrbye et al., 2010; Shanafelt et al., 2010), lower levels of patient satisfaction (DiMatteo et al., 1993), lower productivity (Dewa et al., 2014), as well as higher levels of turnover (Shanafelt, Raymond et al., 2014). Burnout also undermines pride, idealism, and dedication (Leiter et al., 2013, Maslach & Leiter, 2008).

Finally, burnout is described as an organizational rather than an individual problem, which is associated with a highly stressful working environment and a dysfunctional organizational culture.

1.5 Job performance

Job performance constitutes a multifaceted dimension which is utilized by scholars as a determinant of occupational health whereas is correlated to employee's productivity

(Koopmans *et al.* 2011). According to McNeese-Smith (1997), productivity could be described as “the contribution made towards an organizational final goal in relation to the number of resources consumed”. Especially, as far as healthcare organisations are concerned, job performance is widely used as a measurement outcome and an indicator of the quality of healthcare services (Firth-Cozens and Mowbray, 2001), (Ham, 2003). On the other hand, it should be emphasized that job performance is determined and influenced by job engagement (Halbesleben *et al.*, 2008) and job satisfaction (Judge *et al.* 2001).

Caring for patients has a great value that is not fully captured by performance and economic data. Fruitful interactions with patients and colleagues improve healthcare professionals' well-being and physicians, who are well, might provide

better patient care and practice high-quality medicine (Thomas, Ripp and West, 2018). It is well documented that a higher level of job performance improves outcomes concerning the high quality of healthcare delivery (Bohmer, 2013). There are also findings suggesting that creating a culture of positive leadership leads to a higher level of team performance (Alimo-Metcalfe *et al.*, 2008). Moreover, another factor which could be measured in order to evaluate the job performance of healthcare professionals is the quality of care delivery as it is associated with patient experience (Maben, 2012), patients' complaints (Shipton *et al.*, 2008) and dissatisfaction (Halbesleben and Rathert, 2008), (Haas *et al.*, 2000). On the other hand, healthcare professionals could self-report their own individual performance (Koopmans *et al.*, 2014) and self-assess their job performance regarding the suboptimal care their patients receive as it is perceived by healthcare providers (Shanafelt *et al.*, 2002) (West *et al.*, 2006).

1.6 Aim of the study

The aim of this study is to examine the relationship between team leadership and the attitudes of healthcare professionals regarding job performance, burnout, job satisfaction and well-being of employees. More specifically, the hypothesized model of this research, following the JD–R (job demands–resources model) (Bakker, Demerouti and Sanz-Vergel, 2014), will investigate the role of effective clinical leadership as a valuable job resource which might lead to the well-being of employees. It should be illustrated that according to the JD-R model, leaders are given the opportunity to “balance the job demands and job resources of their followers in a way that they are healthy, motivated, and productive” Schaufeli, (2005). In parallel, this model will explore the mediating role of burnout, job satisfaction and job performance on the relationship between leadership and well-being of healthcare professionals. Moreover, the model will investigate the relationship between the three different leadership styles (transformational, transactional, and laissez-faire) and well-being, job performance, burnout and job satisfaction. Finally, the last hypothesis of the model refers to the relationship between demographic characteristics of the employees concerning the age, the gender, the working experience, the profession and the three different leadership styles, burnout, job performance, job satisfaction and well-being.

2. Main theme

2.1 *Effective Leadership*

Healthcare organisations demand highly effective leadership given the fact that the healthcare sector must cope with great challenges concerning the quality of healthcare services, accessibility, and financial restraints. Effective leadership is essential at every level of healthcare organizations from the “bedside to the ward, the laboratory and procedure suite, to the board rooms that manage the organizations”. (Stoller, 2014).

According to (West *et al.*, 2015) the “essence of effective leadership” lies on:

- “Helping to interpret the meaning of events. Effective leaders help their followers make sense of change, catastrophes, successes, and the future.
- Creating direction and alignment around strategies and objectives.
- Cultivate commitment and optimism.
- Encourage trust and cooperation among team members.
- Create a sense of collegiality among team members.
- Organise and coordinate work efforts.
- Enable collective learning. Team members are encouraged to be aware of the errors, successes and contribute to continuous improvement of healthcare quality.
- Ensure the availability of the resources (financial resources, adequate staffing, technical support, time).
- Develop and empower people: they provide high levels of autonomy and development opportunities to empower those they work with.
- Encourage followers to believe in their ability, to respond successfully to greater challenges and responsibility.
- Promote social justice and morality: they address fairness and honesty in their relationships, they are characterized by ethical/moral behaviour”.

Effective leaders in healthcare organisations address the “provision of safe, high quality, compassionate care as top priority”, they secure that the voice of patients is listened at every level because patient experience matters; they offer supportive, fair, respectful, compassionate and empowering leadership, while the staff’s “voice”

is encouraged and listened by the organization. They consistently monitor job performance, they take measures when errors, serious incidents or complaints occur,

they address errors as opportunities for continuous improvement of healthcare services and proactively address aggressive, inappropriate or unacceptable behaviours displayed by staff or patients.” (West *et al.*, 2015), (Nicol, Mohanna and Cowpe, 2014), (Reinertsen, 1998), (Stoller, 2017). In a dynamic and complex healthcare setting, effective leadership is addressed as the prerequisite to develop and retain nurses and therefore nursing leaders are obliged to “articulate a unified vision and progressive change for optimal nursing care delivery outcomes” (Laschinger *et al.*, 2008).

Extensive reviews of the literature suggest that the leadership styles which are widely utilized and examined could be classified into three types: **transformational** leadership, **transactional** leadership, and **laissez-faire** leadership, (Davis, 2003), (Spears & Lawrence, 2003), (House *et al.* 2004), (Hirtz *et al.* 2007), (Alloubani, Almatari and Musa Almkhtar, 2014).

The **Full Range Leadership Model** (FRLM) constitutes the best empirically examined model and applied as the most important and the broadly utilised leadership framework in literature (Saravo, Netzel and Kiesewetter, 2017).

According to Avolio and Bass (1991), authors of the FRLM, a specific combination of leadership traits is essential to establish an effective leadership style: “a large portion of transformational leadership, higher levels of transactional leadership and a minimum of passive leadership”. Transformational leadership refers to leaders with an “appealing vision for their team, who intellectually stimulate others in a way that is demanding and appreciative of the needs of the team members” (Yukl G., 2013). Transactional leaders are characterized by offering to their follower’s rewards for outstanding performance when they have accomplished defined goals (Bass, 1995). On the contrary, Bass (1995) describes leaders, who do not undertake their leadership role, as passive leaders.

These three different dimensions of Full Range Leadership Model constitute “different levels of activity a leader can exhibit”, while passive leadership is thought to be the least active form of leadership (Avolio and Bass, 1991). More specifically, passive leaders do not react when errors take place or when the level of organizational performance decreases, therefore passive leadership could have catastrophic consequences, especially for the healthcare organisations which demand constant

surveillance of organizational and individual job performance. On the other hand, transactional leaders act when problems occur.

Subsequently, it is well documented that transactional and transformational leadership, defined as two distinct yet interrelated components of leadership behavior, are fundamental features of clinical leadership, (Vandenberghe *et al*, 2002).

It should be underlined that in an effort to achieve high-quality healthcare delivery and to augment clinical productivity, healthcare professionals should address clear goals, set high expectations and standards, articulate a collective vision and motivate team members to meet defined requirements. Additionally, followers, who are rewarded for their excellent performance, might desire to accomplish the goals that have been set. As a result, an effective clinical leader should be eligible to display both transformational and transactional leadership traits depending on the specific circumstances of their working environment, (Saravo, Netzel and Kiesewetter, 2017).

What is more, Alimo-Metcalfe and Alban-Metcalfe (2008) supported that staff needs a combination of the transformational and transactional leadership styles, in order to acquire both the “ability to lead change but also to hold things stable in ways such as the use of reward and the focus on error that are easily detected”. According to Wong *et al* (2013) transformational leadership theory is the most influential theory in health care leadership research. In addition, Cummings *et al.*, 2018, in their review, strongly argued that transformational leadership traits and behaviours were positively correlated to organizational outcomes such as teamwork success, effectiveness, staff satisfaction, commitment and extra effort, whereas passive leadership style (*laissez-faire*) led to “deleterious” organizational impacts. The review of Lega *et al.*, (2017) similarly demonstrated that transformational and collaborative approaches to leadership are associated with beneficial outcomes for healthcare workforce, including nurses. Furthermore, Xirasagar *et al.* (2005) firmly stated that physician-leaders’ “transformational leadership” style was positively associated with perceived leadership effectiveness and the successful realization of clinical goals.

Moreover, the systematic review performed by Gilmartin and D’Aunno (2007) supported that transformational leadership theory (which encompasses both transformational and transactional traits) is well recognised in healthcare and that this leadership theory is related to staff satisfaction, unit or team performance, organisational climate, and turnover intentions. Additionally, there is strong evidence

that transformational leadership is positively correlated to work-life balance, well-being of employee's, positive nursing outcomes, patient safety, openness about errors, and patient and staff satisfaction. (Munir, Nielsen, Garde, Albertsen & Carneiro, 2012, Apekey, McSorley, Tilling & Siriwardena, 2011, Cummings et al., 2008, Kvist, Mantynen, Turunen, Partanen, Miettinen, Wolf & Vehvilaninen-Julkunen, 2013, Wong, Cummings & Ducharme, 2013).

Consequently, it should be underlined that for this particular study, **effective healthcare leaders** are defined as those displaying both **transformational and transactional** features according to **Transformational Leadership Theory**.

2.2 Leadership and well-being

The literature provides strong evidence that effective and positive forms of healthcare leadership play a key role in promoting and establishing the well-being of healthcare workforce.

According to Alimo-Metcalfe *et al.*, (2008), leadership shapes an organisational culture in which employees are encouraged to think strategically. Thus, “shared vision” is a significant predictor of “fulfilment” and “self-esteem”, “reduced stress”, “reduced emotional exhaustion” and a “sense of team effectiveness”. Additionally, according to the study of Nelson *et al.*, (2014), the adoption of authentic leadership style is strongly associated with the psychological well-being of nurses which in turn, will be perceived by the patients. Authentic leadership could also be an “antidote” to the stressful and highly demanding healthcare organisations by creating a positive climate wherein everyone feels “respected, trusted and appreciated for their contribution”. Laschinger and Fida (2014), in a sample of Canadian nurses, found out that the adoption of authentic leadership style led to lower levels of burnout and job turnover.

It is widely recognized that leadership constitutes an important job resource which could be determinant of employees' well-being, which, in turn, might influence occupational health. More specifically, servant leadership (Van Dierendonck & Nuijten, 2011) as a social resource could lead to high levels of employees' job satisfaction (Cerit, 2009) and low levels of burnout symptoms (Babakus, Yavas, & Ashill, (2010), (Upadyaya, Vartiainen and Salmela-Aro, 2016). Furthermore, the systematic review of Cummings *et al.*, (2018) demonstrated that transformational,

authentic and servant leadership styles were highly correlated to low levels of burnout, team innovation/creativity, positive team climate, effective conflict management and empowerment, staff health, and well-being among nursing staff.

According to West et al, (2015) “collective leadership” is characterized by “shared leadership, where there is still a formal hierarchy, but power is more dependent on who has the expertise at each moment.” Therefore, collective leadership has the power to positively affect organizational performance and staff well-being, as it focuses on better staff support and increased autonomy. In parallel, Wallace and Lemaire (2007), in a sample of Canadian physicians, illustrated the importance of team collaboration, both in terms of leading to physician well-being as well as balancing the harmful effects of job demands, while they suggested that “unnecessary stress can be diminished if leadership increases employees’ awareness of organizational goals and involves staff in management decisions.”

The study of more than 2813 physicians at Mayo Clinic, conducted by Shanafelt et al., (2015), supported that each 1-point increase in the leadership score of a physician’s immediate supervisor (division/department chair) was associated with decrease in the likelihood of burnout and an increase in satisfaction for individual physicians after adjusting for age, sex, and specialty. These findings emphasize the “significant contribution of frontline leadership to the well-being and professional satisfaction of physicians working for a large health care organization. The leadership qualities of physician supervisors have a direct effect on the personal well-being of the physicians they lead” (Sili *et al.*, 2014).

Furthermore, Shanafelt et al (2013), in a review regarding physician wellness, stated that “providing physicians with increased ability to influence their work environment, to participate in organizational decisions that affect medical practice and to have more control over their schedules are likely to have a substantial positive effect regardless of practice type”. Effective leaders shape working environments that promote both optimization of the quality of healthcare and well-being of healthcare professionals. However, in the absence of positive leadership, the working climate deteriorates and therefore, clinicians’ well-being is negatively influenced and the quality of care declines. (Sili *et al.*, 2014).

2.3 Leadership-satisfaction-job performance

As far as job satisfaction is concerned, literature points out that leadership in healthcare is positively related to job satisfaction.

The systematic review of De Moura *et al.*, (2017) examined the relationship between leadership theories and the nursing workforce, as well as work environment variables. The authors supported that nursing leadership and specifically the transformational leadership style positively influences the work environment, job satisfaction, the performance and motivation of professionals. Additionally, the study of Chiok Foong Loke, (2001) demonstrated that the application of effective leadership features in the various clinical settings positively affect employee outcomes, especially job satisfaction, productivity and organizational commitment.

In the systematic review of Cummings *et al.*, (2018), the most frequently examined outcome of leadership was nursing job satisfaction. Many studies supported those higher levels of job satisfaction were linked to a variety of relational focused leadership styles, such as authentic, inspirational, resonant and transformational leadership, whereas a substantial number of studies reported that job satisfaction was lower with passive forms of leadership, such as management by exception and laissez faire leadership.

Interestingly, leadership styles could affect patient outcomes through the positive and negative influences on healthcare staff and their work environment (Cummings et al, 2007, Wong et al., 2013). Specific factors determining job satisfaction are important to examine, as decreased job satisfaction could be used as an indicator of quality healthcare services. Job satisfaction is also associated with job turnover and retention, the expenditure of healthcare delivery, the staff's safety and patients' health outcomes including increased patient mortality (Aiken et al., 2002; Cummings et al, 2018).

In their literature review Wong, Cummings, and Ducharme (2013) also note a relationship between nurses' relational leadership styles and lower levels of patients' mortality rates and medication errors. It should be underlined that the most satisfied and motivated healthcare professionals in their work environment are, in turn, able to reward their organization through increased retention and the ability to provide better quality care (De Moura *et al.*, 2017), (McHugh *et al.*, 2011).

2.4 Leadership-burnout

The relationship between the role of positive healthcare leaders and how they could mitigate the occupational syndrome of burnout is broadly discussed in the literature.

It should be mentioned that health organizations have developed programmes aimed at mitigating the burden of burnout and increasing the level of well-being. For instance, the Mayo Clinic described nine strategies that, when implemented, resulted in a 7% decrease in burnout over a two-year period (Shanafelt and Noseworthy, 2017). In April 2018, wellness experts published a “Charter on Physician Well-being which presents guiding principles that individuals and groups should use when addressing burnout”. (Thomas, Ripp and West, 2018)

Additionally, Sili *et al.*, (2014) examined the role of positive leadership in shaping a healthy organization by successfully managing conflicts and as a result decreasing the likelihood of burnout and negative job-related and health outcomes (work disaffection, psychosomatic disorders and negative indicators).

What is more, the review of Cummings *et al* (2008) underscored the fact that comprehension and search for the factors affecting job burnout are fundamental to healthcare professionals’ psychosocial well-being, organizational effectiveness and consequently to patients’ outcomes. Emotional exhaustion and job stress were reported lower with regard to transformational, empowering, resonant, authentic and transactional leadership. On the other hand, passive leadership styles were associated with poorer emotional health and greater emotional exhaustion.

According to Papathanasiou *et al.*, (2014) leadership, motivation, empowerment and confidence are defined as the four key factors that can mitigate the negative impacts of burnout and reinforce the mental health status of the personnel. Evidence propose that greater leadership qualities of clinical leaders decrease burnout and simultaneously increase job satisfaction among healthcare staff. Consequently, healthcare organisations are obliged to “acknowledge burnout as a systemic problem and promote a culture of self-care among their employees, starting from the top down”. (Reith, 2018)

Consequently, we could postulate the following parts of the **hypothesized model** of this study:

1. Effective leadership is related to job satisfaction, burnout, job performance and well-being of healthcare professionals.
2. The three leadership styles are related to demographic characteristics (age, gender, working experience, profession and formal position of responsibility).
3. The three leadership styles are related to well-being, job satisfaction, burnout, job performance and self-reported errors.

2.5 Job satisfaction-well being-job performance

Interestingly, the literature provides strong arguments concerning the relationship between job satisfaction, well-being, and job performance. Firstly, job satisfaction levels are known to be significant for individual and organisational performance (Goodall and Stoller, 2017). A longitudinal study in US sample of 17,000 physicians, demonstrated that dissatisfied physicians are more likely to leave medicine or to reduce their work hours (Landon, Reschovsky, Pham, & Blumenthal, 2006).

Dissatisfied physicians may not be inclined to devote too much time or cognitive effort to caring for their patients, they might not assess a health problem thoroughly and fully discuss it with the patients, they might be less empathetic, they write more prescriptions with negative consequences concerning the increasing healthcare cost and they make more referrals to other specialists (Casalino and Crosson, 2015).

Several observations suggest that a physician's professional satisfaction might have an important effect on patient satisfaction, which in turn could be used as an indicator of the quality of health care (Casalino and Crosson, 2015). In their study, Haas *et al.*, (2000) demonstrated that the patients of physicians who rated themselves as being very or extremely satisfied with their work, had higher scores for overall satisfaction with their health care their most recent physician visit.

2.6 Burnout-well being-job performance

Burnout is associated with “decreased job performance and reduced job commitment and predicts stress-related health problems and low career satisfaction” (Dyrbye *et al.*, 2017). Burnout leads to decreased workforce efficiency: a Mayo Clinic study estimated the loss of productivity due to physician burnout as the equivalent of eliminating seven entire medical school graduating classes (Shanafelt *et al.*, 2015). As a result, burnout may deteriorate an already impending physician and nursing shortage. (Reith, 2018), (Bridgeman, Bridgeman and Barone, 2018).

Emotional exhaustion, considered to be the main factor of burnout, if extended over time leads to cynicism, emotional withdrawal from work and feelings of inefficacy. The negative personal and organizational effects of burnout have mostly been examined regarding work dissatisfaction and low job performance. (Van Bogaert *et al.*, 2017), (Sili *et al.*, 2014), (Lasalvia *et al.*, 2009).

Burnout has also been associated with high rates of nurse dissatisfaction and turnover. (Gershon *et al.*, 2007), and negative impacts on productivity. More specifically, in a prospective longitudinal study of approximately 2000 physicians at Mayo Clinic, each 1-point increase in burnout (on a 7-point scale) or 1-point decrease in satisfaction (on a 5-point scale) was associated with a 30% to 40% increase in the likelihood that physicians would reduce their professional work effort (Shanafelt *et al.*, 2016).

The study of Halbesleben and Rathert, (2008) supported that the depersonalization dimension of physician burnout was associated with worse patient outcomes, lower level of patient satisfaction and longer post discharge recovery time (after controlling for severity of illness and other demographic factors), whereas Cimioti, *et al* (2012) suggested that there might be a correlation between nurse staffing, burnout and health care–associated infection rates, with fewer infections reported in hospitals wherein nurses care for fewer patients, therefore nurse burnout has been linked to job dissatisfaction and overall quality of patient care.

According to Casalino and Crosson, 2015) “Healthcare professionalism has many facets firstly, keeping one’s knowledge and skills up to date; secondly, putting the patient’s needs first, whereas physicians who are dissatisfied, burned-out, and/or depressed will act less professionally”. Physicians who report being burned out are more likely to report “engaging in unprofessional behaviors and holding less altruistic

views about physicians' responsibility to society". (Dyrbye 2010) Finally, physicians, who report being stressed, state that stress reduces their empathy and cognitive capacity, leading to serious medical errors (Firth-Cozens & Greenhalgh, 1997).

In their study, Shanafelt *et al.*, (2002) evaluated the prevalence of burnout among internal medicine residents in a single university based program and evaluated the relationship of burnout and self-reported patient care practices. The findings demonstrated that burnout was very common among residents in all 3 years of residency training: More than 75% of respondents met the criteria for burnout. Burned-out residents were two to three times more likely to report suboptimal patient care practices at least monthly or weekly, and more specifically only depersonalization dimension was significantly associated with self-reported practices of suboptimal patient care. Additionally, the study of Fahrenkopf *et al.*, (2008) underlined that 20% of medical residents were depressed and 75% were burnt out. Those who were depressed made more than six times as many errors in medication as their non-depressed colleagues, while those who were depressed or burnt out reported poorer health and higher error rates than those who were not burnt out or depressed.

Bogaert *et al* (2014) tried to investigate the relationship between the working environment and burnout, the perception of quality of care, job satisfaction and the intention to leave the job. The authors demonstrated that emotional exhaustion has a negative impact on perception of quality of care, job satisfaction and intention to leave the job. Finally, studies proposed important correlations between a physician's degree of depersonalization and patient satisfaction with their hospital care, between a physician's job satisfaction and patients' satisfaction and patient-reported adherence to medical advice, inverse relationship between nurse job satisfaction, emotional exhaustion and patient satisfaction (Dyrbye *et al.*, 2017).

2.7 Well being-Performance

Several studies have investigated the cyclical relationship between well-being and job performance. The study of Hylton Ruston *et al.* (2015) showed that moral distress is a predictor of all dimensions of burnout and that spiritual well-being reduced emotional exhaustion, while physical well-being was associated with personal accomplishment.

Many factors affect the incidence of burnout and one of these is patient outcomes. In this context, Vahedian-Azimi et al. (2017) demonstrated that medical errors and patient safety incidents have been associated with burnout.

Moreover, physicians with greater professional competence may have greater professional satisfaction, and patients may be able to detect better competence, which results in better satisfaction. (Haas *et al.*, 2000). The prospective longitudinal study of (West *et al.*, 2015) supported that self-perceived major medical errors were common among the internal medicine residents, with about one third of participants reporting a major error at least once during the study period. In addition, self-perceived medical errors were strongly correlated to “multiple domains of physicians’ personal well-being”. In particular, “self-perceived errors were associated with decreased QOL (quality of life) and increases in burnout and symptoms of depression. Declines in empathy were also associated with perceived medical errors in a cyclical way.”

Subsequently, we could propose the following hypotheses:

1. Job satisfaction is related to job performance and well-being of healthcare professionals.
2. Burnout is related to job performance and well-being of healthcare professionals.
3. Job performance is related to the well-being of healthcare professionals.
4. Demographic characteristics are related to well-being, job satisfaction, burnout, job performance and self-reported errors.

3. Methodology

3.1 Study design

For the purpose of this study, an empirical quantitative research was conducted in order to examine the relationship between the leadership and well-being, job satisfaction, burnout and job performance among healthcare professionals. Therefore, a questionnaire (see Appendix), which included in its first section demographic traits concerning the gender, age, working experience, profession, and formal position of responsibility and in its second section validated instruments related to the hypothesized model of this research, was designed.

3.2 Study population and data collection

The target population of this study consisted of healthcare professionals who were working in a hospital setting. More specifically, doctors, nurses and allied healthcare professionals (including medical laboratory technicians, radiographers, physiotherapists), who were working in public tertiary and secondary hospitals located in the Regions of Central and Western Macedonia, Greece, were invited to voluntarily complete the questionnaires in December 2019. It should be underlined that the majority of participants were working in two tertiary hospitals in Thessaloniki. Totally, 400 paper questionnaires were distributed to healthcare professionals and consequently 306 questionnaires were returned completed, representing a response rate of 76.5%. In addition, 45 electronic questionnaires, which were created by using Google forms and emailed to healthcare professionals, were completed. It should be mentioned that the study's objectives were explained to the participants and statements guaranteeing both confidentiality and anonymity were also included. In total, the study sample consisted of 351 respondents.

3.3 Statistical Analysis Tools

The data were coded into Microsoft Excel, and then transferred into the statistical software SPSS. v25 for analysis. The majority of descriptive methods used were frequencies, means and standard deviations and minimum and maximum values that are presented in the form of Tables in order to have a general idea about the sample's characteristics. The reliability of the scales used was tested with the

Cronbach's Alpha statistic, and the scores constructed from those scales were tested for normality with the Kolmogorov-Smirnov and Shapiro-Wilk Tests. Many items were recoded according to each scale's instructions. In order to answer the seven hypotheses of this study, the parametric t-test and one-way ANOVA tests were used. For relations between interval variables, this study utilized the Pearson correlation coefficient test and for relations between categorical variables the Chi-square test was conducted. The confidence level was set to $\alpha = 0.05$.

4. Results

The results are divided into two sections. The first section presents the descriptive statistics of this sample, both for the demographic characteristics and for the scores of the questionnaires that were used. The 2nd section consists of the inferential part of the analysis with each hypothesis answered separately.

4.1 Descriptive Statistics

4.1.1 Demographic Characteristics

The sample for this study consisted of 351 participants, 262 (74.6%) females and 89 (25.4%) males (see Figure 1) working in the Healthcare Sector. Frequencies for the demographic characteristics are displayed in Table 1 in descending counts order. The majority of participants were between the ages (see Figure 2) of 31 to 50 (65.0%) and they did not hold a formal position of responsibility (78.3%) (such as Director/Deputy Director of Medical Department/Medical Unit, Chief Physician, Nurse Manager of a medical unit, Chief Nurse, Chief Allied health professional) (see Figure 5). Most of the sample were doctors (46.4%), followed by nurses (45.0%) and allied healthcare professionals (8.5%), (see Figure 3). Additionally, the most frequent category of respondents had more than 15 years of working experience in the Healthcare Sector (44.4%) (see Figure 4).

Demographics	Percentages (%)
GENDER	
Female	74.6%
Male	25.4%
AGE CATEGORIES	
41 to 50 years	35.6%
31 to 40 years	29.3%
less than 30 years	17.4%
51 to 60 years	15.1%
Over 60 years	2.6%
PROFESSION	
Doctor	46.4%
Nurse	45.0%
Allied Healthcare professional	8.5%

WORKING EXPERIENCE	
Over 15 years	44.4%
6 to 10 years	23.4%
Less than 5 years	23.1%
11 to 15 years	9.1%
FORMAL POSITION OF RESPONSIBILITY	
No	78.3%
Yes	21.7%

Table 1: Percentages of Demographic Characteristics (N = 351)

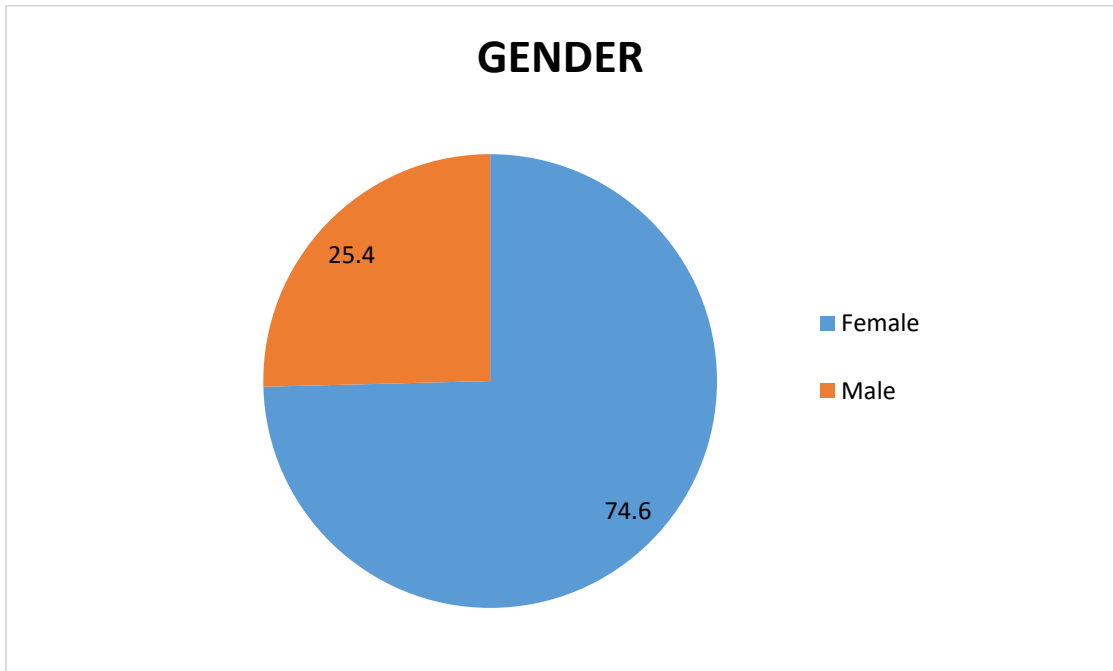


Figure 1: Pie chart showing the percentages of Female-Male

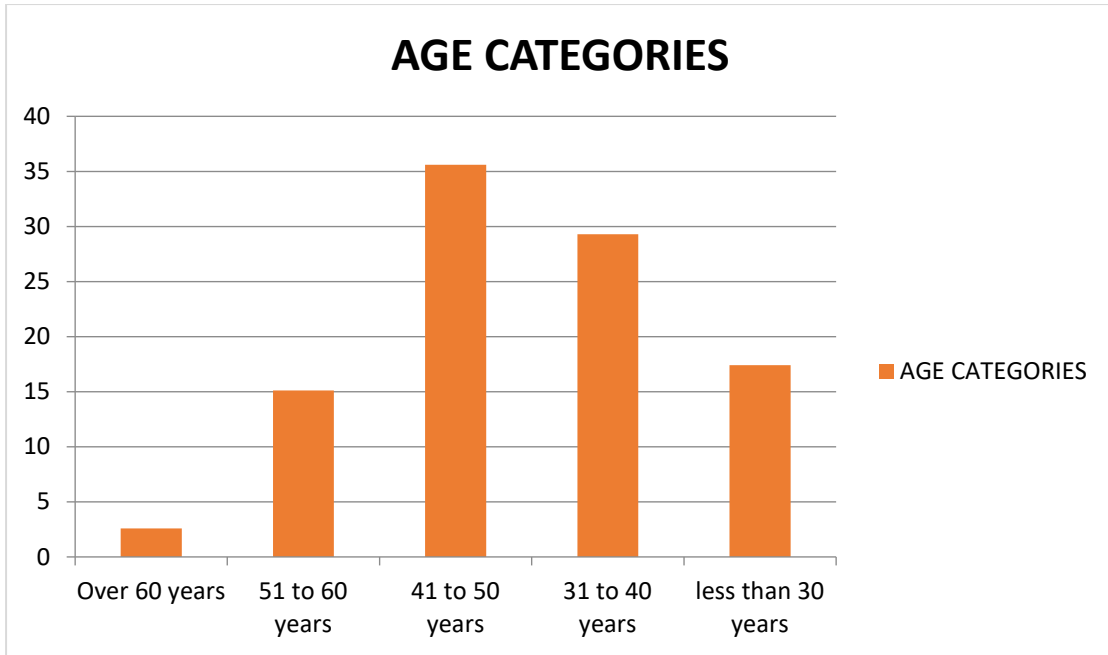


Figure 2: Column chart showing the percentages of different Age Categories

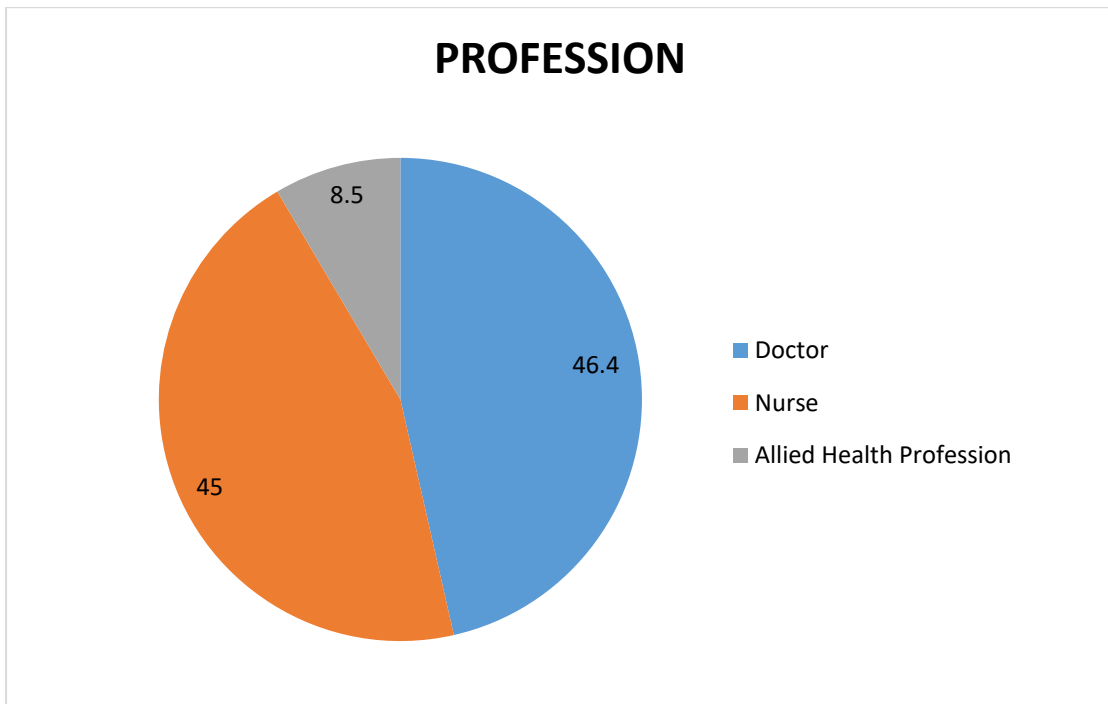


Figure 3: Pie chart showing the percentages of different professions of healthcare professionals



Figure 4: Column chart showing the percentages of Working Experience

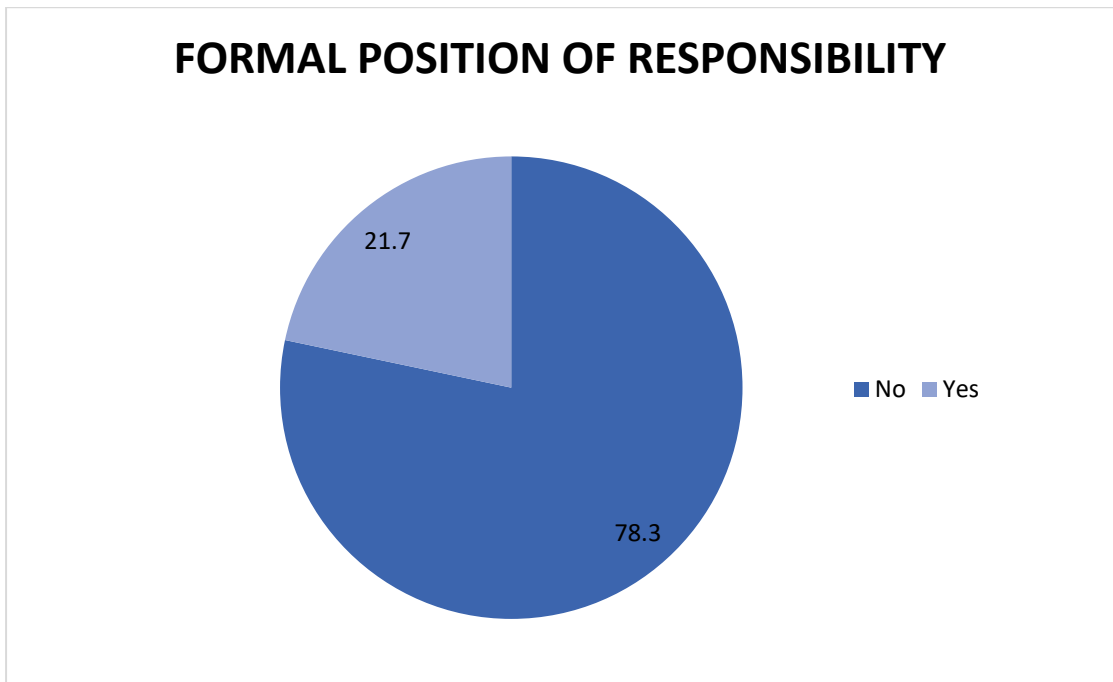


Figure 5: Pie chart showing the percentages of healthcare professionals with a formal position of responsibility

4.1.2 Study instruments

- **Well-Being Scale**

A 9-item Well-Being Index was used to measure the well-being of participants in relation to their work (Dyrbye, Satele and Shanafelt, 2016) (see Appendix-Wellbeing) The first seven items were Yes/No questions with each Yes adding one point to the well-being score and the last two items were answered with a 5-point (0-4) Likert-scale of agreement/disagreement that awarded 1 point for disagreement (values 0&1), 0 points for the neutral answer (2) and subtracted 1 point for agreement (values 3&4). Higher values in the **final score indicates lower levels of well-being** for the healthcare professionals. The majority of the respondents (60.7%) demonstrated high level of well-being (low well-being score), whereas 39.3% demonstrated low level of well-being (high well-being score) as presented below in Table 2 and *Figure 6*.

- **Job Performance Scale**

Job performance was measured by a total of 21-items (see Appendix-Job Performance-Task Performance, Contextual Performance and Counter-productive work behavior). A total of 19 items were taken from the Individual Work Performance Questionnaire (Koopmans et al, 2014) that were divided into 3 broad dimensions, Task Performance, Contextual Performance and Counter-productive work behavior. The first dimension, Task Performance, can be defined as “the proficiency with which individuals perform the core substantive or technical tasks central to his or her job” (Campbell JP, 1990), including, for instance, work quantity, work quality, and job knowledge (Beaton D. et al, 2009) .The second dimension, Contextual Performance, could be defined as “behaviors that support the organizational, social and psychological environment in which the technical core must function” (Motowidlo SJ, 1993). Examples of contextual activities are volunteering, persisting, helping, cooperating, and following rules (Motowidlo SJ, 1993). The third dimension is Counterproductive work behavior, defined as “behavior that harms the well-being of the organization” (Rotundo M, Sackett PR, 2002).It includes behaviors such as absenteeism and being late at work (Koopmans et al., 2011).

Two additional modified items related to self-reported suboptimal patient care, which measured self-reported errors, were taken from two studies (Colin P. West et

al, 2006 and Mickey Trockel et al, 2018). The participants were invited to answer Question 1: “In the past 3 months, I made a medical error (wrong diagnostic algorithm or I ordered the wrong medication, or I ordered the wrong laboratory or imaging test or invasive procedure, or I made an error in the recording or the implementation of an order) which had major potential to cause harm to patient's health or patients' clinical outcomes.”(Major Error) (see Appendix-Self reported errors) and the Question 2: “In the past 3 months, I made a medical error which had little potential to cause harm to patient's health or patients' clinical outcomes.”(Minor Error) (see Appendix-Self reported errors). The two items were answered with a 5-point (0-4) Likert-scale of never/always.

Regarding the Task Performance dimension, 89.5% of the respondents demonstrated high score and 10.5% of them had low score (see *Figure 7*). Additionally, 70.7% of participants demonstrated high score in Contextual Performance dimension and 29.3% of respondents had low score respectively (see *Figure 8*). On the other hand, 77.5% of respondents exhibited low score in Counterproductive work behavior dimension and 22.5% of study sample had high score (see *Figure 9*). Furthermore, 91.7% of the study sample had low score, 6% had moderate score and 2.3% of respondents had high score in Major Errors dimension (see *Figure 10*), while 83.5% of participants had low score, 14% of them had moderate score and finally 2.6% of study sample had high score in Minor Errors dimension (see *Figure 11*), as depicted below in Table 2.

The final Job Performance Score was constructed from the average of the four dimensions, Task Performance, Contextual Performance, Counterproductive Work Behavior (reverse coded) and Self-reported Errors (reverse coded). Higher values in the final score indicate a higher overall Job Performance for the healthcare professionals.

- **Burnout Scale**

Burnout was measured with the Maslach Burnout Inventory (Maslach et al, 1996). A total of 22-items (see Appendix-Burnout-Emotional Exhaustion, Depersonalization and Personal Accomplishment) were answered with a 7-point (0-6) Likert-scale and were divided into 3 dimensions (Emotional Exhaustion, Depersonalization and Personal Accomplishment). “Emotional exhaustion refers to feelings of being emotionally drained by one’s contact with other people, and it is the

central strain dimension of burnout. Depersonalization refers to a negative or excessively detached response toward these people, who are the recipients of one's service or care. Finally, reduced personal accomplishment refers to a decline in one's feelings of competence and successful achievement at work" (Maslach & Jackson 1984, Maslach & Leiter 2008).

More specifically, concerning the Emotional Exhaustion dimension 54.4% of the study population showed low score which is interpreted as low burnout risk, 29.1% of them had moderate score (moderate burnout risk) and 16.5% of the respondents were found to show high score (high burnout risk) according to the scoring system of this dimension (see *Figure 12*). Additionally, according to the Depersonalization dimension scoring system 29.1% of the study population showed low score, which is interpreted as low burnout risk, 35% of them had moderate score (moderate burnout risk) and 35.9% of the respondents were found to show high score (high burnout risk) (see *Figure 13*). Finally, according to the Personal Accomplishment dimension scoring system 34.2% of the study population showed **low score** which is interpreted as **high burnout** risk, 28.2% of them had moderate score (moderate burnout risk) and 37.6% of the respondents were found to show **high score** which is interpreted as **low burnout** risk (see *Figure 14*) as presented below in Table 2.

The final Burnout Score was constructed from the Average of the three dimensions, after reversing the coding for Personal Accomplishment items. Higher values in the final score indicate a higher level of Burnout for the participant.

- **Job Satisfaction Scale**

Job Satisfaction was measured with three questions taken from a 2013 study (Ang S.A. et al, 2013). The questions (see Appendix-Job satisfaction) were answered with a 5-point (0-4) Likert-scale of agreement/disagreement that awarded 1 point for agreement (values 3&4), 0 points for neither agreeing nor disagreeing (2) and subtracted 1 point for disagreement (values 0&1). Higher values in the final score indicates a higher levels of job satisfaction for the respondent. It should be mentioned that 75.8% of the participants were found to be satisfied with their job, 13.7% of the respondents were not satisfied while 10.5% of the study sample were neither satisfied nor dissatisfied (see *Figure 15*) as depicted below in Table 2. It should be emphasized

the fact that although a significant percentage of respondents demonstrated high scores in two dimensions of burnout (depersonalization: 35.9% and personal accomplishment: 34.2% respectively), the majority of the respondents were found to be satisfied with their job (75.8%), a controversial finding which however is in alignment with the proposition that “exposure to patients is a major stressor, but also a key source of reward, staff can be professionally burdened and at the same time experience high intrinsic job satisfaction because of the meaning they attach to their work. For that reason, the use of only negatively measures, such as the MBI, gives only a partial view when measuring well-being in healthcare settings” (Lasalvia *et al.*, 2009).

	Percentages
Well Being	
<i>High level of Well-being</i>	60.7%
<i>Low level of Well-being</i>	39.3%
Emotional Exhaustion	
<i>Low score</i>	54.4%
<i>Moderate score</i>	29.1%
<i>High score</i>	16.5%
Depersonalisation	
<i>Low score</i>	29.1%
<i>Moderate score</i>	35.0%
<i>High score</i>	35.9%
Personal Accomplishment	
<i>Low score</i>	34.2%
<i>Moderate score</i>	28.2%
<i>High score</i>	37.6%
Job Satisfaction	
<i>Satisfied</i>	75.8%
<i>Not Satisfied</i>	13.7%
<i>Neither Agree Nor Disagree</i>	10.5%
Major Error	
<i>Low Score</i>	91.7%
<i>Moderate Score</i>	6.0%
<i>High Score</i>	2.3%

Minor Error	
<i>Low Score</i>	83.5%
<i>Moderate Score</i>	14.0%
<i>High Score</i>	2.6%
Task Performance	
<i>High Score</i>	89.5%
<i>Low score</i>	10.5%
Contextual Performance	
<i>High Score</i>	70.7%
<i>Low score</i>	29.3%
Counterproductive Performance	
<i>Low score</i>	77.5%
<i>High Score</i>	22.5%

Table 2: The percentages of participants for each dimension of Well-being Scale, Burnout Scale, Job satisfaction Scale, Self-reported Errors and Job Performance Scale

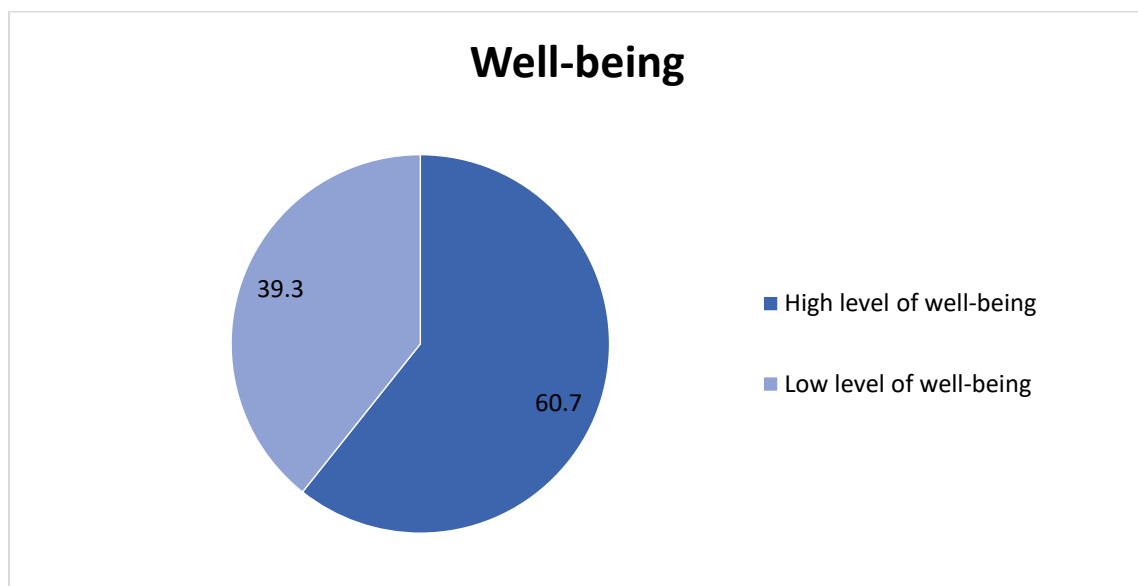


Figure 6: Pie chart showing the percentages of participants with high and low level of well-being

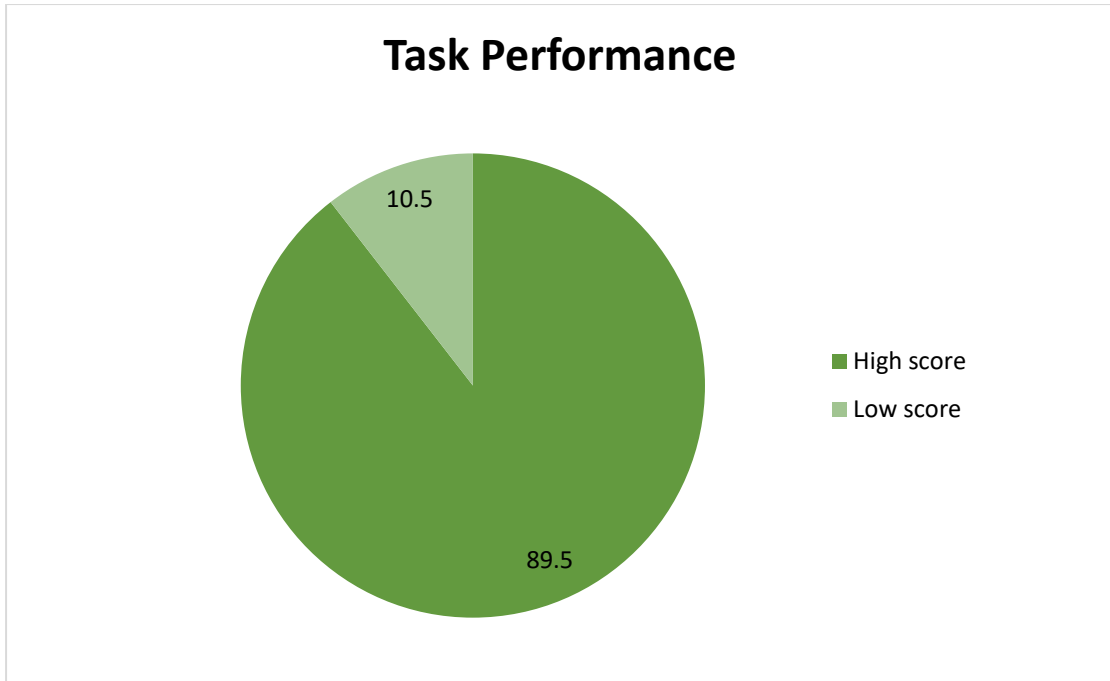


Figure 7: Pie chart showing the percentages of participants with high and low score in Task Performance Dimension of Job Performance

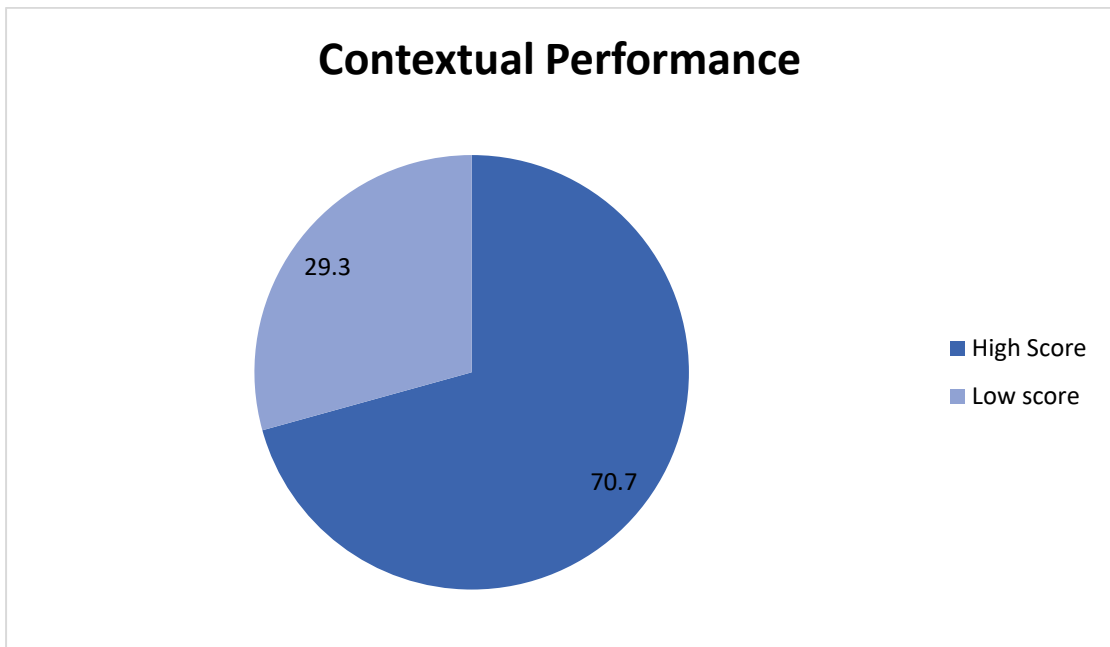


Figure 8: Pie chart showing the percentages of participants with high and low score in Contextual Performance Dimension of Job Performance

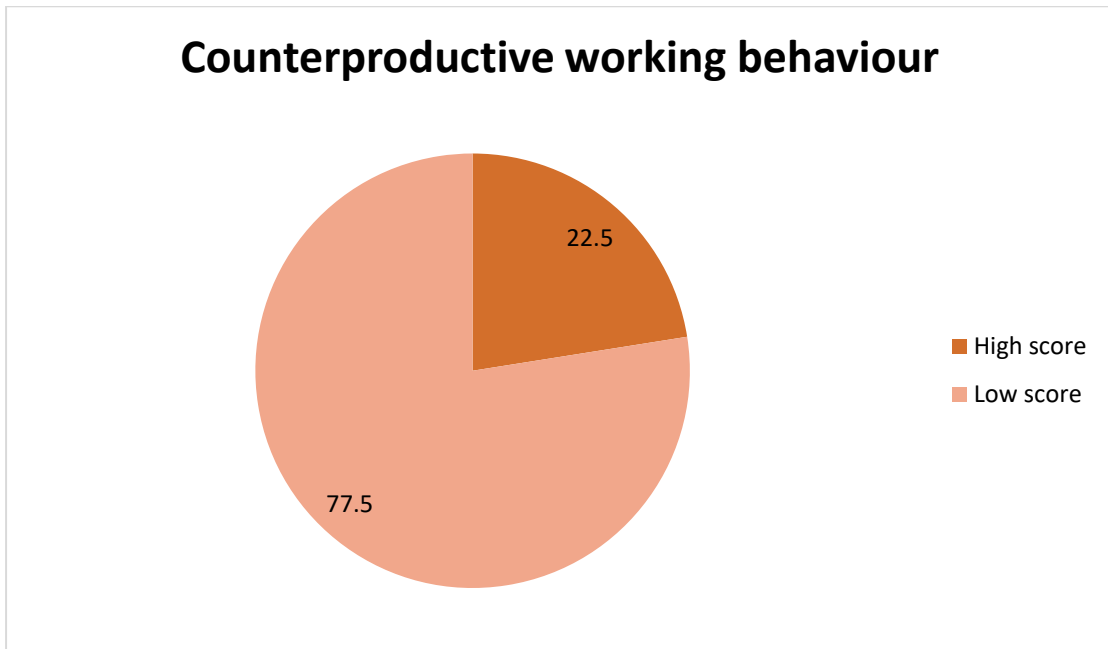


Figure 9: Pie chart showing the percentages of participants with high and low score in Counterproductive Working Behaviour Dimension of Job Performance



Figure 10: Column Chart showing the percentages of participants with low, moderate, and high score in Major Errors Dimension of Job Performance

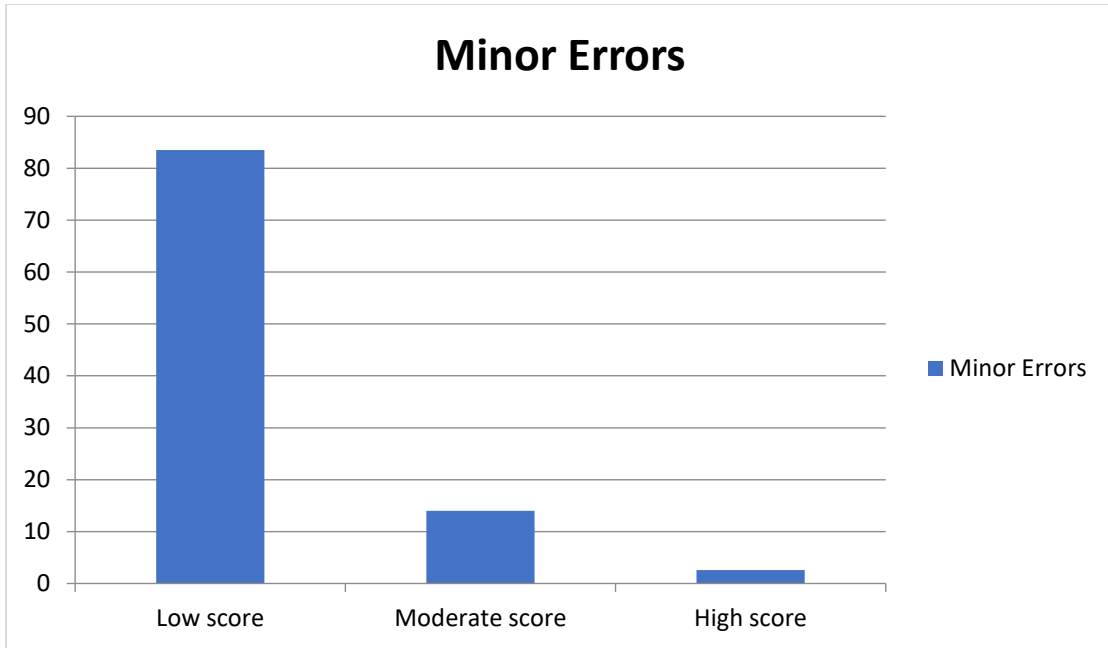


Figure 11: Column Chart showing the percentages of participants with low, moderate, and high score in Minor Errors Dimension of Job Performance

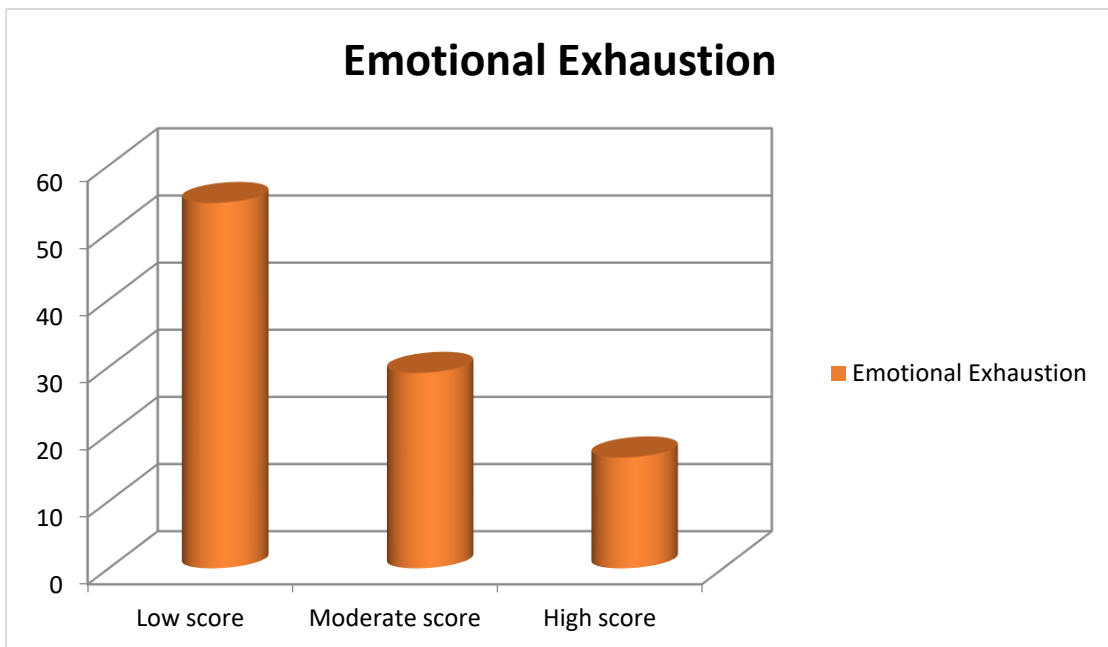


Figure 12: Column chart showing the percentages of participants with low, moderate, high score regarding the Emotional Exhaustion Dimension of Burnout

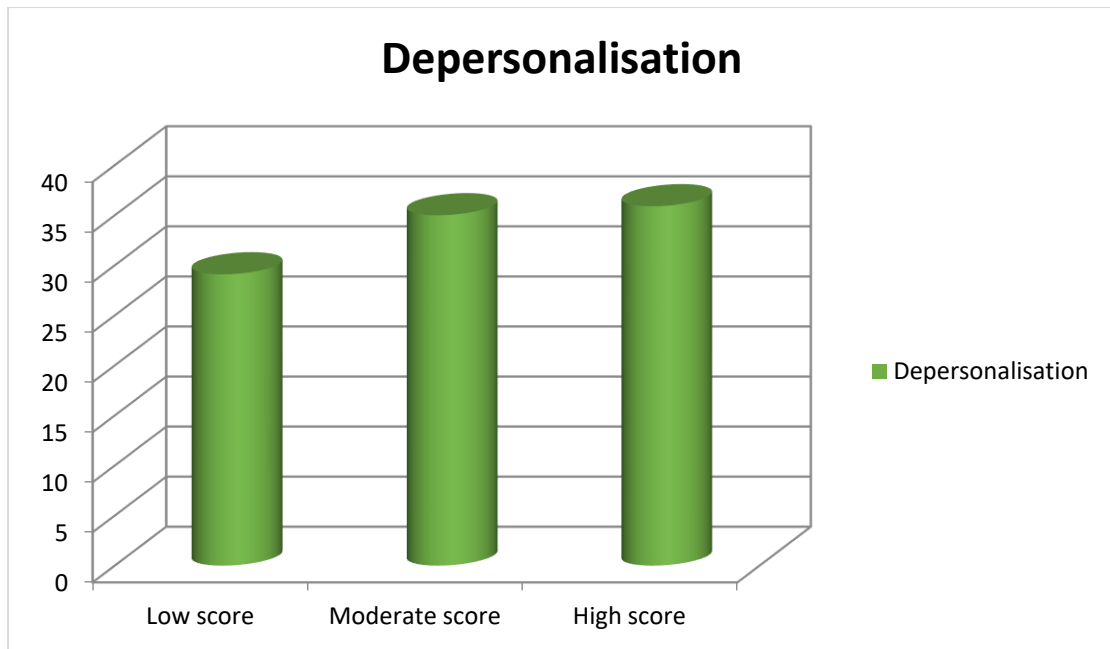


Figure 13: Column chart showing the percentages of participants with low, moderate, high score regarding the Depersonalisation Dimension of Burnout

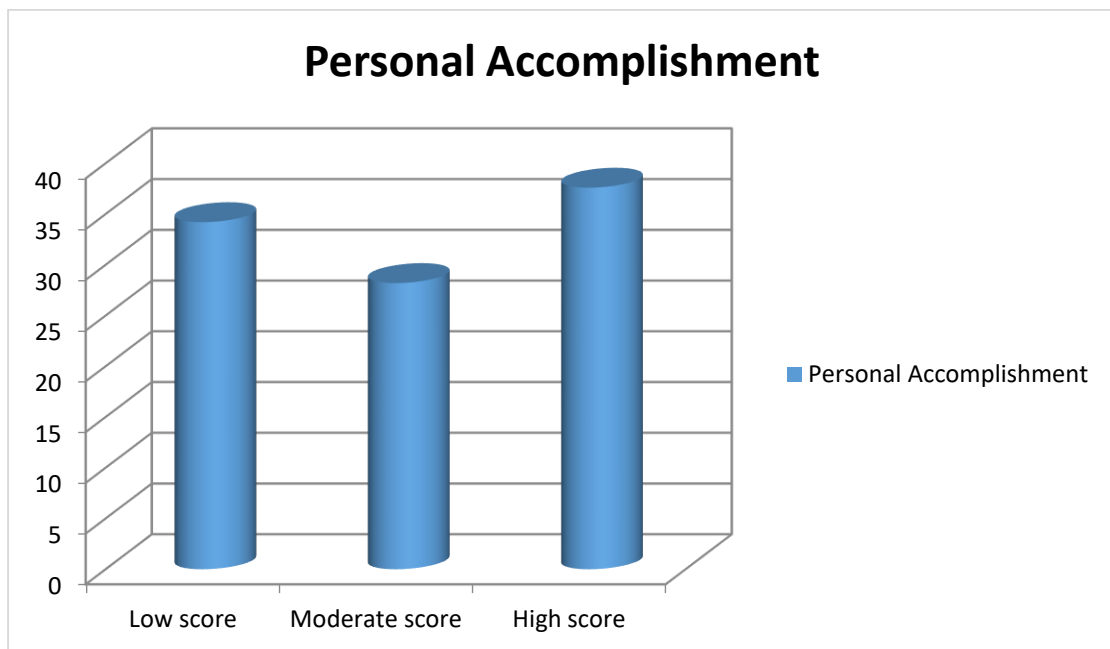


Figure 14: Column chart showing the percentages of participants with low, moderate, high score regarding the Personal Accomplishment Dimension of Burnout

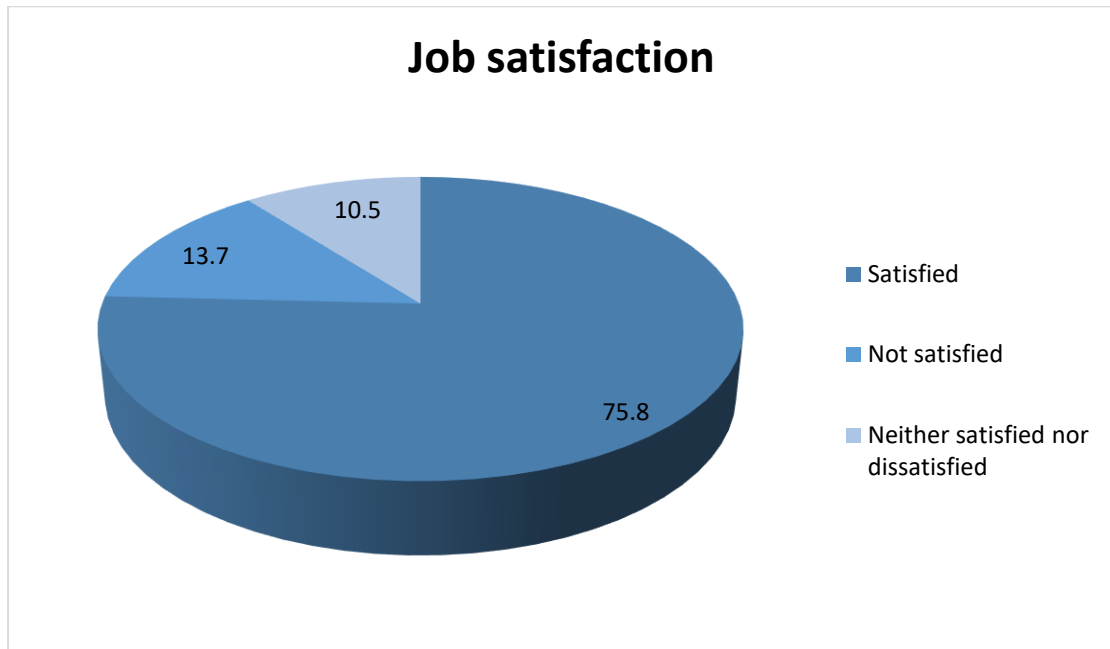


Figure 15: Pie chart showing the percentages of participants being satisfied, not satisfied or neither satisfied nor dissatisfied

The descriptive statistics for Job satisfaction, as well as all other created scores of the scales described above, are presented in Table 3 below.

	Mean	Std. Deviation	Minimum	Maximum
Well Being	3.82	2.594	-2.0	9.0
Job Performance	2.79	0.460	1.2	3.9
Burnout	41.61	21.410	0.0	112.0
Job Satisfaction	1.62	1.658	-3.0	3.0

Table 3: Descriptive statistics for the study's score variables

- **Leadership Scale**

Leadership Style was determined with the Multifactor Leadership Questionnaire (MLQ, Form 6S) (Bass, B., Avolio, B, 1992), (Gift Vinger, Frans Ciliers, 2006) that consists of 21 questions that are divided into 7 factors (see

Appendix- Leadership). Each factor corresponds to a certain leadership style with a total of 3 styles defined (transformational, transactional and passive) as can be seen in Table 4. It should be emphasized that by using this form of MLQ the respondents were invited to self-evaluate their own leadership competencies with regard to specific leadership behaviors regardless of holding a formal leadership position at her/his work or not.

Transformational Leadership	Idealized influence (items 1, 8, and 15) Inspirational motivation (items 2, 9, and 16) Intellectual stimulation (items 3, 10, and 17) Individual consideration (items 4, 11, and 18)
Transactional Leadership	Contingent reward (items 5, 12, and 19) Management by exception (items 6, 13, and 20)
Passive/ Laissez faire Leadership	Laissez faire leadership (items 7, 14, and 21)

Table 4: Leadership styles and Leadership factors correspondence

Each factor of the three different leadership styles is analyzed below:

Transformational Leadership

1. **Idealized influence** indicates whether “a leader holds subordinates’ trust, maintains their faith and respect, shows dedication to them, appeals to their hopes and, and act as their role model”. (Avolio, 1994, Bass, 1998, Northouse, 2001, Gift Vinger, Frans Ciliers, 2006)

2. **Inspirational motivation** measures the degree to which “a leader provides a vision, uses appropriate symbols and images to help others focus on their work, and try to make others feel their work is significant”. (Avolio, 1994, Bass & Avolio, 2001, Yukl, 1998, Gift Vinger, Frans Ciliers, 2006).

3. **Intellectual stimulation** shows the degree to which “a leader encourages others to be creative and innovative in facing problems from a new point of view, (Yukl, 1998 cited in Gift Vinger, Frans Ciliers, 2006) and encourages people to question not only their own values and beliefs but also the values of their organization”. (Avolio, 1994, Bass, 1998, Gift Vinger, Frans Ciliers, 2006).

4. **Individual consideration** indicates the degree to which “a leader shows interest in others’ well-being, provides support, encouragement, coaching (Avolio, 1999; Bass, 1998; Yukl, 1998 cited in Gift Vinger, Frans Cilliers, 2006), delegation, advice, and feedback for use in the personal development of followers (Bass & Avolio, 1992) and pays attention to those who seem less involved in the group”.

Transactional Leadership

5. **Contingent reward** shows the degree to which “a leader informs others what to do in order to be rewarded and recognizes their accomplishments.” (Northouse, 2001 and Bass, 1985).

6. **Management by exception** assesses whether a leader fully explains to others the job requirements, is satisfied with standard performance, and doesn’t try to make changes”, (Northouse, 2001) (Vinger and Cilliers, 2006)

7. **Passive/Laissez faire leadership** measures whether “a leader requires little of others.” Laissez-faire leadership is non-leadership, where a leader rejects responsibilities and avoids making decisions (Bass, 1998).

To determine the main leadership style of respondents for this study, the average values for each style were compared for each participant, and their highest out of the 3 means determined their preferred style. Ties in comparisons were treated as a 4th category named “No preference”. For styles with many factors, an average of those factors was used for the above comparison (see *Figure 16*).

Furthermore, Leadership was defined as “Effective” when the respondent demonstrated a main leadership style that was not passive. The percentages of each category for style and effective leadership (see *Figure 17*) are presented in Table 5, below.

Leadership Variables	Percentages
STYLE OF LEADERSHIP	
<i>Transactional</i>	37.0%
<i>Transformational</i>	29.6%
<i>Passive/Laissez-faire</i>	22.2%
<i>No Preference</i>	11.2%
EFFECTIVE LEADERSHIP	
<i>Effective</i>	70.4%
<i>Passive</i>	24.8%
<i>No Preference</i>	4.8%

Table 5: Styles of Leadership and Effective Leadership

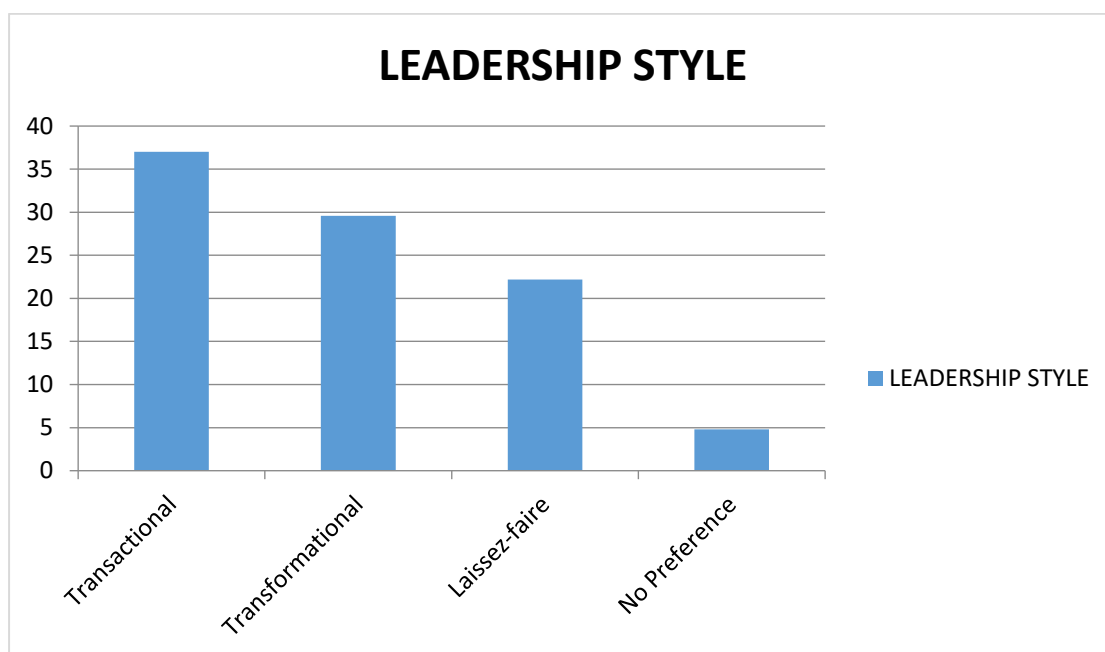


Figure 16: Column chart showing the percentages of different Leadership Styles

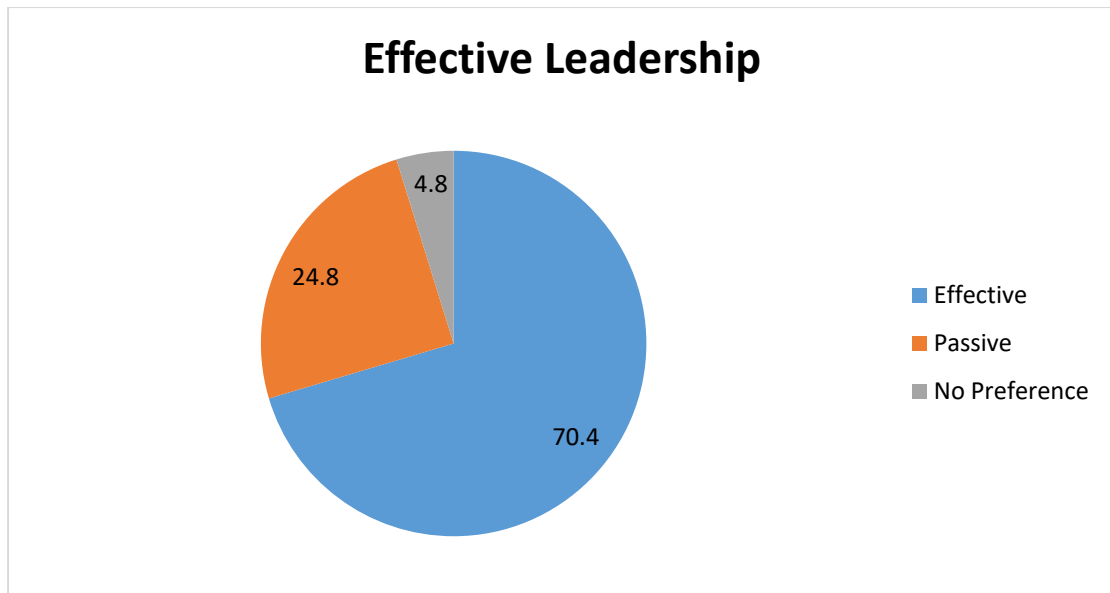


Figure 17: Pie chart showing the percentages of Effective-Passive Leadership

4.2 Inferential Statistics

In this section, an effort was made to answer the 7 hypotheses of this study which are presented below:

1. Effective leadership is related to job satisfaction, burnout, job performance and well-being of healthcare professionals.
2. The three leadership styles are related to demographic characteristics (age, gender, working experience, profession, and formal position of responsibility).
3. The three leadership styles are related to well-being, job satisfaction, burnout, job performance and self-reported errors.
4. Job satisfaction is related to job performance and well-being of healthcare professionals.
5. Burnout is related to job performance and well-being of healthcare professionals.
6. Job performance is related to the well-being of healthcare professionals.
7. Demographic characteristics are related to well-being, job satisfaction, burnout, job performance and self-reported errors.

In the first place, the internal consistency of the scales used was tested with the Cronbach's Alpha statistic. The reliability analysis is presented in Table 6.

Cronbach's Alpha was poor (0.522) for the questions defining the Passive Leadership Style, and barely acceptable (0.648) for the Well-being Scale. All other scales used in this study had Cronbach's Alpha ranging from acceptable (0.776) to excellent (0.906).

Scales	Cronbach's Alpha	N of Items
Transformational Leadership	0.906	12
Transactional Leadership	0.790	6
Passive Leadership	0.522	3
Well Being	0.648	9
Job Performance	0.899	22
Burnout	0.841	20
Job-Satisfaction	0.776	3

Table 6: Cronbach's Alpha reliability for this study's scales

Subsequently, the scores were tested for normality. All scores' distribution seemed to deviate from the Normal Curve as can be seen from the Kolmogorov-Smirnov and Shapiro-Wilk tests in Table 7. However, since the sample size was large enough, the tests used to answer the 7 hypothesis were mostly parametric tests (Mean comparisons) due to the Central Limit Theorem which states that the sampling distribution of any distribution approximates the normal distribution as the sample size increases.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Well Being	0.134	351	0.000	0.966	351	0.000
Self-Reported Errors	0.208	351	0.000	0.840	351	0.000
Job Performance	0.037	351	0.200*	0.991	351	0.027
Burnout	0.074	351	0.000	0.978	351	0.000
Job Satisfaction	0.247	351	0.000	0.801	351	0.000

Table 7: Normality Tests for the 5 scores used in this study

1st Hypothesis

“Effective leadership is related to job satisfaction, burnout, job performance and well-being of healthcare professionals.”

The first hypothesis was answered with 4 T-tests. This study defined Effective leadership as a non- Passive leadership type, therefore the mean of the 4 scores of satisfaction, burnout, performance and well-being were compared between individuals who demonstrated effective leadership traits and those with passive leadership traits. The p – values for all the tests are reported in Table 8:

T-tests with Effective Leadership	P-values
Well Being	0.568
Job Performance	0.067
Burnout	0.172
Job Satisfaction	0.808

Table 8: T-tests for Well-being, Job Performance, Burnout and Job satisfaction compared between effective and passive leadership

The means of people with effective leadership traits were higher for well-being, job satisfaction and job performance and lower for burnout, however the results from the first hypothesis were not found statistically significant. Possible exception is job performance which was found to be marginally not statistically significant (T-test, $t = -1.840$, $df = 332$, $p = 0.067$) with participants with effective leadership traits scoring higher in job performance ($M = 2.83$) than those with passive leadership traits ($M = 2.72$). Therefore, the **1st hypothesis** is rejected, except for the fact that there might be a positive correlation between effective leadership and job performance, as the test for job performance was marginally at the edge of statistical significance (p-value 0.067).

2nd Hypothesis

“The three leadership styles are related to demographic characteristics (age, gender, working experience, profession and position of responsibility)”

In order to answer the second hypothesis, all leadership styles that were set as “No preference” (because of ties between the prevalent factors of all 3 styles) were excluded from this analysis. Since all variables were categorical, the Pearson’s Chi-Square test was used to detect disproportionate combinations of answers.

The results (p-values) are presented in Table 9. No results were found to be statistically significant, indicating that Demographic characteristics aren’t related to the style of Leadership. However, it has to be noted that the test for age categories was marginally not significant (Chi-Square, $df = 8$, $N = 312$, $p = 0.062$).

Variables	Chi-Square (p-value)
Style of Leadership * Gender	0.861
Style of Leadership * Age Categories	0.062
Style of Leadership * Profession	0.863
Style of Leadership * Work Experience	0.606
Style of Leadership * Formal Position of Responsibility	0.951

Table 9: Chi-Square Tests between Style of Leadership and Demographics

Subsequently, the **2nd hypothesis** was rejected. However, the age categories might be an exception as they could be possibly related to leadership style according to the test’s result (p-value 0.062) being fairly close to statistical significance.

3rd Hypothesis

“The three leadership styles are related to well-being, job satisfaction, burnout, job performance and self-reported errors.”

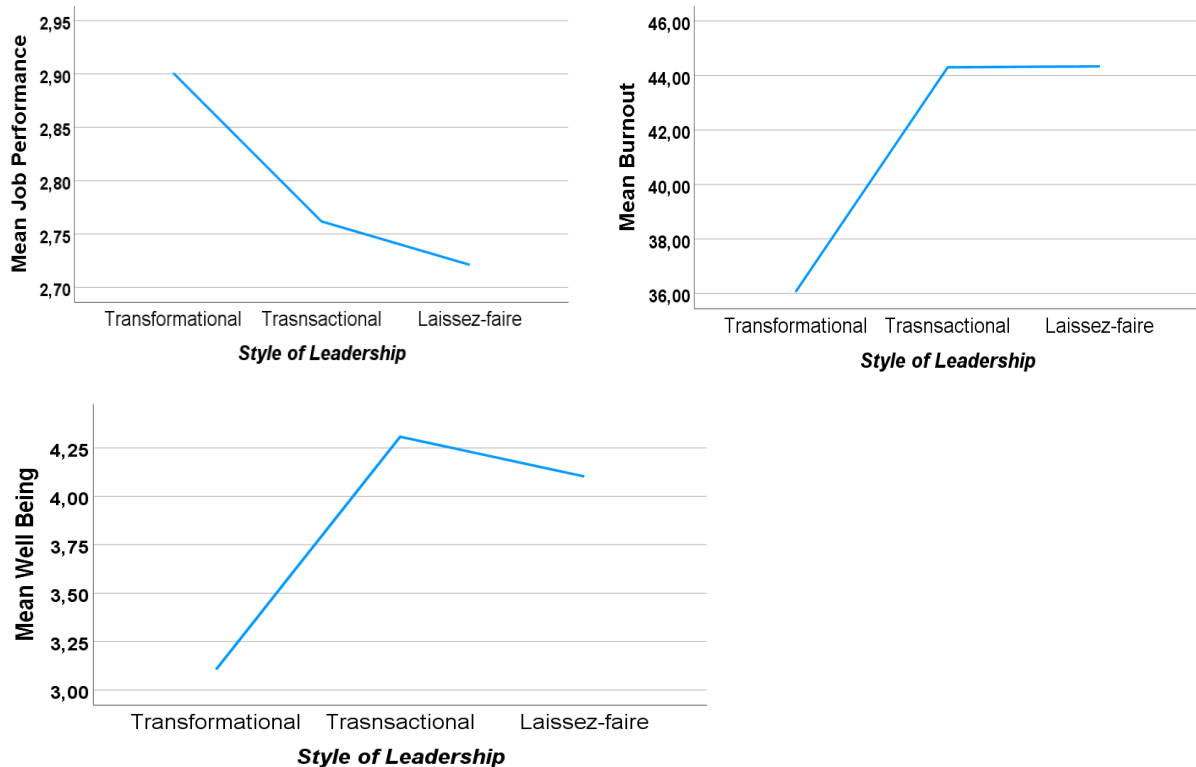
The third hypothesis was answered by conducting one-way ANOVA tests in order to compare the five scores with the Leadership style categories. A total of 5 tests revealed three statistically significant mean differences that are presented in Table 10. Each significant difference is explored with the help of Line plots in Figures 18, 19 and 20.

One-way ANOVA (p-values)	Style of Leadership
Well Being	0.001
Self-Reported Errors	0.223
Job Performance	0.016
Burnout	0.007
Job Satisfaction	0.074

Table 10: P-values for one-way Anova tests for well-being, errors, performance, burnout and satisfaction based on Leadership Style.

Leadership Style Differences

Differences based on the participants' Leadership style are displayed in Figures 18-19. It appears that respondents demonstrating Transformational Leadership style report higher levels of job performance ($M = 2.90$) than those with Transactional ($M = 2.76$) or Passive style ($M = 2.72$). Additionally, participants with Transformational Leadership style have lower burnout levels ($M = 36.06$) than those with Transactional ($M = 44.30$) or Passive style ($M = 44.33$). Furthermore, those classified in the category of Transformational Leadership style are characterized by higher level of well-being (lower well-being score $M = 3.11$) than those in the category of Transactional ($M = 4.31$) or Passive style ($M = 4.10$).



Figures 18-20: Differences on Job performance, Burnout and Well-being score by Leadership Style

Consequently, the **3rd hypothesis** was partially supported as **Transformational Leadership style** was found to be **positively** correlated to **Job Performance** and **Well-being** and **negatively** correlated to **Burnout**.

4th Hypothesis

“Job satisfaction is related to job performance and well-being of healthcare professionals.”

For the fourth hypothesis, the Pearson correlation coefficient tests were used since all the variables were scores. Both correlations were significant. A positive correlation was found between job satisfaction and job performance (Pearson, $r = + 0.393$, $p - \text{value} < 0.0005$), and a negative correlation was found between job satisfaction and well-being score (Pearson, $r = - 0.409$, $p - \text{value} < 0.0005$).

The correlation with job performance is positive, therefore higher job satisfaction levels tend to appear with higher job performance levels, while the correlation with well-being is negative, which means higher job satisfaction tends to

appear with lower well-being score and therefore higher level of well-being of the individual since this questionnaire is designed with an inverse direction.

The results are displayed in Table 11 and the corresponding Scatterplots on Figures 21 and 22. The degree of both correlations is considered “medium”.

Pearson Correlation Coefficients	Job Satisfaction
Well Being	-0.409**
Job Performance	0.393**

**significant in the 0.01 level

Table 11: Pearson Coefficients between Job satisfaction, Well Being, and Job Performance

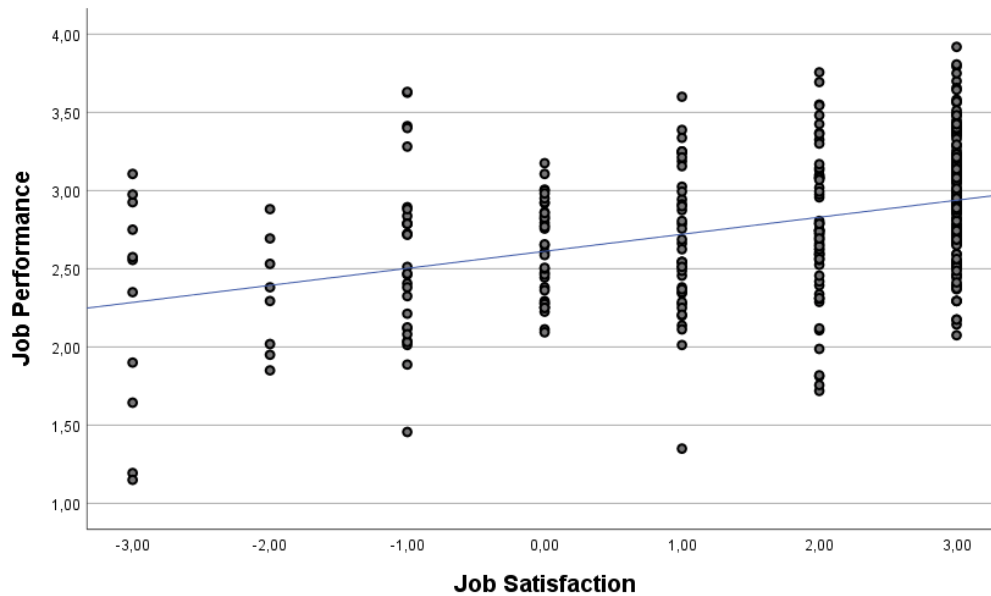


Figure 21: Scatterplot between Job Satisfaction and Job Performance

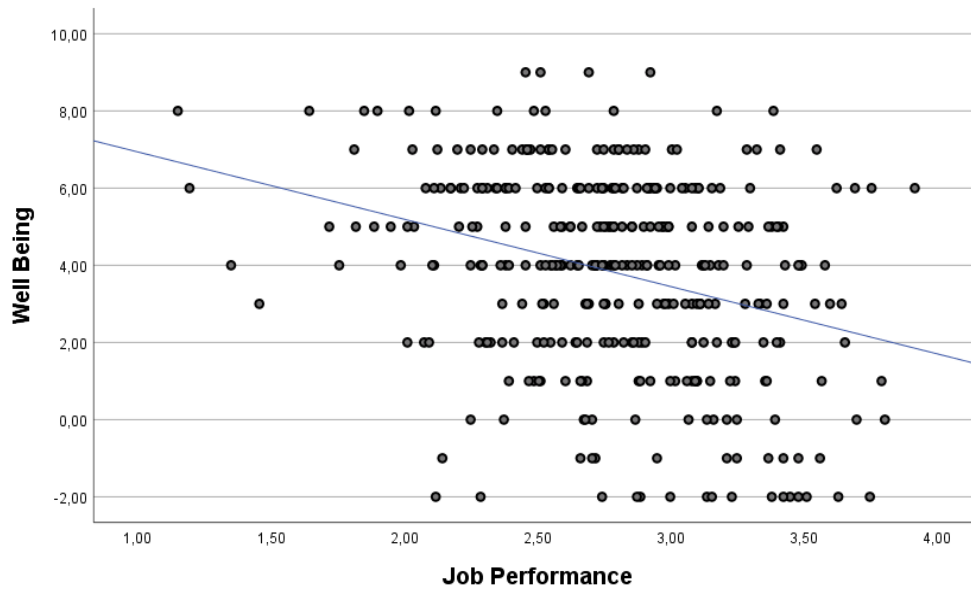


Figure 22: Scatterplot between Job Satisfaction and Job Performance

Therefore, the **4th hypothesis** was accepted as **Job Satisfaction** was found to be **positively** correlated to both **Job Performance** and **Well-being**.

5th Hypothesis

“Burnout is related to job performance and well-being of healthcare professionals”

For the fifth hypothesis, the Pearson correlation coefficient tests were used since all the variables were scale-scores. The two tests revealed two statistically significant results. Burnout levels were found positively correlated with the well-being score (Pearson, $r = +0.627$, $p - \text{value} < 0.0005$).

Since higher values in the well-being questionnaire indicate lower levels of well-being, the positive correlation means that higher levels of burnout tend to appear with lower levels of well-being for the healthcare professionals.

Additionally, burnout levels were found negatively correlated with job performance levels (Pearson, $r = -0.605$, $p - \text{value} < 0.0005$), which indicates that higher levels of burnout tend to be aligned with lower levels of job performance for the respondents.

The results are displayed in Table 12 and the corresponding Scatterplots on Figures 23 and 24. The degree of correlation for both correlations is considered “Strong”.

Pearson Correlation Coefficients	Burnout
Well Being	0.627**
Job Performance	-0.605**

**significant in the 0.01 level

Table 12: Correlations between Burnout Levels, Well Being, and Job Performance

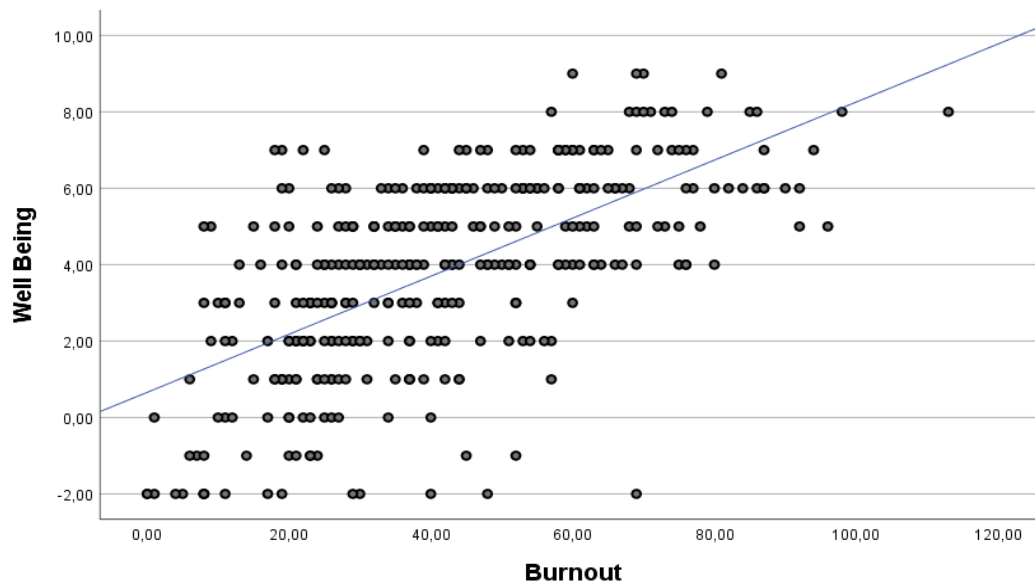


Figure 23: Scatterplot between Burnout levels and Well-being

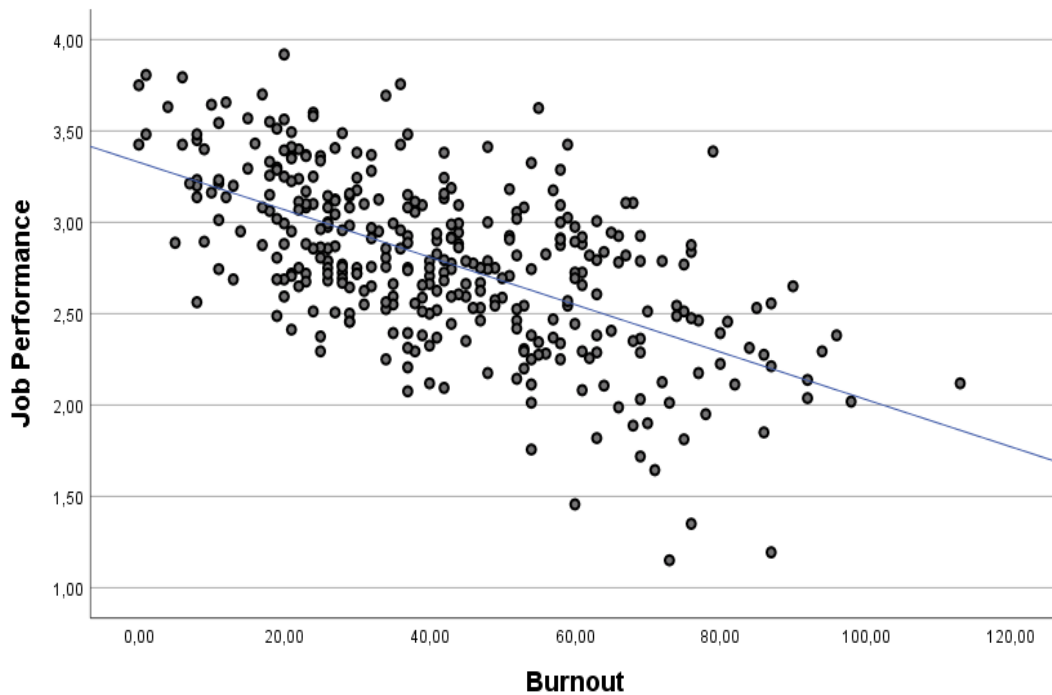


Figure 24: Scatterplot between Burnout levels and Job Performance

As a result, the **5th hypothesis** was accepted, since two strong **negative** correlations between **Burnout** and **Well-being**, and between **Burnout** and **Job Performance** were depicted.

6th Hypothesis

“Job performance is related to the well-being of healthcare professionals.”

The sixth hypothesis was also answered with the Pearson correlation coefficient test. A significant negative correlation was found between job performance score and the well-being score of healthcare professionals (Pearson, $r = -0.309$, $p - \text{value} < 0.0005$).

Since higher values of the well-being score indicate lower levels of well-being for the respondent due to the design of that particular questionnaire, the negative correlation means that higher levels of job performance tend to appear with higher levels of well-being for the healthcare professionals.

The corresponding Scatterplot is presented in Figure 25, below. The degree of correlation is considered “medium” according to statistical rules of thumb.

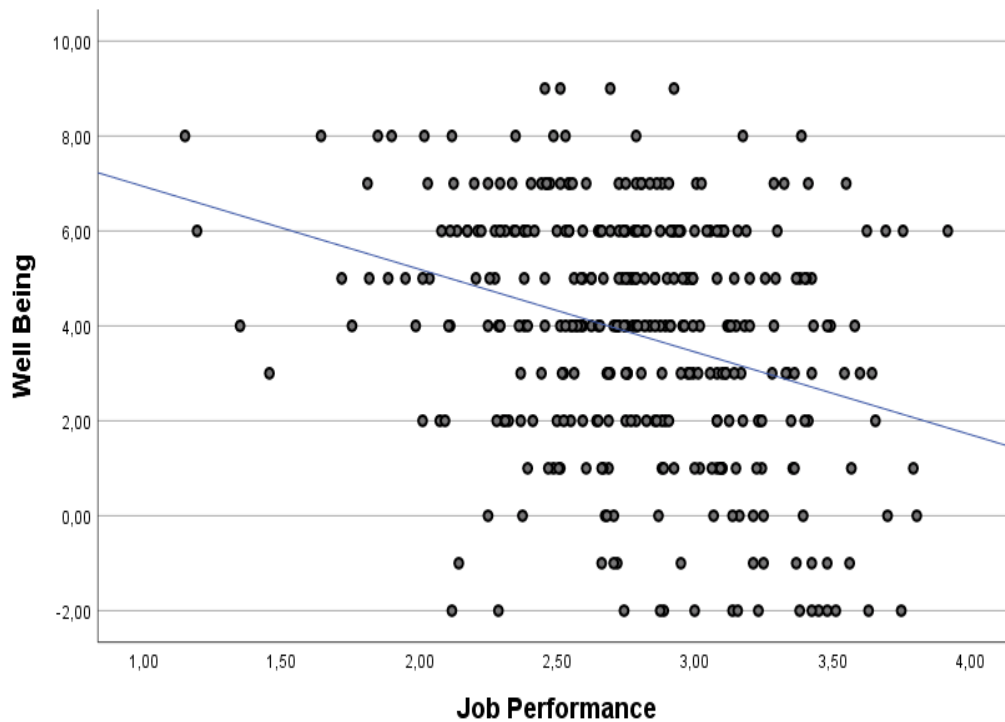


Figure 25: Scatterplot between Well-Being and Job Performance

Subsequently, the **6th hypothesis** was accepted as **Job performance** was found to be **positively** correlated to the **Well-being** of healthcare professionals.

7th Hypothesis

“Demographic characteristics are related to well-being, job satisfaction, burnout, job performance and self-reported errors.”

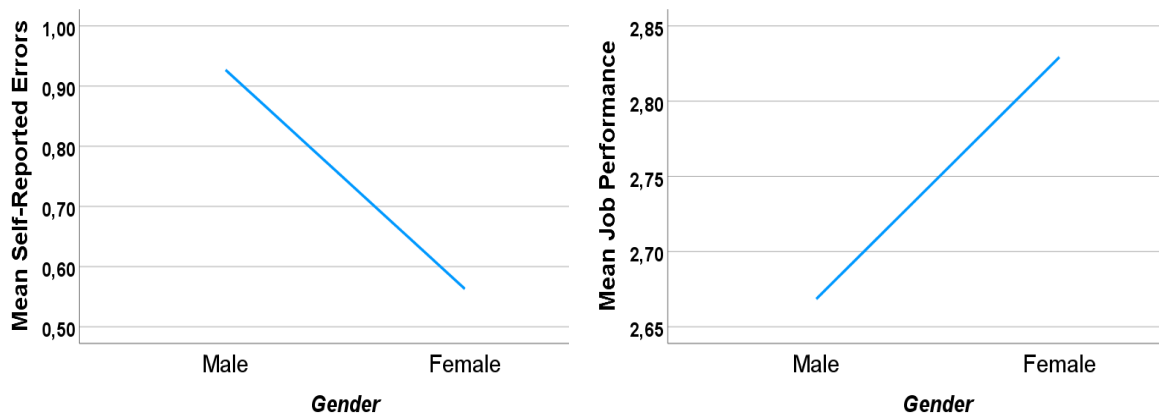
The seventh and final hypothesis was answered by conducting T-tests and one-way ANOVA tests in order to compare the five scores with each of the five demographic characteristics. Out of a total of 25 tests, 13 significant mean differences were found as can be seen in the results of Table 13. Each significant difference is explored with the help of Mean plots in Figures 26 – 38.

Grouping Variables	Well Being	Self-Reported Errors	Job Performance	Burnout	Job Satisfaction
Gender	0.088	0.000	0.004	0.098	0.172
Position of Responsibility	0.005	0.170	0.000	0.000	0.065
Age Categories	0.027	0.160	0.001	0.002	0.568
Profession	0.229	0.000	0.000	0.114	0.139
Work Experience	0.246	0.012	0.000	0.003	0.812

Table 13: P-values of T-tests and ANOVA tests for well-being, self-reported errors, performance, burnout and satisfaction based on demographic characteristics.

Gender Differences

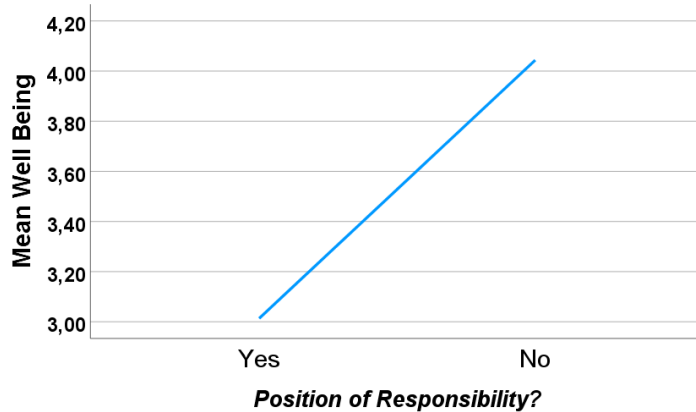
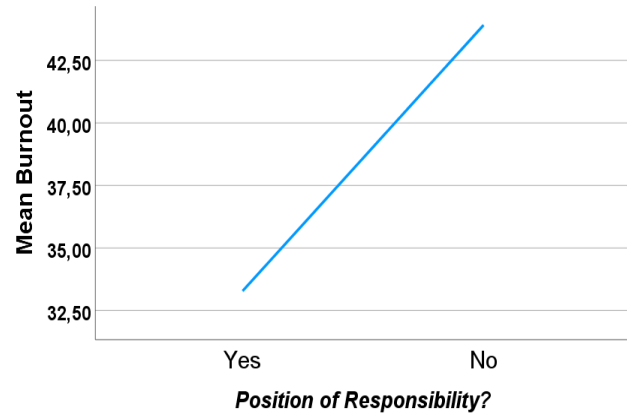
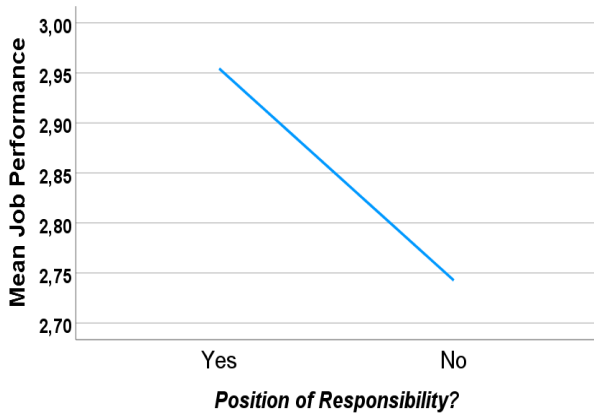
Gender differences are presented in Figures 26 and 27 below. **Males** on average had a **higher score** on **self-reported errors** ($M = 0.93$) than females ($M = 0.56$). Furthermore **males** reported a **lower job performance** score ($M = 2.67$) than females ($M = 2.83$).



Figures 26-27: Differences on Self-reported errors and Job performance by gender

Position Differences

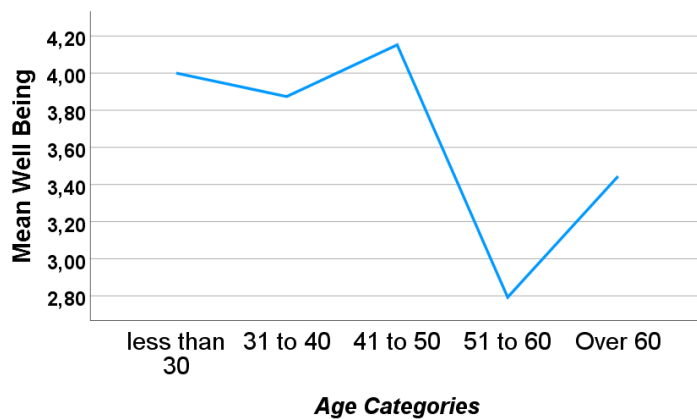
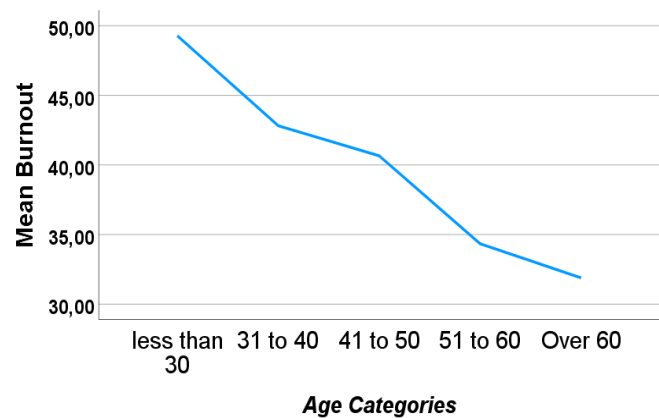
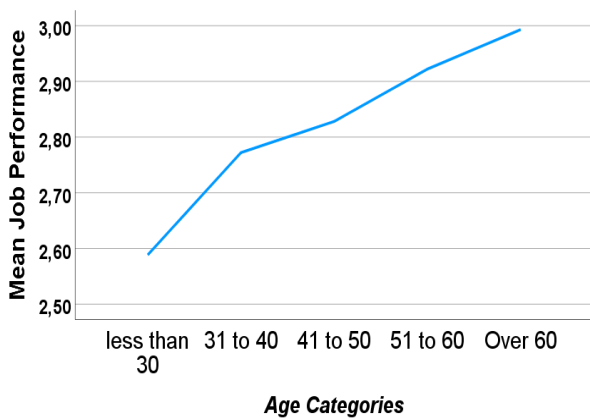
Formal position of responsibility differences are presented in Figures 28-30. Individuals working in a **formal position of responsibility (formal leadership position)** had a **higher job performance** ($M = 2.95$) than those who didn't ($M = 2.74$). Additionally, participants working in a formal position of responsibility reported **lower burnout scores** ($M = 33.28$) than those who didn't ($M = 43.91$). Furthermore, those in a position of responsibility reported a lower well-being score (meaning a **higher level of well-being**, $M = 3.01$) than the rest ($M = 4.04$). This finding is in alignment with the fact that being in a formal leadership role may buffer well-being, as one may experience feelings of autonomy (control) as a leader, which is negatively correlated with burnout. Cydulka and Korte (2014) found that clinicians in professional leadership roles of any kind report more satisfaction and less burnout.



Figures 28-30: Differences on Job performance, Burnout and Well-being score by formal Position of Responsibility

Age Differences

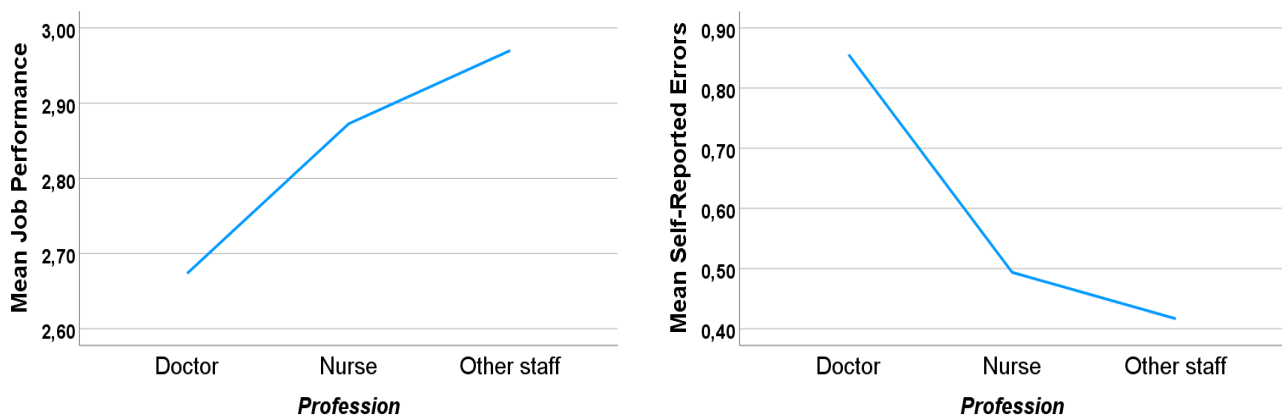
Age differences are presented in Figures 31 - 33. The first two Figures show clear trends among participants. As the **age of the respondents increases**, their **job performance** levels also **increase**, whereas their **burnout levels decrease** and this finding agrees with the study of Spickard (2002), which supported that burnout levels in clinicians tend to decrease with age and that the fact that younger clinicians need to sacrifice their personal/family life for their career will exacerbate burnout and fatigue. The last Figure shows a declining trend in well-being score (which means **an ascending trend for actual well-being**) as **age increases** which however is not consistent among all age categories.



Figures 31-33: Differences on Burnout, Job performance and Well-being score by age categories

Profession Differences

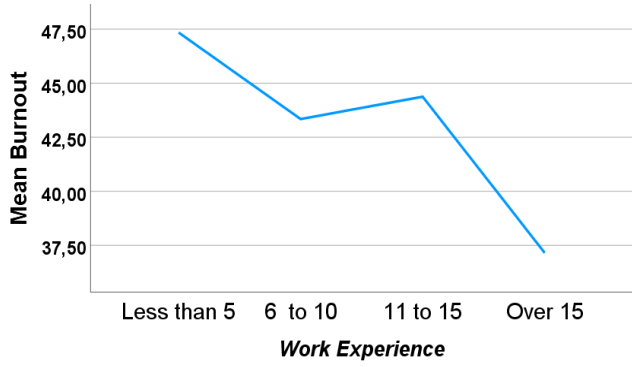
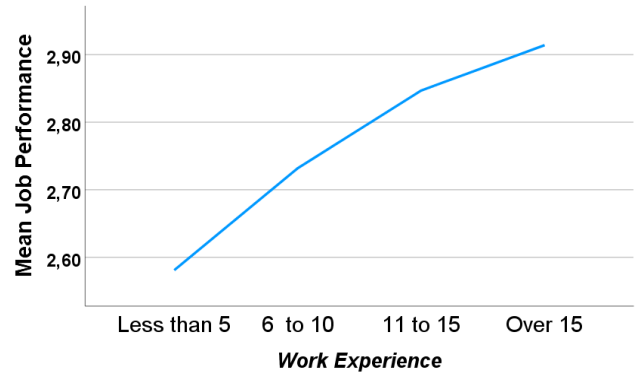
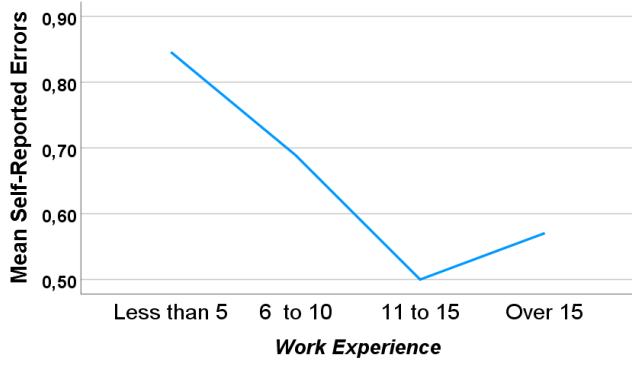
Differences based on the participants' profession are displayed in Figures 34-35. Other staff (allied healthcare professionals) report on average higher scores ($M = 5.30$) of well-being (which means lower level of well-being) than doctors ($M = 4.23$) and nurses ($M = 4.41$). Additionally, **doctors reported more errors** ($M = 0.86$) than nurses ($M = 0.61$) and other staff ($M = 0.51$). Lastly, **other staff reported higher levels of job performance** ($M = 2.97$) than nurses ($M = 2.87$) and doctors ($M = 2.67$).



Figures 34-35: Differences on Job performance and Self-reported Errors by Profession.

Work-Experience Differences

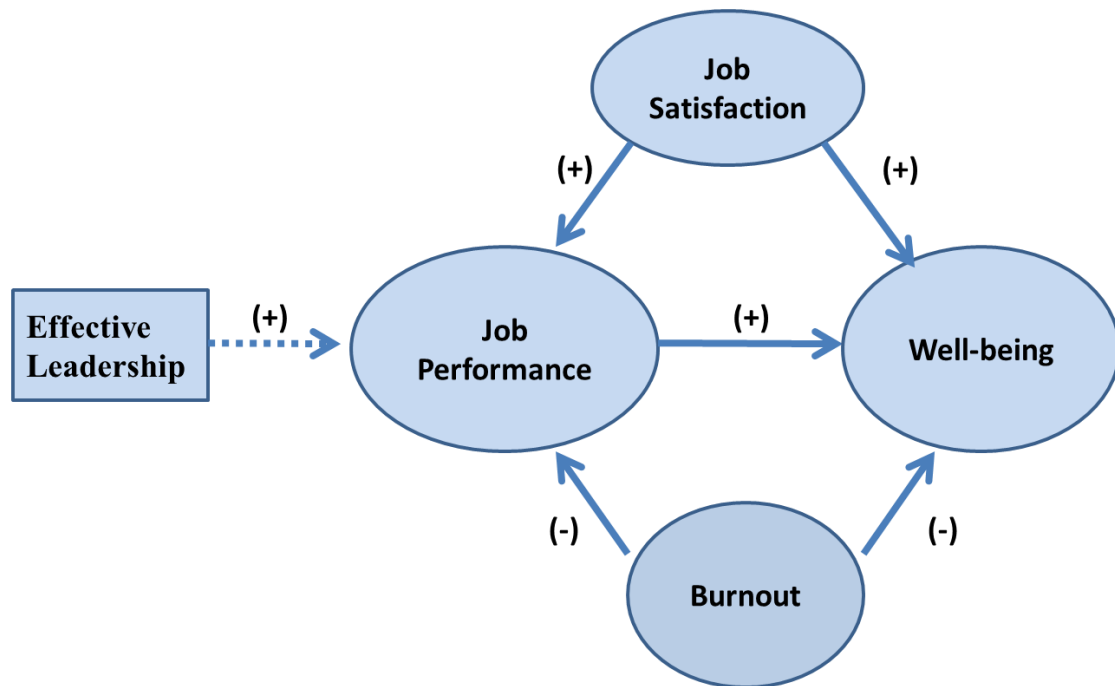
Differences based on the participants' years of work experience are displayed in Figures 36-38. The trends are not as absolute as those observed between Age, but they are still visible. As the years of the **working experience increase**, **self-reported errors** tend to also **decrease**, **job performance** levels tend to **increase** and **burnout** levels tend to **decrease** which is consistent with the fact that early career healthcare seem to follow a more "idealistic" approach and a compassionate-empathic attitude may also explain why they are more exposed to burnout risk than the late career clinicians (Kalani et al, 2018).



Figures 36-38: Differences on Self-reported Errors, Job Performance and Burnout by Work Experience.

5. Discussion

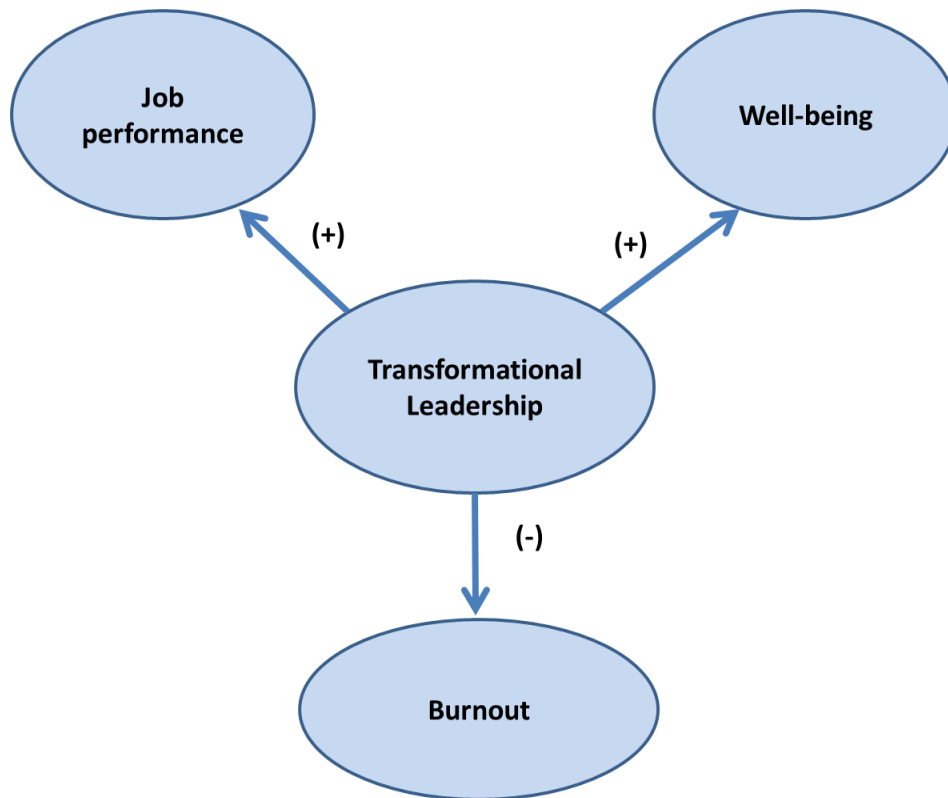
In an effort to summarize the findings of this particular research, we could propose the two following models:



1st Model

1. In the first place, this model postulates the **positive correlation** between **job performance** and **well-being** of healthcare professionals.
2. It should be noted that **job satisfaction** functions as a **mediator** of the aforementioned correlation as **high** levels of **job satisfaction** lead to **high** levels of both **job performance** and **well-being** of employees.
3. On the other hand, **burnout** plays a **mediating role** as high levels of burnout **negatively influence** the levels of both **job performance** and **well-being**.

Finally, there might be a **potential positive relationship** between **effective leadership** (as particularly defined by this study) and **job performance** due to the fact that the findings of the statistical analysis rejected this hypothesis as it was on the edge of statistical significance.

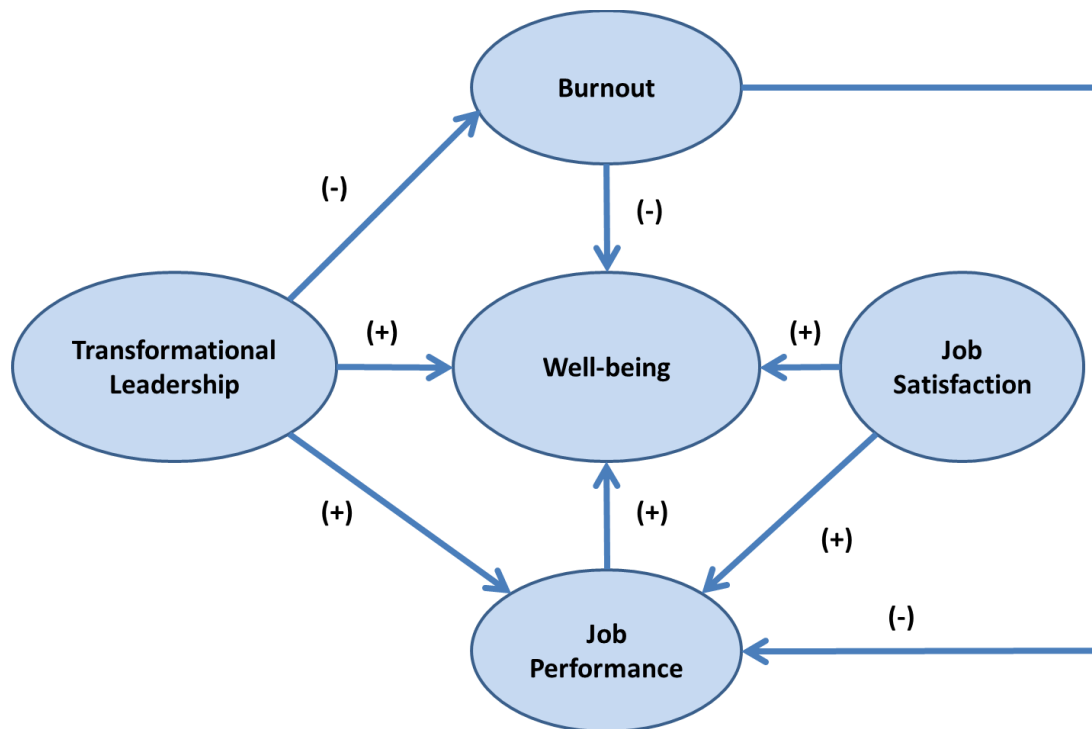


2nd Model

Secondly, the statistical analysis demonstrated that:

1. when clinical leaders display the **transformational leadership style**, they in turn **positively** influence the levels of **job performance** and **well-being** as well.
2. On the other hand, the **transformational leadership** features of clinical leaders are associated with **lower levels of burnout**.

Finally, in an effort to combine the first two models described above we articulate this final model of this study:



Final Model

This model points out the following paths:

The Transformational leadership style leads to higher levels of **well-being** of healthcare professionals. Furthermore, it should be underlined that there are **indirect paths** that connect **transformational leadership** and **well-being**.

1. In the first place, **transformational leadership** leads to **lower** levels of **burnout**, while **low levels** of **burnout** lead to **higher levels** of **well-being**.
2. What is more, **low levels** of **burnout** lead to **higher levels** of **job performance**, which in turn lead to **higher levels** of **well-being**.
3. The interesting element is the fact that **high levels** of **job performance**, which lead to **high levels** of **well-being**, is determined by **high levels** of **job satisfaction** and **low levels** of **burnout**.

The interesting finding of this study is the fact that the positive form of transformational leadership style was recognized as one of the most important and fundamental factor within healthcare organisations which plays a fundamental role in acknowledging the essence of well-being of healthcare workforce on one hand and

constantly promoting the well-being of employee's; one of the most demanding challenges that healthcare organizations are invited to cope with in the contemporary hospital setting.

Finally, it should be underscored that the final model of this study is in alignment with the findings of many studies regarding the beneficial role of transformational leadership style in promoting job satisfaction, encouraging job performance to be augmented and mitigating the deleterious effects of burnout in order to finally ensure the well-being of healthcare professionals (Cummings et al, 2008, Wong et al 2013). The multidimensional, dynamic, challenging, and complex context of international healthcare systems illustrates the necessity of adoption and implementation of leadership development programmes, focusing on cultivating the **traits of transformational leadership style**, which would adequately train and prepare all healthcare professionals, irrespective of formal leadership position, to successfully fulfill their key role as clinical leaders of effective multidisciplinary healthcare teams.

6. Limitations

This study demonstrated some limitations. In the first place, as far as the demographic characteristics of the respondents are concerned, it should be underlined that the study sample was disproportionately female dominated (262 females and 89 males) and additionally the percentage of participants above the age of 60 years was very small (2.6%), which implies the necessity for having included more participants of this specific age category in the study population.

Secondly, although the total sample study was large enough, which was one of the strengths of this research, given the fact that the respondents who belonged to the profession category of allied healthcare professionals constituted a very small percentage of the total study sample (only 8.5%), the outcomes of this study regarding this particular profession category of healthcare workers could not be generalised. Further studies should be encouraged to explore the level of well-being, job satisfaction, burnout, and job performance and how they are related to different leadership traits among allied healthcare professionals who constitute an essential, dynamic, diverse and multiprofessional part of healthcare workforce.

Furthermore, an important element which should be underscored is the fact that all the participants were working in public hospitals. Therefore, it would be a very interesting idea to encompass healthcare professionals working in the private healthcare sector in the study sample in an effort to investigate the differences regarding the relationship of leadership and healthcare professionals' attitudes between the public and private healthcare sector. What is more, the majority of participants were working in two tertiary hospitals in the Thessaloniki metropolitan area. It should be mentioned that these hospitals constitute complex and stressful working environments characterized by very large number of employees who have to cope with very heavy workload, high admission rates, limited resources, financial restraints and the constant need to augment their level of job performance and be more efficient on a daily basis in order to meet the expectations of these very demanding hospital settings. For this reason, it would be very helpful to enrich the sample study with healthcare professionals working in both secondary and tertiary hospitals located in other regions of Greece, in an effort to acquire a more

representative sample of healthcare professionals working at hospitals of the Greek Health System.

The 1st hypothesis of this study which examined if effective leadership of healthcare professionals is related to job satisfaction, well-being, burnout and job performance was rejected. However, it is very important to highlight the fact that during the process of determining the main leadership style (transformational, transactional, laissez-faire/passive) of each participant, 11,2% of respondents were classified into the category of “No Preference” because of ties in comparison between the three different leadership style. Subsequently, this portion of the study sample did not participate in the determination of the percentage of participants who could be characterized as being effective leaders and therefore, the results of the tests examining the first hypothesis might have been different.

Moreover, by using this form of MLQ (6S) (Leader/Self form), all participants regardless of holding a formal leadership position (formal position of responsibility) or not, were asked to self-assess their own leadership competencies and the way they perceive their own leadership role, although it could be more useful and fruitful to broaden the Leadership Scale by adding the MLQ Rater form which gives to healthcare professionals the opportunity to self-assess their own leadership competencies on one hand and simultaneously to evaluate the leadership role of their supervisors on the other hand as part of a 360o degree feedback assessment leading to a holistic and multidimensional approach to the clinical leaders’ role in the contemporary hospital setting.

Finally, concerning the Job Performance Scale, the respondents were asked to self-report their own individual work performance and the suboptimal patient care as well (by asking the respondents if they had made medical errors which could have major potential or little potential to cause harm to patient's health or patients' clinical outcomes). Alternatively, the scale job performance could be approached by using tools that measure the quality of patient care (Halbesleben and Rathert, 2008), the patient satisfaction (Halbesleben and Rathert, 2008), (Haas *et al.*, 2000), the medication errors measured by standardized methods (Fahrenkopf *et al.*, 2008) and objective instruments measuring the patients’ safety (for instance patient’s falls (Bogaert *et al.*, 2014) or hospital acquired infections (Cimiotti *et al.*,2012).

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8. Appendix

The following **Questionnaire** was distributed to participants. It should be noted that each scale of the questionnaire was translated from English to Greek language.

Αγαπητές/τοι Συνάδελφοι,

Το ακόλουθο ερωτηματολόγιο αποτελεί το εργαλείο μέσω του οποίου θα διερευνηθεί η σχέση της ηγεσίας με την ευημερία (**well being**) των εργαζομένων στον χώρο της υγείας στα πλαίσια εκπόνησης της διπλωματικής μου εργασίας.

Η συμβολή σας είναι πραγματικά πολύτιμη. Οι απαντήσεις σας στο ερωτηματολόγιο που ακολουθεί θα παραμείνουν αυστηρά ανώνυμες.

Σας ευχαριστώ εκ των προτέρων για την **πολύτιμη συνεργασία σας,**

Με συναδελφικούς χαιρετισμούς,

Ελένη Φανιάδου

Ειδικεύομενη Πνευμονολογίας

Πνευμονολογική Κλινική ΑΠΘ

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

- Φύλο:** Άρρεν Θήλυ
- Ηλικία (έτη):** <30 31-40 41-50 51-60 >60
- Ειδικότητα:**
- Ιατρός
 - Νοσηλευτής / Νοσηλεύτρια
 - Επισκέπτρια / Επισκέπτης Υγείας
 - Διατροφολόγος
 - Φυσικοθεραπεύτρια / Φυσικοθεραπευτής
 - Βοηθός Ιατρικών Εργαστηρίων
 - Άλλη ειδικότητα

Εργασιακή εμπειρία (έτη): <5 6-10 11-15 >15

Κατέχετε επίσημη θέση ευθύνης; ΝΑΙ ΟΧΙ
(Διευθύντρια/ντής κλινικής

Αναπληρώτρια/τής διευθύντρια/ντής κλινικής

Προϊσταμένη/νος κλινικής

Υπεύθυνη/νος τμήματος

Άλλη θέση)

Ηγεσία (Leadership)

Πώς θα αξιολογούσατε τις ηγετικές σας ικανότητες;

	Σχεδόν ποτέ	Ορισμένες φορές	Συχνά	Πολύ συχνά	Σχεδόν πάντα
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1. Κάνω τους άλλους να αισθάνονται χαρούμενοι όταν βρίσκονται δίπλα μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Εκφράζω με σαφήνεια αυτά που πρέπει να γίνουν και αυτά που μπορούμε να πετύχουμε.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Δίνω την δυνατότητα στους συναδέλφους μου να αποκτήσουν νέο τρόπο σκέψης απέναντι σε διαχρονικά ζητήματα .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Συμβάλλω στην προσωπική εξέλιξη των συναδέλφων μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Εξηγώ στους άλλους τον τρόπο με τον οποίο θα καταφέρουν να ανταμειφθούν για την εργασία τους .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Είμαι ικανοποιημένη/ος όταν οι συνάδελφοί μου ανταποκρίνονται στις απαιτήσεις της εργασιακής τους θέσης.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Είμαι ικανοποιημένη/νος όταν επιτρέπω στους συναδέλφους μου να συνεχίσουν να εργάζονται με τον ίδιο τρόπο όπως πάντα.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Οι συνάδελφοί μου πιστεύουν σε εμένα.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Παρουσιάζω με ελκυστικό τρόπο αυτά που μπορούμε να πετύχουμε.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Τροφοδοτώ τους συναδέλφους μου με καινούριο τρόπο σκέψης απέναντι σε δυσεπίλυτα και σύνθετα προβλήματα .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Οι συνάδελφοί μου ξέρουν πως ενδιαφέρομαι να μαθαίνω για το πώς είναι και πώς αισθάνονται.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Παρέχω αναγνώριση/ανταμοιβή όταν οι συνάδελφοί μου πετυχαίνουν τους στόχους τους.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Εφόσον όλα λειτουργούν καλώς, δεν επιθυμώ να προβώ σε αλλαγές.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Δεν έχω πρόβλημα όταν οι συνάδελφοί μου κάνουν ό,τι επιθυμούν.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Οι συνάδελφοί μου είναι περήφανοι που συνεργάζονται μαζί μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Βοηθώ τους άλλους να βρουν νόημα στην εργασία τους.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Παροτρύνω τους άλλους να ξανασκεφτούν και πιθανώς να αναθεωρήσουν ιδέες, απόψεις ή παγιωμένες αντιλήψεις.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Δίνω προσοχή σε άτομα που φαίνεται πως απορρίπτονται και περιθωριοποιούνται από τους συναδέλφους τους.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Επισημαίνω αυτά που μπορούν και πρέπει να διεκδικήσουν οι συνάδελφοί μου όταν πετυχαίνουν τους στόχους τους.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Εξηγώ λεπτομερώς στους άλλους τις απαιτήσεις της εργασίας που καλούνται να επιτελέσουν.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Δεν έχω επιπλέον απαιτήσεις από τους συναδέλφους μου, εφόσον τηρούνται οι βασικές προϋποθέσεις.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ευημερία (Well-being)

Κατά την διάρκεια του τελευταίου μήνα:

	Ναι	Όχι
1. Έχετε αισθανθεί εξουθενωμένη/ος (burned out) από την εργασία σας;	<input type="checkbox"/>	<input type="checkbox"/>
2. Ανησυχείτε για το γεγονός πως η εργασία σας σας καθιστά συναισθηματικά πιο 'σκληρή/σκληρό';	<input type="checkbox"/>	<input type="checkbox"/>
3. Ανησυχείτε για το γεγονός πως αισθάνεστε απαισιόδοξη/ος ή νιώθετε θλίψη;	<input type="checkbox"/>	<input type="checkbox"/>
4. Έχετε αποκοιμηθεί κατά την διάρκεια της οδήγησης;	<input type="checkbox"/>	<input type="checkbox"/>
5. Έχετε αισθανθεί πως οι υποχρεώσεις σας είναι τόσες πολλές σε σημείο που να μην	<input type="checkbox"/>	<input type="checkbox"/>

έχετε την δυνατότητα να ανταποκριθείτε επιτυχώς;					
6. Πιστεύετε πως εμφανίζετε συναισθηματικά προβλήματα όπως άγχος, κατάθλιψη, ευερεθιστότητα ;	<input type="checkbox"/>	<input type="checkbox"/>			
7. Αισθάνεστε πως η κατάσταση της σωματικής σας υγείας επηρεάζει την απόδοσή σας στην εργασία σας ;	<input type="checkbox"/>	<input type="checkbox"/>			
	Διαφωνώ απόλυτα	Διαφωνώ	Ούτε συμφωνώ ούτε διαφωνώ		
			Συμφωνώ		
			Συμφωνώ απόλυτα		
8. Η δουλειά μου δίνει νόημα στην ζωή μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Το ωράριο εργασίας μου παρέχει ελεύθερο χρόνο για την προσωπική/οικογενειακή μου ζωή.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Επαγγελματική εξουθένωση

(Burn out)

Συναισθηματική εξουθένωση
(Emotional exhaustion)

Ορισμένες

φορές

κατά την

διάρκεια

του έτους

Μία

φορά

τον

μήνα

Ορισμένες

φορές τον

μήνα

Μία

φορά την

εβδομάδα

α

Ορισμένες

φορές την

εβδομάδα

Κάθε μέρα

1. Αισθάνομαι εξουθενωμένη/ος σε συναισθηματικό επίπεδο λόγω της εργασίας μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Απαιτείται μεγάλη προσπάθεια προκειμένου να	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

καταφέρω να εργάζομαι τόσες πολλές ώρες μαζί με άλλα άτομα .							
3.Αισθάνομαι πως θα καταρρεύσω εξαιτίας της δουλειάς μου .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.Αισθάνομαι απογοητευμένη/ος από την εργασία μου .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.Αισθάνομαι πως εργάζομαι πολύ σκληρά στην δουλειά μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Η συνεχής επαφή με άλλους ανθρώπους στην δουλειά μου προκαλεί έντονο άγχος.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Αισθάνομαι πως έχω φτάσει στα όρια μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		Ορισμένες φορές κατά την διάρκεια του έτους	Μία φορά τον μήνα	Ορισμένες φορές τον μήνα	Μία φορά την εβδομάδα	Ορισμένες φορές την εβδομάδα	Κάθε μέρα
Αποπροσωποποίηση (Depersonalisation)	Ποτέ						

1. Αισθάνομαι πως αντιμετωπίζω τους ασθενείς απρόσωπα, σαν να είναι 'αντικείμενα'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Αισθάνομαι κουρασμένη/ος όταν ξυπνάω το πρωί και πρέπει να	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

αντιμετωπίσω άλλη μία μέρα στην δουλειά.							
3. Έχω την εντύπωση πως ορισμένοι ασθενείς θεωρούν πως ευθύνομαι εγώ για κάποια από τα προβλήματά τους.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Φτάνω στα όρια της υπομονής μου στο τέλος του εργασιακού μου ωραρίου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Πραγματικά δεν με ενδιαφέρει τι θα συμβεί σε κάποιους από τους ασθενείς.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Έχω γίνει λιγότερο ευαίσθητη/ος απέναντι στους συνανθρώπους μου από τότε που άρχισα να εργάζομαι.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Φοβάμαι πως αυτή η δουλειά με έχει κάνει λιγότερο συμπονετική/συμπονετικό.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Προσωπικά επιτεύγματα (Personal accomplishments)	Ποτέ	Ορισμένες φορές τον χρόνο	Μία φορά τον μήνα	Ορισμένες φορές τον μήνα	Μία φορά την εβδομάδα	Ορισμένες φορές την εβδομάδα	Κάθε μέρα
1. Σημειώνω αξιόλογα επιτεύγματα στην δουλειά μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Είμαι γεμάτη/ος ενέργεια.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Μπορώ εύκολα να καταλάβω	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

πώς αισθάνονται οι ασθενείς.							
4. Φροντίζω τους ασθενείς μου αποτελεσματικά.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Στην δουλειά μου, διαχειρίζομαι συναισθηματικά προβλήματα με ηρεμία και ψυχραιμία.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Πιστεύω πως μέσω της δουλειάς μου μπορώ να επηρεάσω θετικά τους συνανθρώπους μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Μπορώ εύκολα να δημιουργήσω μία ευχάριστη ατμόσφαιρα για τους ασθενείς μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Αισθάνομαι ανανεωμένη/ος όταν μου δίνεται η δυνατότητα ουσιαστικής επικοινωνίας με τους ασθενείς μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Iκανοποίηση (Job satisfaction)	Διαφωνώ		Ούτε συμφωνώ ούτε διαφωνώ		Συμφωνώ	
	απόλυτα	ώ	ούτε	διαφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
1. Γενικότερα, είμαι ικανοποιημένη/νος με την εργασία μου	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Γενικότερα, δεν μου αρέσει η δουλειά μου.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Γενικότερα, μου αρέσει που εργάζομαι εδώ.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Εργασιακή απόδοση (Job performance)

Τους τελευταίους 3 μήνες... (Task performance)	Ποτέ	Σπάνια	Μερικές φορές	Συχνά	Πάντα
	1. Κατάφερα να ολοκληρώσω τα εργασιακά μου καθήκοντα εντός του προκαθορισμένου χρονοδιαγράμματος.				

2.Ο σχεδιασμός μου στην δουλειά μου ήταν ο καλύτερος δυνατός.					
3. Είχα στο μυαλό μου τα αποτελέσματα που έπρεπε να πετύχω (πχ, σωστή διαγνωστική και θεραπευτική προσέγγιση των ασθενών)					
4. Ήμουν σε θέση να διαχωρίσω τα σημαντικά θέματα της εργασιακής μου καθημερινότητας από τα δευτερεύοντα.					
5. Ήμουν σε θέση να πετύχω τους εργασιακούς μου στόχους στο μικρότερο χρονικό διάστημα και με την μικρότερη δυνατή προσπάθεια.					

Τους τελευταίους 3 μήνες... (Self-reported errors)	Ποτέ	Σπάνια	Μερικές φορές	Συχνά	Πάντα
1.Έκανα ένα ιατρικό λάθος (λάθος διαγνωστικός αλγόριθμος, ή λανθασμένη εντολή για έναρξη φαρμακευτικής αγωγής, ή λανθασμένη εντολή για απεικονιστικές, ή εργαστηριακές εξετάσεις, ή επεμβατικές πράξεις, ή λανθασμένη καταγραφή της εντολής, ή λανθασμένη εκτέλεση της ιατρικής εντολής) το οποίο μπορούσε να επιφέρει δυσμενείς συνέπειες στην υγεία των ασθενών.					
2. Έκανα ένα ιατρικό λάθος το οποίο πιθανότατα είχε πολύ μικρή επίπτωση στην υγεία, την κλινική πορεία και έκβαση των ασθενών.					

	Ποτέ	Σπάνια	Μερικές φορές	Συχνά	Πάντα
Τους τελευταίους 3 μήνες... (Contextual performance)					
1.Ανέλαβα επιπλέον αρμοδιότητες.					
2.Ξεκίνησα από μόνη/μόνος μου την διεκπεραίωση νέων καθηκόντων, εφόσον είχα ολοκληρώσει αυτά που είχα αναλάβει προηγουμένως.					
3. Ανέλαβα να διεκπεραιώσω απαιτητικές εργασίες που ήταν πραγματική πρόκληση για εμένα.					
4. Προσπάθησα να ενημερώνομαι και να παρακολουθώ τις πρόσφατες επιστημονικές εξελίξεις στο γνωστικό μου αντικείμενο.					
5. Προσπάθησα να βελτιώσω και να εξελίξω τις δεξιότητές μου αναφορικά με το γνωστικό μου αντικείμενο.					
6. Ανέπτυξα δημιουργικούς τρόπους αντιμετώπισης των νέων προβλημάτων που προέκυψαν στην δουλειά μου.					
7. Αναζητούσα νέες προκλήσεις στην δουλειά μου.					
8. Συμμετείχα ενεργά στις συναντήσεις της εργασιακής μου ομάδας, του τμήματός μου, της κλινικής μου.					

	Ποτέ	Σπάνια	Μερικές φορές	Συχνά	Πάντα
Τους τελευταίους 3 μήνες... (Counterproductive performance)					
1.Παραπονήθηκα για ασήμαντα ζητήματα στην δουλειά.					
2.Παρουσίασα κάποια προβλήματα στην δουλειά μου ως μεγαλύτερα και πιο σοβαρά , ενώ στην πραγματικότητα ήταν πιο απλά.					
3. Επικεντρώθηκα περισσότερο στις αρνητικές και όχι στις θετικές πτυχές ενός ζητήματος στην δουλειά μου.					
4. Συζήτησα με τους συναδέλφους μου τις αρνητικές πτυχές της εργασιακής μου εμπειρίας.					
5. Συζήτησα με άτομα εκτός του νοσοκομείου για τις αρνητικές πτυχές της δουλειάς μου.					

Σας ευχαριστώ πολύ για τον χρόνο σας!!!