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## Article

Factors supporting the job satisfaction of the middle healthcare management : the role of work conditions, managerial competencies and social support

## Provided in Cooperation with:

Slovak Academy of Sciences, Bratislava

*Reference:* Jankelová, Nadežda/Joniaková, Zuzana et. al. (2023). Factors supporting the job satisfaction of the middle healthcare management : the role of work conditions, managerial competencies and social support. In: Ekonomický časopis 71 (6/7), S. 428 - 457.

<https://www.sav.sk/journals/uploads/121309516-7%2023%20Jankelova%20a%20kol.%20+%20SR.pdf>.

doi:10.31577/ekoncas.2023.06-07.03.

This Version is available at:

<http://hdl.handle.net/11159/652763>

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## Factors Supporting the Job Satisfaction of the Middle Healthcare Management – The Role of Work Conditions, Managerial Competencies and Social Support<sup>1</sup>

Nadežda JANKELOVÁ – Zuzana JONIAKOVÁ – Andrea ČAMBALÍKOVÁ\*

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### Abstract

*The job satisfaction of middle healthcare managers affects organizational results of healthcare facilities. Purpose of the paper is to explore the relationship between competent leadership and work conditions with the job satisfaction of middle healthcare managers and the role of job autonomy and social support as mediators of this relationship, and to verify the influence of moderators – evaluation and ability of psychological detachment on strength of this relationship. The sample of quantitative questionnaire research consisted of 225 mid-level managers of healthcare facilities in Slovakia. The data were processed using the SPSS 24 software package. The findings show that managerially competent leadership is directly related to the job satisfaction of middle healthcare management. This effect can be strengthened by evaluation of work; psychological detachment has the opposite effect on the researched relationship. Social support and job autonomy act as mediators, the influence of social support is particularly important.*

**Keywords:** *job satisfaction, middle healthcare management, managerial competences, work conditions, evaluation, social support, psychological detachment, moderation and mediation effects*

**JEL Classification:** M12, M15

**DOI:** <https://doi.org/10.31577/ekoncas.2023.06-07.03>

**Article History:** *Received:* January 2023      *Accepted:* October 2023

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<sup>1</sup> The paper is a partial output of research project VEGA No. 1/0010/23 *Adaptability of corporate culture – a factor supporting resilience and sustainability of enterprises in Slovakia in the post-covid period* in the range of 50% and KEGA No. 001EU-4/2021 *Project of a study program in field of economics and management, which reflects conditions of digital age, appeal of sustainability of economic activity and global citizenship* in the range of 50%.

## **Introduction**

Many challenges resonate in the current state of Slovak healthcare system, which need to be dealt with. These include a lack of funding, insufficient hospital equipment, limited access to innovative treatment, long waiting periods for interventions, lack of healthcare personnel and their low evaluation, management of state versus non-state hospitals, optimal use of resources from the recovery plan and, last but not least, the future of the system towards innovation and digital technologies. Healthcare providers are long-term exposed to challenges that place enormous demands on their management and require a holistic approach to problem solving (Wilder-Smith et al., 2020; Sengupta et al., 2021).

The transformation of the healthcare sector depends largely on the availability of a qualified workforce. Even before the pandemic, it was possible to observe an alarming worldwide shortage of healthcare workers (Andreae and Betheil, 2022). The difficult situation faced by the healthcare workers made this trend even worse. The World Health Organization (WHO) predicts that the shortage will more than double from 7 million in 2016 to 18 million by 2030. During the pandemic, which has had a major impact on global mental health, global economies, the environment, industries and government support for health systems, sectors and communities, healthcare professionals faced increased psychological pressure and even mental health issues (Vizheh et al., 2020; Abbas, 2021). At the level of policy makers and management of healthcare facilities, it will therefore be necessary to adopt supportive, encouraging and motivational measures and educational interventions in order to cope with the difficult situation. While measures to preserve healthcare professionals psychological and emotional health must be available immediately, healthcare providers will need long-term resources to fully recover from this experience (Santarone et al., 2020).

The topic of our research is important for several reasons. Even if changes related to the system are needed to solve defined problems in the healthcare sector, partial changes can also be implemented at the level of the healthcare facilities themselves, while not only top managers, but also mid-level managers play a key role in handling the challenges raised. Within the organizational structure of healthcare facilities in Slovakia, these are mainly head nurses and primary care workers, who are responsible for the running of departments and the creation of a healthy work environment (Galura, 2020), for patient satisfaction (Wong et al., 2013; Tsai et al., 2015), and effective functioning of interdisciplinary teams (Nelson, 2017). They are the connecting link between top management and employees and therefore are exposed to pressure „from above“ in association with the fulfillment of organizational goals and the patient-centered care approach, which is currently replacing the traditional paternalistic approach to healthcare (Delaney, 2018;

Paparella et al., 2016). At the same time, they are under pressure from „below“, because excessive patient-centered orientation is associated with job dissatisfaction and frustration (Lewis et al., 2012). They have to face the demands and expectations of several stakeholders, both external and internal. Tang et al. (2019) and Lee and Cummings (2008) refer to them as a vital link between senior management and employees. Rouse and Al-Maqbali (2014) refer to them as a role model that sets the standard and expectations for healthcare organizations. The subject of scientific studies is researching of factors that contribute to the satisfaction, engagement, or higher commitment of this group of managers, which is crucial for the performance of medical facilities and the quality of healthcare (Vuong et al., 2021). The situation in the Slovak healthcare ecosystem is also specific due to its fundamental financial undervaluation and demanding working conditions. Salaries remain at a low level for a long time. In order to ensure quality of healthcare, it is necessary to look for other tools to support the satisfaction and engagement of these key employees.

Even though healthcare organizations are influenced by political actors who set the rules of their functioning and thus influence their decision-making, which naturally affects the working environment of healthcare managers, they can in many ways use their own resources and potential to solve the situation. These are mainly qualified decisions at the management level, with which they can influence the working conditions of health workers in such a way that it not only does not harm them, but also affects their commitment in a long-term sustainable way. In addition to the physical conditions of work, psychological circumstances are also of decisive importance. Management of medical facilities can provide qualified personnel with a high degree of autonomy, within which they can realize themselves and at the same time support them by providing social support in difficult situations. Such an approach, combined with performance feedback and appropriate work with mental distance and detachment from particularly demanding work, has the potential to influence job satisfaction in a sustainable way.

In the context of the above, the purpose of our study is to research the mentioned factors, which we assume have an impact on the connection with strengthening the job satisfaction of middle management, as a key element of healthcare facilities. Considering the studies already carried out, we see a significant research gap in the detection of the interrelationships of working conditions, competent leadership and job satisfaction of healthcare managers and the mediation role of their job autonomy and provided social support. The findings of the research will benefit healthcare facilities in connection with the stabilization of middle healthcare management as a key element of their quality functioning.

## 1. Teoretical Background

The human factor is critical to the success of healthcare systems and the achievement of national and global health goals. In order to effectively respond to the health care needs of the population, the health workers themselves must be in good health. However, in reality, they face a variety of psychosocial pressures, including night work, long working hours, patient care demands, impending legal disputes, workplace violence and emotional stress due to demanding interactions with patients and colleagues and suboptimal working conditions. Constant exposure to these psychosocial risks adversely affects their health (Ge et al., 2021). In order for healthcare workers to be efficient and provide the highest quality services to patients, it is necessary to clearly define expectations from their work, ensure that they have adequate knowledge and skills, access to the necessary equipment, and provide them with feedback on their performance. Healthcare workers need incentives that motivate them for their own satisfaction and work engagement. Only in this way, they can ensure adequate patient care and increase their efficiency (Kitsios and Kamariotou, 2021). All these factors are especially important in the category of middle management, which, as mentioned above, has a direct impact on the performance of healthcare facilities, because they themselves act as managers with a direct impact on patients on the one hand and the teams managed by them on the other.

Our study is based on and builds on influential existing theories dealing with the study of job characteristics. These are mainly the JCM theory (Job Characteristics Model) and the JD-R model (Job Demands and Resources Model).

The Job Characteristics Model is a work design theory that identifies the key factors that make work motivating, satisfying and engaging for employees. By assessing five essential job characteristics (skill variety, task significance, task identity, autonomy, and feedback), organizations can design jobs that promote engagement, productivity, and high job satisfaction among their employees. Hackman and Oldham's (1976) original work stimulated further conceptualizations of job design. Extensions of the JCM include the addition of important social (i.e., social support and feedback from others) and work contextual (i.e., physical job demands and ergonomics) elements (e.g., Campion, 1988; Humphrey and Morgenson, 2006). Empirical research provides detailed examination and support for the proposed relationship between core job design characteristics and several attitudinal, motivational, and behavioral responses of employees (e.g., Fried and Ferris, 1987; Humphrey et al., 2007; Renn and Vandenberg, 1995).

In our study, we focused on selected items from the extended JCM model (Humphrey and Morgenson, 2006), which works with the categories task, knowledge,

social and contextual characteristics of the workplace. We included contextual characteristics in the research in the form of an examination of working conditions. From task characteristics, we chose work autonomy. We proceed from the assumption that the variable diversity of skills, importance of tasks, feedback from job and identity of the task is fully ensured in the case of the position of mid-level health managers. The very nature of the work requires a wide range of professional and managerial competences, and at the same time, the content of the work provides the employee with information about its meaning, significance and impact on human lives. What the devices can work with is precisely the degree of autonomy they provide to middle managers. Following the autonomy of work performance, we consider social characteristics, especially social support and feedback from others, to be key. In addition, the management of a medical facility can effectively influence these characteristics. Therefore, the level of his managerial competencies was also included in the research model, where we assume a significant connection with the investigated relationships.

Another influential theory that the study considers is the JD-R model of job demands and resources, which explains the role of depersonalization and renewal in the relationship between resources and job demands, including job characteristics and job satisfaction (Bakker et al., 2003; Demerouti et al., 2001). The mentioned model is based on the assumption that, despite the specifics of individual job positions, there are two universal categories, namely work requirements and work resources, which can be applied universally in different work environments. Job demands refer to those physical, psychological, social or organizational aspects of work that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological demands. Examples include high work pressure, unfavorable physical environment and emotionally demanding interactions with clients/patients. Although job demands are not necessarily negative, they can turn into job stressors when meeting these demands requires high effort from which the employee has not adequately recovered (Meijman and Mulder, 1998). Job resources refer to those physical, psychological, social, or organizational aspects of work that are either functional in achieving work goals, reduce job demands and related physiological and psychological demands, or stimulate personal growth, learning, and development. Resources are therefore not only needed to address job demands, but are also important in their own right. In a demanding job, such as middle health management, employees who have access to sufficient resources are better able to handle the demands of the jobs. As a result, they experience lower levels of exhaustion (Bakker et al., 2003). This agrees with Hackman and Oldham's (1980) theory of job characteristics, which emphasizes the motivational potential of task-level job resources, including autonomy, feedback, and task significance.

## **1.1. Job Satisfaction, Work Conditions and Managerial Competencies**

### ***Job Satisfaction***

Job satisfaction was defined by Locke (1976) as „a pleasant or positive emotional state resulting from the evaluation of one’s work or work experience“, which includes cognitive (evaluative), affective (or emotional) and behavioral components (Hulin and Judge, 2003). It is generally considered as a driver of employee retention and productivity. It is believed that behaviors that help an organization to be successful are most likely to occur when employees are well motivated, feel engaged with their work and organization, and their work provides them with a high level of satisfaction (Paais and Pattiruhu, 2020).

Job satisfaction is related to the fulfillment of immediate needs, such as work conditions, income, relationship with co-workers and managers, and opportunities for career promotion. In stressful, unstable jobs, the fulfillment of immediate needs affects job performance more immediately than the fulfillment of gradual needs (Loan, 2020). Among the factors that influence the job satisfaction of healthcare workers are adequate staffing (Aiken, Clarke and Sloane, 2002), management style by superiors (Intaraprasong et al., 2012), social support (Penconek et al., 2021), degree of autonomy in decision-making (Cheung and Ching, 2014; Djukic et al., 2017), access to the information, scope of control (Wong et al., 2013a), organizational culture (Aloisio et al., 2019).

According to Djukic et al. (2017) and Coomber and Barriball (2007) research of the sources of job satisfaction revealed that factors related to the work environment, and not individual or demographic factors, are more important for the stability of healthcare professionals. Job dissatisfaction occurs when healthcare personnel feel undervalued and under-supported, and staffing issues are ignored. A study by Loan (2020) confirmed the impact of job satisfaction on employee performance and found that job satisfaction mediates the impact of organizational commitment on job performance. The secret of success therefore lies in increasing job satisfaction through solutions to improve organizational commitment, as a result of which it is possible to increase work performance. Many studies have researched and confirmed the connection between the job satisfaction of healthcare workers and the quality of healthcare perceived by the patient (Larrabee, 2004; Chang, 2009) and also their retention (Coomber and Barriball, 2007) and burnout (Fontova-Almato et al., 2020). According to Kalisch (2010) higher job satisfaction of healthcare workers will lead to cost savings, because high JS is associated with their lower turnover (Brewer et al., 2009). Therefore, we can reasonably consider JS as a performance indicator in the healthcare environment and research its relationship with related management processes.

The question of JS is especially important in the case of middle managers. From an organizational point of view, they can influence a positive work environment and a healthy culture within the organization. A supportive and friendly work environment increases job satisfaction, as well as work commitment, work engagement and productivity of the employees they manage (Donley, 2021). When managers suffer from job stress, they are less likely to be able to create a good work environment and work culture in their teams, which can have a significant impact on employee job satisfaction and fluctuation. This in turn affects the organization as a whole. Therefore, the good mental health of middle managers is crucial for the performance of the organization (Nordin et al., 2018). Therefore, we consider it essential to examine the factors that are closely related to the JS of middle healthcare management.

### ***Work Conditions***

Work conditions are formed by the working environment and all the existing circumstances affecting work at the workplace (Songstad et al., 2011). It is the environment in which an individual performs work, including all physical and psychological factors and circumstances. (Manyisa, 2015). If they are unsatisfactory, they have a negative impact on the physical and psychosocial well-being of employees and directly and indirectly affect their work performance (Manyisa et al., 2017). Concentration on tasks decreases, which leads to a decrease in performance, including productivity, quality, and emotional stress, which in turn causes costs to rise (Shikdar and Sawaqed, 2003). As a result of worsening work conditions, the physical strain of employees increases (Kahya, 2007; Bakotic and Babic, 2013).

In the healthcare environment, the most important factor affecting employee satisfaction is defined goals, followed by work conditions and social aspects of work. (Dalkrani and Dimitriadis, 2018). The category of working conditions in healthcare refers to personal, professional and social aspects of the work environment. Personal factors include stress, burnout, dissatisfaction, motivation and job control. Social factors include interpersonal relationships among workers such as collectivism, role ambiguity, disagreement, and support. Professionalism includes values that are cultivated within professional disciplines such as nursing or clinical pharmacy (Cafferkey et al., 2019). Study of Coomber and Barriball (2007) has confirmed, that the stability of medical personnel is more significantly influenced by factors connected to the work environment, while individual and demographic factors are only secondary.

Due to the dynamic nature of modern hospitals, healthcare workers are confronted with major changes, especially in psychosocial working conditions, characterized by skill shortages or imbalances, increasing workloads and task complexity.



In addition, demographic changes increase the demands on hospital care for patients, as chronic diseases and multimorbidity are increasingly prevalent. Supporting adaptation to the dynamically developing nature of work in hospitals is the task of hospital management and direct superiors. Several studies have identified the need for infrastructure support and its alignment with organizational strategy to go along with the clinical leadership (Fealy et al., 2011; Leggat, 2013; Martin and Waring, 2013), suggesting that leadership itself can only be as successful as the infrastructure that supports it (Bender, 2015). A transformational leadership style has been shown to contribute exceptionally well to high performance in relation to organizational change (Wagner et al., 2019).

In the context of the JD-R theory, the complex of working conditions, which are demanding in the case of middle health management, creates high demands on the work requirements of this category of employees. High workload and emotional demands predict burnout and lead to reduced job satisfaction.

### ***Managerial Competencies***

The managerial competencies of top management include the unique abilities of organizational leaders to formulate a strategic vision, communicate it within the organization, and empower organizational members to realize it (Hambrick and Mason, 1984). These managerial competencies in organizations are closely related to the ability to engage professionals as a predictor of high-performance organizations. The findings show that managerial competencies are positively associated with organizational performance and the results are mediated by the use of advanced information sharing tools such as performance benchmarking (Vainieri et al., 2017).

Developing managerial competencies is related to professional self-confidence and positively related to job satisfaction (Ko, 2012) and organizational performance (Blayney, 2009). Study of Shum et al. (2018) emphasizes that the competencies of front-line managers and those at the level of directors are not equally important, emphasizing in particular the importance of studying the competencies of managers at the level of directors. According to a BCG study, the top leader should provide front-line managers with practical solutions to the problems they face. In this process, front-line leaders build their skills in the real work they do every day, which brings about the necessary changes in the organization and supports the engagement of teams that increase productivity and provide a better customer experience (Bhalla et al., 2018). Based on the JD-R theory, we believe that the manager's competencies play a significant role in ensuring the balance between work demands and resources to which the employee has access.

It follows from the above that WC and MC are positively related to the job satisfaction of managers, which has been confirmed by several studies. By verifying

this connection in the conditions of Slovak middle healthcare management, we will confirm its validity in other conditions and at the same time create a starting point for deeper research of this relationship.

*Hypothesis 1:* Working conditions (WC) are positively associated with JS of healthcare managers.

*Hypothesis 2:* Managerial competencies (MC) of top management are positively associated with JS of healthcare managers.

## **1.2. Moderating Processes: Psychological Detachment and Evaluation**

### ***Psychological Detachment (PD)***

To mitigate the negative consequences of a high level of work demands, the employee needs to recover from work (Sonnentag et al., 2010). One strategy for recovery from stressful work situations is psychological disengagement from work, which is defined as an individual's sense of being outside of the work situation. It is considered particularly useful for recovery, as a result of which individuals will be able to protect existing internal resources, such as energy, self-confidence or a positive state of mind (Sonntag and Fritz, 2007). Sonnentag and Bayer (2005) argue that in a work context, psychological detachment is a critical element of any recovery process and involves disconnecting, mentally or psychologically, from the work being done. Likewise, according to Allen et al. (2014) the ability to mentally detach from work reduces the risk of burnout. Kilroy (2020) emphasizes the role of PD in healthcare, where psychological detachment is a prerequisite for employees to be willing to invest more energy in their work tasks. PD has been researched in several studies in the position of moderator, e.g., in the relationship between work stressors and reduced well-being (Sonntag and Fritz, 2007; Moreno-Jimenez et al., 2009), between engagement and burnout (Kilroy et al., 2020).

Based on the JD-R model, we assume that PD can fulfill the role of a moderator in the relationship between the conditions in which the work is performed and the satisfaction of healthcare managers, as well as in the relationship between the competence of their management and their job satisfaction. We assume that an employee who is more depersonalized and has a sufficient distance from his demanding work is less sensitive to the influence of the investigated factors and they affect his dissatisfaction to a lesser extent if they are negative. Work in demanding conditions under less qualified management is then reflected to a lesser extent in job dissatisfaction.

*Hypothesis 3:* Psychological detachment (PD) moderates the effect of both WC (hypothesis 3a) and MC (hypothesis 3b) variables on the JS of middle-level healthcare managers. The effect is stronger at lower PD.

### *Evaluation*

In modern organizations, including healthcare, employee evaluation is a critical link between organizational strategies and results (Grigoroudis and Zopoundis, 2011). An integrated evaluation system is beneficial for both parties – the management of healthcare facilities, which enables them to improve the quality of processes, as well as employees, to whom it provides important feedback on their performance. Therefore, it is crucial to adopt a culture based on continuous evaluation and improvement and to incorporate an employee evaluation management system into daily practice. A systematic process of sharing information about performance results, goals and organizational structure provided by top management appears to be an effective strategy for engaging professionals (Vainieri et al., 2017). Moreover, if the evaluation is in line with the strategic mission of the organization, it supports the development of effective performance management.

Within the framework of the JCM theory (Humphrey and Morgenson, 2006), the feedback that the employee receives from the environment is considered part of the social characteristics of the workplace, which are related to his satisfaction. We hypothesize that if evaluation provides effective feedback to the employee, it can be the factor that influences the relationship between job characteristics and job satisfaction. If an employee who works autonomously in a supportive environment with appropriate conditions and qualified management receives relevant evaluation, this can intensify the relationship between these factors and his job satisfaction.

*Hypothesis 4:* Evaluation (E) moderates the effect of both variables WC (hypothesis 4a) and MC (hypothesis 4b) on the JS of middle-level healthcare managers. The effect is stronger with higher E.

### **1.3. Mediation Process: Job Autonomy and Social Support**

A systematic study researching the factors of job satisfaction of healthcare managers, conducted by Penconek et al. (2021) identified work autonomy and social support as significant determinants in relation to their satisfaction. Managers reported that greater autonomy within their roles contributed to increased job satisfaction (Lee and Cummings, 2008). Strengthening the autonomy to make decisions according to their own discretion in accordance with their competence as well as normative and professional standards appears to be an appropriate strategy (Labrague, 2021).

Social support in the workplace (SS), manifested as trust between colleagues and social team cohesion, has been shown to be a key determinant of job satisfaction for healthcare managers (Penconek et al., 2021). It is a resource in the work environment that can be used to solve complex problems (Bruno et al., 2017). Social support

strengthens managers and supports them in more effective management. Studies have confirmed that it also contributed to maintaining the mental health of healthcare workers during the COVID-19 pandemic (Labrague, 2021). It was associated with a significant reduction in stress and an improvement in personal performance in the challenging conditions of the pandemic (Xiao et al., 2020).

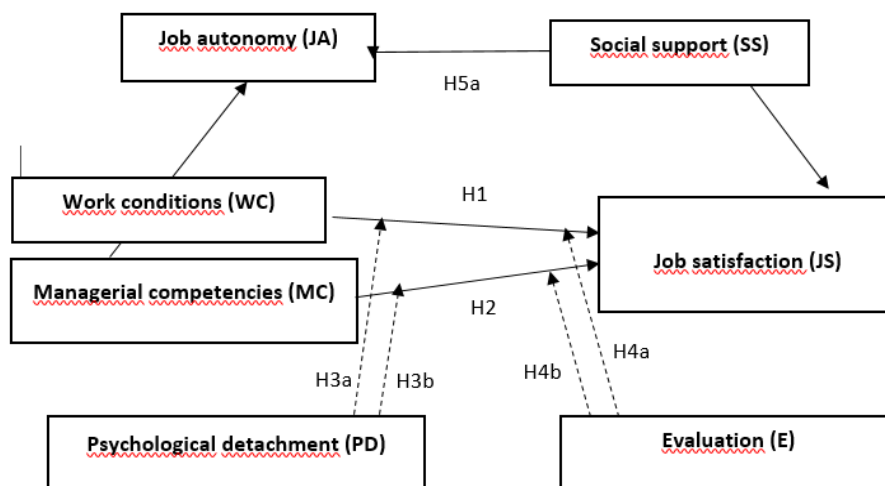
Job autonomy and social support also play a significant role in predicting burn-out syndrome and turnover intention of healthcare workers. The results showed that job autonomy interacted with role stress in predicting burnout, while social support interacted with role stress in predicting turnover intention (Kim and Stoner, 2008). Managers who either had or perceived that they had social support from their supervisors reported higher levels of job satisfaction (Laschinger et al., 2006; Burns, 1992).

Previous studies clearly show that autonomy support, decision-making power to change, and social support can significantly improve middle-level managers' job satisfaction.

*Hypothesis 5:* There is a positive association between the MC of top management and the JS of middle-level health managers, which is mediated by job autonomy (JA) and social support (SS).

Figure 1

#### Researched Model and Tested Hypotheses



Source: Own processing.

Considering the findings described above, it is clear that the influence of work conditions, including evaluation, managerial competencies, job autonomy and social support, as well as the ability of psychological detachment, have already been the subject of several studies. Therefore, we consider it important to research more

deeply also their mutual relations in the context of job satisfaction of middle healthcare management and verify their interaction on this important variable. To our knowledge, the interaction of the mentioned factors has not been researched so far.

## **2. Methodology**

### **2.1. Data Collection and Sample**

All data were obtained in the form of a questionnaire survey in hospitals in Slovakia in the period March – May 2022. The main survey was preceded by a three-year pilot survey on the main problems of healthcare managers in relation to their job satisfaction (implemented in 2019, 2020, and 2021 as part of the specialization studies of healthcare managers). In addition to financial issues, which are widely discussed in Slovakia, several groups of problems were identified, the most significant of which were included in the research model. Managers from different types of hospitals were approached to participate in the study and the meaning and purpose of the study was explained to them. A total of 225 responses were obtained from middle-level managers with an average age of 47.4 years (min = 32, max = 67, SD = 9.51), an average experience in a management position of 12.19 years (min = 2 years, max = 34 years, SD = 7.67). Of the 235 managers, 165 were women and 60 were men, 152 were managers in the nursing field and 73 in the medical field. Up to 155 managers (68.3%) completed the specialization study in the field of management. The average span of management was 26.6 employees.

### **2.2. Measurements**

The following variables were used to test the relationships.

#### ***Independent Variables***

Variable *Work conditions (WC)* is expressed as a score given by healthcare managers to items grouped into three dimensions. We were based on already conducted foreign studies (Johnson, 1986; Karasek and Theorell, 1990), whose items within individual dimensions and also the variable as a whole are very well established with excellent psychometric properties (Cronbach's alpha, expressing the internal consistency of the variable as a whole, but also of individual dimensions, ranged from 0.73 to 0.88) (Sonntag et al., 2010; Wood et al., 2013). The individual dimensions are: 1) job demands – 5 items describing job demands (work load, time for administration, demanding work, formal competences, access to necessary information for diagnosis and therapeutic purposes), 2) job control –

4 items, measuring up to what extent an individual can influence the way work is performed and the decisions affecting his work (influence on work planning, work breaks, work pace or vacation planning; freedom within working hours, the possibility of choosing work procedures, tasks, using own skills), 3) managerial support (5 items measuring managerial support, appreciation and assistance in developing professional skills (opportunity for education, support for professional cooperation, support for innovation in the workplace, support for professional growth, possibility for communication with management). Responses to individual items within WC characteristics were scaled on a 5-point scale (1 = completely disagree to 5 = completely agree). After analyzing the reliability of the WC variable, the Cronbach's alpha value of our set was 0.96 (14 items).

*Managerial competencies (MC)* are expressed as scores given by middle managers to their top management in 6 items: top management clearly defines the strategy, top management participates in decision-making processes related to my department/unit, top management supports knowledge sharing between departments, top management is able manage conflicts, senior management gives feedback on my work and I like the way senior management works. Vainieri et al. (2017) proposed the variable with internal consistency, expressed by Cronbach's alpha ranging from 0.78. Responses to individual items within MC characteristics were scaled on a 5-point scale (1 = strongly disagree to 5 = strongly agree). After reliability analysis, Cronbach's alpha in our study was 0.87 (6 items).

### ***Dependent Variable***

One global item was used to measure job satisfaction (JS), containing the question: „To what extent are you currently satisfied with your job as a manager in a healthcare facility?”. The answers were scaled on a 5-point scale from 1 = very dissatisfied to 5 = very satisfied. Global JS is very often used in surveys and in the healthcare environment (Aiken, Havens and Sloane, 2000; Sochalski, 2001; Gittel et al., 2008). Global JS was positively correlated with job satisfaction, examined through satisfaction with sub-aspects of work, and confirmatory factor analysis showed one main factor (Williams et al., 1996; Wong et al., 2013b).

### ***Mediation Effect***

*Job autonomy (JA)* is the mediating variable that transfers the effect from the independent variable to the dependent variable. The variable is implemented as an expression of managers' agreement/disagreement with items expressing their perception of work autonomy, namely: (1) I have the freedom to perform my work, as I want. (2) I have the opportunity for independent and individual initiative. (3) I have high level of diversity in my work. These statements were scaled using

a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). We used the standardized tool „Job Diagnostic Survey“ developed by Hackman and Oldham (1974) with excellent psychometric properties. The measurement of the job autonomy variable was also used in other studies with high Cronbach's alpha values (Vandenabeele, 2014; Falco et al., 2017). After the reliability analysis, the Cronbach's alpha of the JA variable in our study was 0.935 (3 items).

*Social support (SS)* is the second mediating variable. It is implemented as an expression of managers' agreement/disagreement with items expressing their perception of social support in the work environment, namely: (1) My supervisor values my work. (2) My supervisor is interested in my well-being and satisfaction. (3) My colleagues take a personal and friendly interest in me. (4) My colleagues respect me as an expert. These statements were scaled using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). We were based on a modified version of Karasek's concept (1988) of social support by Imbault-Jean (2004). After the reliability analysis, the Cronbach's alpha of the SS variable in our study was 0.825 (4 items).

### ***Moderating Effects***

*Psychological detachment (PD)* we have measured as the ability to detach from work matters and problems outside of work, during free time. We used the scale, consisting of 4 items, designed by Sonnentag and Fritzme (2007). Respondents answered using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree) to questions regarding their general psychological detachment from work. The items are as follows: (1) I forget about work during non-working hours. (2) I do not think about work at all during non-working time. (3) I distance myself from my work during non-working hours. (4) I take a break from work demands during non-working time. After the reliability analysis, the Cronbach's alpha of the PD variable was 0.89 (4 items).

*Evaluation measurement (E)* was created from subscale items of the standardized Pressure Management Indicator (PMI) questionnaire (Williams and Cooper, 1998; Laschinger, 2006). Respondents expressed their agreement/disagreement with 4 items: (1) The work I do for the hospital is appreciated. (2) I never feel undervalued. (3) My superior does not forget to give praise for a job well done. (4) My superior does not talk to me only when something is wrong. After the reliability analysis, Cronbach's alpha of variable E was 0.820 (4 items).

The control variables were age (in years), experience (in years), gender, position (manager in the medical or nursing field), completed specialization studies in management, and span of management, which were selected as control variables based on theoretical relevance. The length of managerial experience appears as

a variable in several studies. Shader et al. (2001) dealt with the relationship of practice in healthcare to job satisfaction. Vesterinen (2013) investigated its connection with applied management styles. In his study, he confirmed that managers with longer experience were rated as more effective in management.

*Span of control (SC)* is defined as the number of persons directly managed by the manager. According to Meier and Bohte (2000), there is a certain size at which the scope of management reaches its maximum capacity, and increasing the size beyond this capacity does not bring any value, it may even be harmful. Several studies (Hechanova-Alampay and Beerh, 2001; Meier and Bohte, 2000) have verified the range of outcomes affected by span of control. Studies by Wong et al. (2013a) and Lee and Cummings (2008) confirmed that span of control has a direct relationship with the job satisfaction of managers in healthcare.

### 2.3. Statistical Analysis

All data were analyzed using the SPSS 24.0 software package. Cronbach's alpha coefficient was used to assess the internal consistency of the measured items. Descriptive statistics and hierarchical regression analyzes were performed to test established hypotheses. We used Dawson's Excel template to construct graphs of moderation effects (Dawson, 2013). The mediation model is based on Baron and Kenny's (1986) procedure and uses a series of regression analyzes to test the proposed hypotheses. The Sobel test was used to verify the indirect effect. ANOVA analysis of variance was used to analyze multiple dependencies. We worked with a 5% level of significance.

## 3. Results

We determined the connections between individual variables through a correlation matrix, which also includes control variables (Table 1). Table 1 also provides basic descriptive statistics of the file.

Descriptive statistics point to the fact that the WC variable received the highest average rating with a low standard deviation (mean value = 3.89, SD = 0.34). MC as a predictor in the relationship received a low average rating (mean = 2.74, SD = 0.45). Moderators received an overall low rating, managers mostly associate their dissatisfaction with the evaluation (mean = 2.54, SD = 0.51). Mediating variables are ratings in relation to satisfaction as more significant. Within them, the variable SS (mean = 3.60, SD = 0.56) received a higher average rating than JA (mean = 3.24, SD = 0.65).



Table 1

**Descriptive Statistics of Variables and Correlation Matrix**

Variable	N	Mean	SD	JS	WC	MC	PD	E	JA	SS	Age	Practice	Gender	Position	Spec.
JS	225	2.97	0.54	–											
WC	225	3.89	0.34	0.398**	–										
MC	225	2.74	0.45	0.661**	0.702**	–									
PD	225	2.96	0.50	–0.060**	–0.170**	–0.118**	–								
E	225	2.54	0.51	0.199**	0.108**	0.029	0.516**	–							
JA	225	3.24	0.65	0.789**	0.789**	0.616**	–0.103	0.061	–						
SS	225	3.60	0.56	0.853**	0.487**	0.599**	–0.129	0.058	0.950**	–					
Age	225	47.37	9.51	0.324**	0.455**	0.461**	–0.069	0.003	0.664**	0.483**	–				
Practice	225	12.19	7.67	0.294**	0.456**	0.481**	–0.254**	–0.265**	0.605**	0.462**	0.813**	–			
Gender	225	0.27	0.44	–0.358**	–0.231**	–0.177**	–0.247**	–0.617**	–0.354**	–0.376**	–0.309**	–0.108	–		
Position	225	0.32	0.47	0.182**	0.305**	0.258**	0.128**	0.329**	0.251**	0.251**	0.433	0.329**	–0.289**	–	
Spec.	225	0.69	0.46	0.314**	0.105**	0.086**	0.305**	0.730**	0.086**	0.140**	–0.006	–0.183	–0.724**	0.158**	–
SC	225	26.60	4.25	0.114	0.220**	0.252**	–0.509**	–0.669**	0.354**	0.271**	0.457**	0.733**	0.280**	–0.134**	–0.468**

Note: JS – job satisfaction, WC – work conditions, MC – managerial competencies, PD – psychological detachment, E – evaluation, JA – job autonomy, SS – social support, SC – span of control, gender (0 – female, 1 – male), position (0 – medical manager, 1 – nursing manager), specialization in management (no – 0, yes – 1), \*\*  $p > .05$ .

Source: Own processing.

It is clear from the correlation matrix that there are significantly positive correlations between all researched variables and JS, which indicates the feasibility of further analyzes in the form of moderation and mediation. The strongest correlation relationship is between JS of managers and variables SS (correlation coefficient = 0.853), JA (correlation coefficient = 0.789) and MC (correlation coefficient = 0.661).

For the control variables age, practice, gender, specialization in management and span of management, significant correlations with JS were found for all variables except span of management. The correlations are positive, with the exception of gender, which due to our chosen coding of the variable (0 = female, 1 = male) means higher JS for female managers. A significant finding is also the positive and significant correlation of the variable specialization in management with all variables that is, with JS, but also WC and MC and influencing variables PD, E, SS and JA.

Hypotheses 1 (WC) and 2 (MC) were tested using multiple regression analysis. We present the results in Table 2. The first two columns show the predictors separately, the third column shows the results of the regression analysis for both predictors simultaneously.

Table 2

**Results of Multiple Regression Analysis for Two Predictors (dependent variable JS)**

	Hypothesis 1 (WC – JS)	Hypothesis 2 (MC – JS)	Hypothesis 1 a 2 (WC + MC – JS)
Constant	0.59	0.22	0.95
<b>Main variables</b>			
WC	0.41**		-0.30
MC		0.75**	0.88**
<b>Control variables</b>			
Age	0.00	0.00	0.02
Practice	0.01	0.01	0.01
Gender	-0.13	0.02	-0.22
Position	0.01	0.02	0.03
Specialization in management	0.34**	0.24**	0.24**
Span of control	0.02	0.03	0.03**
R2 adj.	0.26	0.51	0.52

Note: JS – job satisfaction, W – work conditions, MC – managerial competencies, gender (0 – female, 1 – male), position (0 – medical manger, 1 – nursing manager), specialization in management (no – 0, yes – 1), \*\*  $p > .05$ .

Source: Own processing.

When looking at the direct effect separately, each of the variables, that is, WC and MC, had a significant association with the JS of healthcare managers ( $\beta = 0.40$  for WC,  $\beta = 0.55$  for MC). In their joint action, only MC had a significant and at the same time high effect on JS ( $\beta = 0.76$ ). WC even had a negative effect when acting together, i.e., they reduced the effect of MC on JS managers. This indicates much stronger associations of MC and JS managers compared to the association of WC and JS.

Of the control variables, gender, specialization in management and span of management were significant in each regression. Due to the coding of the gender variable (0 = female, 1 = male), positive coefficients indicate higher variable values for males. When specializing in management, positive coefficients point to positive associations between completed management specialization studies and JS. In the case of the span of control, negative coefficients indicate that a lower span of control is related to a higher JS of managers. Both hypotheses (H1 and H2) are supported.

The other two hypotheses, regarding the moderators PD and E, were tested using moderated multiple regression analysis. We present its results in Table 3, in which each hypothesis is divided into two columns for solving part a) and part b).

**Table 3**  
**Results of Moderated Regression Analysis**

	Moderator PD		Moderator E	
	H3a (WC)	H3b (MC)	H4a (WC)	H4b (MC)
<b>Control variables</b>				
Gender				
Specialization in management	0.35**	0.32**	0.37**	0.29**
Span of control				
<b>Main variables</b>				
WC	0.36**		0.48**	
MC		0.75**		0.77**
PD	-0.10	-0.08		
E			-0.10**	-0.17**
WCxPD	-0.22			
WCxE			0.22**	
MCxPD		-0.23**		
MCxE				0.48**

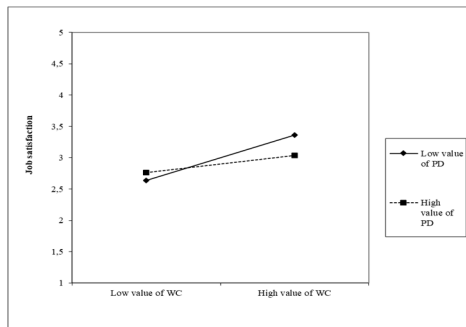
*Note:* JS – job satisfaction, W – work conditions, MC – managerial competencies, gender (0 – female, 1 – male), position (0 – medical manger, 1 – nursing manager), specialization in management (no – 0, yes – 1), \*\*  $p > .05$ .

*Source:* Own processing.

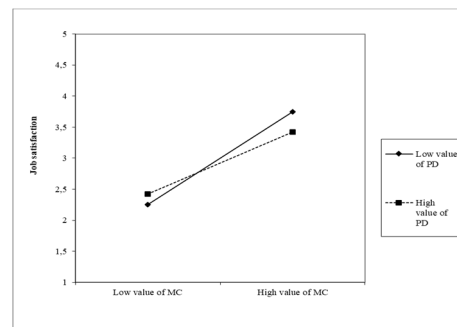
The effects of both predictors (WC and MC) on JS of managers are moderated by both moderators, with the first one (PD) negatively and the second (E) positively with a higher strength in MC. In the case of the PD moderator, its effect is negative and significant only for the MC variable. It means (Figures 2 and 3) that PD significantly reduces the power of action in the relationship between MC and JS, while WC and JS reduce it, but not significantly. It is clear from Figure 2 that the slope of the straight line showing the relationship between WC and JS is more moderate compared to the slope of the straight line in Figure 3 (between MC and JS), so the dependence is much lower and at the same time the influence of the moderator is more pronounced in the second relationship (MC-JS) and significant. For managers with a low PD value, the relationship between MC and JS is stronger.

The moderator of evaluation (with the items of work appreciation, proper evaluation, praise and constructive discussion) has a strengthening effect on the relationship between WC and MC and JS managers. The effect is lower in the case of WC and the straight line of the relationship between WC and JS has a more moderate slope (Figure 4). The relationship between MC and JS is more significant (slope is higher) and the effect of variable E is much higher than the first relationship. It means that a higher valuation value significantly increases the relationship between MC and JS managers.

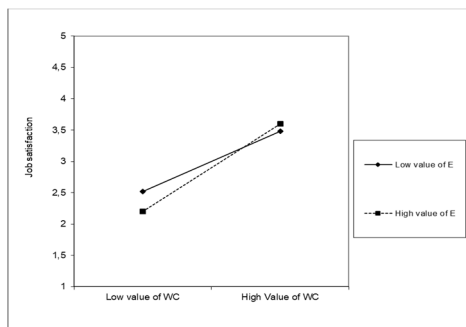
**Figure 2**  
**The Moderating Effect of PD**  
**on the WC – JS Relationship**  
**of Managers**



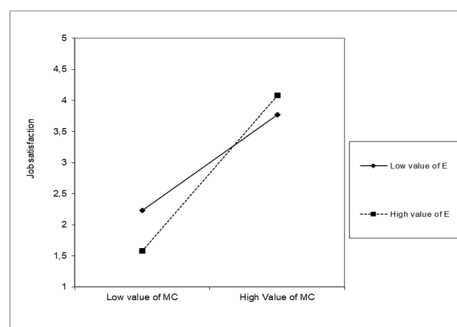
**Figure 3**  
**The Moderating Effect of PD**  
**on the Relationship between MC and JS**  
**Managers**



**Figure 4**  
**The Moderating Effect of E**  
**on the Relationship between**  
**WC and JS Managers**



**Figure 5**  
**The Moderating Effect of E**  
**on the MC – JS Relationship**  
**of Managers**



*Note:* JS – job satisfaction, WC – work conditions, MC – managerial competencies, E – evaluation, PD – psychological detachment.

*Source:* Own processing.

In verifying hypothesis 5, based on which we assume that there is a positive relationship between the MC of top management and the JS of middle-level healthcare managers, which is mediated by job autonomy (JA) and social support

(SS), we use the mediation model (Baron and Kenny, 1986), which explains the relationship between the independent and dependent variables through the inclusion of a third explanatory variable, in our case the two variables JA and SS. The assumption is the significance of the indirect effect, determined by the Sobel test. In the modeling of the overall effect, we added the control variables of managers' age, practice in management, gender, position, specialization in management and span of management. As an intermediate step, in the analysis of multiple dependence, ANOVA variance decomposition was used, where we found that all the mentioned control variables, practice, gender, specialization and management span were significant, which we included in further analyses.

To verify the Sobel test of mediation, we needed to perform three separate regression analyzes (individual models in Table 4). In these, we verified the significance of partial relationships.

**Table 4**  
**Regression Results for Main Effects and Mediation Analysis**

	Model 0		Model 1		Model 2		Model 3		Model 4	
Dependent variables	JS		JS		JA		SS		JS	
Main effects	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
MC	0.75**	0.07	0.71**	0.06	0.80**	0.22	0.73**	0.07	0.30**	0.05
JA									-0.21**	0.08
SS									0.89**	0.09
Control variables										
Constant	0.22	0.40	0.54	0.24	1.53	0.22	1.51	0.19	-0.50	0.13
Specialization	0.24**	0.09	0.26**	0.09	0.43**	0.10	0.11**	0.06	0.22**	0.04
Age	0.00	0.01								
Practice	-0.01**	0.01	-0.01	0.01						
Gender	-0.20**	0.10	-0.15	0.09						
Position	0.02	0.07								
SC	0.07**	0.01	0.01	0.01						
R2adj.	0.51		0.51		0.48		0.36		0.80	

Note: JS – job satisfaction, WC – work conditions, MC – managerial competencies, PD – psychological detachment, E – evaluation, JA – job autonomy, SS – social support, SC –span of control, gender (0 – female, 1 – male), position (0 – medical manager, 1 – nursing manager), specialization in management (no – 0, yes – 1), \*\*  $p > .05$ .

Source: Own processing.

Using the Sobel test ( $A*B = 0.482$ ,  $z = 3.727$ ,  $Sig. = 0.000$ ), we found that the overall indirect effect is significant in a positive direction, and at the same time the individual components of the indirect effect (JA and SA) are significant. For the mediating variable JA, the effect is negative. The size of the effect of individual parts of the overall structure is shown in Table 5 for clarity.

We found that the relationships between the mediating variables and the dependent and independent variables are significant. As a result of the significance of these relationships, the existence of mediation is assumed.

The indirect effect of managerial competencies on the job satisfaction of managers through the measured JA and SS was confirmed. The formulated hypothesis is therefore supported.

Table 5

**The Size of the Effect of Individual Parts of the Overall Structure**

Effect	Coefficient	%
Overall	0.710	100
Direct	0.300	42
Indirect	0.482	58
Indirect through M1(JA)	-0.168	
Indirect through M2 (SS)	0.650	

Source: Own processing.

Both the indirect and direct effects are significant. In percentage terms, we can see that approximately 42% of the total effect is attributed to the direct effect and approximately 58% to the indirect effect. Since the indirect effect does not reach more than 80% of the total effect, it is a partial mediation.

#### 4. Discussion

The Covid-19 pandemic poses a new threat to the already overburdened health care system and brings with it a variety of challenges that medical personnel must face (Sengupta et al., 2021; Rana et al., 2022). The pandemic revealed that many health systems were not prepared for such a major challenge, especially in terms of treatment, rapid diagnosis, and monitoring, as well as limited hospital equipment, staff and resources (Akay et al., 2022). Pandemic Covid-19 has the influence, except of other impacts, also on the area of employee motivation (Hitka et al., 2021). The pandemic puts a strain on healthcare workers by exposing them to the need to make difficult decisions under extreme pressure (Yáñez-Araque et al., 2021). This can cause mental health problems for some (Greenberg, 2020). Research of Caponnetto et al. (2022) confirms that the pandemic crisis, alongside pre-existing critical issues, exposed healthcare workers to constant emotional fatigue, creating an increased workload and vulnerability to stress. Evidence shows that the Psychological Capital (PsyCap) was a strong protective factor against these stressors. The results revealed that psychological stress factors have a considerable impact on job satisfaction and had the potential to decrease job satisfaction (Caponnetto et al., 2022). Another research (Cagis and Yildirim, 2023) shows Covid-19 was negatively associated with psychological capital and job satisfaction but positively associated with burnout. Results of literature review (Lluch, 2022) published through pandemic found showed an increase in the rate

of burnout, dimensions of emotional exhaustion, depersonalization, and compassion fatigue; a reduction in personal accomplishment and satisfaction.

Ensuring the job satisfaction of healthcare managers is key to their retention. Understanding the factors that influence this satisfaction can support the development and implementation of strategies leading to their retention in their positions and strengthening their job satisfaction.

Several important findings emerged from the study we carried out. When examining the intercorrelations of individual variables, the results of the study showed that the job satisfaction of middle healthcare management in the conditions of the Slovak healthcare system is most strongly correlated with the degree of social support, work autonomy and the level of managerial competencies of top management.

These are the factors that hospital management should focus on in order to promote the job satisfaction of their key employees. Mid-level managers themselves currently express the greatest satisfaction with social support, the conditions they have created for their work and their own degree of autonomy, which can be evaluated positively. On the contrary, the source of their dissatisfaction is mainly the evaluation they receive for their work. They perceive the top management of medical facilities as not very competent. This fact is serious, as it is management competences that are a factor with a high degree of significance for job satisfaction.

Deeper insight into the interrelationships of the studied variables and the search for moderators of these relationships is particularly important because high job demands are the norm in contemporary healthcare and organizations can see their performance benefits (LePine, Podsakoff and LePine, 2005) and therefore may not be willing to address the need for change.

All the hypotheses formulated by us were confirmed. The results of the research confirmed the fact that both WC and MC have a significant connection with the JS of middle healthcare managers, while the managerial competencies of the leadership are the variable with a more intense relationship. This finding, which is consistent with the study by Vainieri et al. (2017) according to which managerial competencies in healthcare potentially create a permanent competitive advantage. Their importance was also confirmed in our study when researching the interaction of both factors on JS, where the influence of top management's MC significantly prevails. Knowledge of this fact is significant, as it directs the attention of healthcare facilities to the need for managerially competent top management, which is one of the keys to maintaining middle management. When examining the variables that influence the strength of this action, the influence of the respondents' completed managerial specialization study was confirmed as significant, which further emphasizes its role and also the influence of the span of management on the investigated relationships. The results confirm that in the case of

a lower span of control, that is, when working in smaller teams, it is possible to significantly influence the satisfaction of managed employees through qualified management.

The purpose of our research was also to verify to what extent psychological detachment and evaluation moderate the effect of WC and MC on the JS of middle-level healthcare managers. We assumed that the effects would be significant. Our assumptions were confirmed in the case of the evaluation task. In accordance with Cheung and Ching (2012), we can state that work appreciation, fair evaluation and constructive feedback have a strengthening effect on the relationship between work conditions and managerial competencies on the JS of middle managers. In the case of managerially competent leadership, it is possible to achieve a stronger effect on JS through appropriate evaluation than when adjusting work conditions.

When examining the role of PD, the findings were partially confirmed. The role of PD was confirmed as significant only in the relationship between MC and JS of middle healthcare management. PD affects the investigated relationship in a negative direction. Thus, a higher level of depersonalization weakens the effect of competent leadership on employee satisfaction. This suggests that if middle managers rate their superiors' competence lower and are able to distance themselves from their work and work demands in their free time, this is not negatively related to their job satisfaction. However, such an effect was not confirmed in the case of working conditions. The quality of working conditions is positively related to satisfaction even in the case of employees who are able to detach themselves from their work and are less immersed in it.

With the last hypothesis, we verified how their job autonomy and the social support they experience at the workplace enter into the relationship between the MC of top management and the JS of middle-level healthcare managers. The results show that both factors are mediators of the relationship and mediate 52% of the total effect, thus it is an indirect mediation. However, in the case of job autonomy, which several studies have confirmed as an important factor determining job satisfaction in healthcare (Cheung and Ching, 2014; Djukic et al., 2017), the effect is negative, i.e., in the case that middle managers are more autonomous in the performance of their work, they less feel the need for competent management for their own sense of job satisfaction. Therefore, the importance of managerially competent leadership grows especially in the case of less autonomy in the performance of work.

Social support plays an important role in strengthening JS of the medical management. It was confirmed by the research results as a strong mediator. This finding is consistent with the result of the study by Akbiyik et al. (2020), according to which leadership styles focused on relationships in the healthcare environment directly and indirectly improve the results and the quality of provided healthcare



compared to management styles focused on tasks. Likewise, Tuckett et al. (2015) and Rao et al. (2019), emphasize the role of supportive relationships in the retention of healthcare personnel. This finding is significant because according to Feather et al. (2018) prosocial group behavior increases workplace performance and improves patient care delivery. We also positively assess the fact that the level of social support is currently perceived by middle management at a high level, which is a good basis for further strengthening the JS of this group of employees.

In conclusion, we can state that the variable with a significant relation to satisfaction of middle healthcare management is the managerial competencies of the leadership. At the same time, however, they are evaluated by the respondents as currently insufficient in Slovak conditions. It is possible to build the managerial competences of healthcare managers through their specialized studies in management. The results obtained by us confirmed that this factor is significantly related to JS of employees. At the same time, respondents who had completed such specialized studies in management evaluated the factors affecting their own satisfaction more positively. They were more receptive towards the competencies of their superiors, the degree of social support, job autonomy and evaluation. They also showed a higher ability to detach from work during their free time. We can assume that their own knowledge in the field of management affects their assessment of the real situation and the conditions in which they perform their work. Therefore, supporting such a study appears to be a suitable strategy for the management of medical facilities.

## **Conclusion, Future Research and Limitations**

The healthcare system is dynamic and increasingly complex. Solving the acute issue of maintaining high-quality personnel leads to the need to identify the determinants of managers' job satisfaction and examine the links between them. This should definitely continue. Further qualitative research could contribute to a deeper understanding of the presented concept of managers' job satisfaction.

Despite the important findings, our research has several limitations. The data were obtained in the conditions of the Slovak healthcare system, which has its own specificities and struggles with many problems.

Geographical limitation and the size of the research sample (225) in relation to the total number of middle healthcare managers in Slovakia may be a limitation. However, respondents from all regions of Slovakia are included in the sample, which could support the generalization of the results for the Slovak healthcare system. Considering the researched topic and the global nature of the discourse in this area, we assume that the findings are also relevant on a wider scale.

Although we used several steps to mitigate common method bias, we did not implement cross-sourcing of data. The data comes from the managers themselves, the top management of medical facilities were not included in the research. Future research can focus on top management's view of the researched areas. In connection with the variables that made up our model, other factors influencing the researched relationships may also be significant. In the future, other theories can be combined and a comprehensive analysis from different perspectives can be carried out. At the same time, it is possible to move our research to the level of researching causality in the future by using dynamic panel regression.

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