

UNIVERSITY OF LJUBLJANA
SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

**POST-HEROIC LEADERSHIP: AN ANALYSIS OF LEADERSHIP
DYNAMICS AND TEAMWORK IN COMMUNITY HEALTH
CENTRE LJUBLJANA**

Ljubljana, December 2025

PATRICIJA VARŠEK

AUTHORSHIP STATEMENT

The undersigned Patricija Varšek, a student at the University of Ljubljana, School of Economics and Business, (hereafter: UL SEB), author of this written final work of studies with the title Post-heroic leadership: An analysis of leadership dynamics and teamwork in Community Health Centre Ljubljana, prepared in collaboration with mentor Miha Škerlavaj, PhD and co-mentor Matej Černe, PhD

D E C L A R E

1. this written final work of studies to be based on the results of my own research;
2. the printed form of this written final work of studies to be identical to its electronic form;
3. the text of this written final work of studies to be language-edited and technically in adherence with the UL SEB Technical Guidelines for Written Works, which means that I cited and / or quoted works and opinions of other authors in this written final work of studies in accordance with the UL SEB Technical Guidelines for Written Works;
4. to be aware of the fact that plagiarism (in written or graphical form) is a criminal offence and can be prosecuted in accordance with the Criminal Code of the Republic of Slovenia;
5. to be aware of the consequences a proven plagiarism charge based on the this written final work could have for my status at the UL SEB in accordance with the relevant UL SEB Rules;
6. to have obtained all the necessary permits to use the data and works of other authors which are (in written or graphical form) referred to in this written final work of studies and to have clearly marked them;
7. to have acted in accordance with ethical principles during the preparation of this written final work of studies and to have, where necessary, obtained permission of the Ethics Committee;
8. my consent to use the electronic form of this written final work of studies for the detection of content similarity with other written works, using similarity detection software that is connected with the UL SEB Study Information System;
9. to transfer to the University of Ljubljana free of charge, non-exclusively, geographically and time-wise unlimited the right of saving this written final work of studies in the electronic form, the right of its reproduction, as well as the right of making this written final work of studies available to the public on the World Wide Web via the Repository of the University of Ljubljana;
10. my consent to publication of my personal data that are included in this written final work of studies and in this declaration, when this written final work of studies is published;
11. that I have verified the authenticity of the information derived from the records using artificial intelligence tools.

Ljubljana, December 23rd, 2025

Author's signature: _____

Patricija Varšek

ABSTRACT

In my master's thesis, using empirical analyses and moderated mediation, I investigate the link between post-heroic leadership and employee well-being through the satisfaction of basic psychological needs and quality sleep among employees in the Community Health Centre Ljubljana. I show that follower autonomy is a key link between post-heroic leadership and well-being. Better sleep quality shows marginal significance in strengthening this link. Leaders who identify more strongly as post-heroic perceive that they provide greater relatedness to their followers. However, this does not lead to better leader well-being. Employees who experience more post-heroic leadership report higher perception of autonomy, job satisfaction, engagement, and well-being at work. This highlights the importance of supporting autonomy and educating healthcare workers about the role of quality sleep and effective leadership within healthcare teams.

KEY WORDS: Post-Heroic Leadership, Employee Well-Being, Self-Determination Theory, Basic Psychological Needs, Sleep Quality, Healthcare

SUSTAINABLE DEVELOPMENT GOALS



POVZETEK

V magistrski nalogi z empiričnimi analizami, prek moderirane mediacije, preučim povezavo med postherojskim vodenjem in dobrim počutjem zaposlenih skozi zadovoljevanje osnovnih psiholoških potreb in kakovosten spanec zaposlenih v Zdravstvenem domu Ljubljana. Pokažem, da je avtonomija sledilcev ključna povezava med postherojskim vodenjem in dobrim počutjem. Boljša kakovost spanja marginalno krepi to povezavo. Vodje, ki se prepoznajo kot bolj post-herojski, zaznavajo, da svojim sledilcem nudijo več povezanosti, vendar to ne vodi v boljše dobro počutje vodij. Zaposleni, ki doživljajo več postherojskega vodenja, poročajo o višji zaznavi avtonomije, zadovoljnosti, angažiranosti in počutju na delovnem mestu. To poudarja pomen podpore avtonomiji ter izobraževanja zdravstvenih delavcev o vlogi kakovostnega spanja in učinkovitem vodenju znotraj zdravstvenih timov.

KLJUČNE BESEDE: Postherojsko vodenje, dobro počutje zaposlenih, Teorija samoodločanja, osnovne psihološke potrebe, kakovost spanja, zdravstvo

CILJI TRAJNOSTNEGA RAZVOJA



TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	POST-HEROIC LEADERSHIP.....	2
2.1	Servant Leadership.....	3
2.2	Shared Leadership.....	5
3	MOTIVATIONAL MECHANISMS ACCORDING TO THE SELF-DETERMINATION THEORY.....	7
3.1	Types of Motivation According to the Self-Determination Theory	8
3.2	Self-Determination Theory at Work.....	10
4	WELL-BEING.....	11
4.1	Forms of Employee Well-Being	11
4.2	Well-being as an Outcome	13
5	SLEEP QUALITY	14
5.1	Sleep Architecture.....	14
5.2	Sleep Quality	16
5.3	Consequences of Sleep Deprivation.....	17
6	RESEARCH AND MODEL DEVELOPMENT	18
6.1	Leadership's Role in Shaping Employee Well-being.....	18
6.2	Mediating Effect of Perceived Basic Psychological Needs Satisfaction	20
7	METHODOLOGY.....	25
7.1	Sample.....	25
7.2	Data Collection	29
7.3	Measures	29
8	RESULTS.....	34
8.1	Descriptive Statistics.....	34
8.2	Hypothesis Testing.....	38
8.2.1	Followers	38
8.2.1.1	<i>Mediating Role of Basic Psychological Needs</i>	<i>38</i>
8.2.1.2	<i>Moderating Role of Sleep Quality</i>	<i>39</i>
8.2.2	Supplementary analysis	40
8.2.2.1	<i>Mediating Role of Basic Psychological Needs and Moderating Role of Sleep Quality for Leaders</i>	<i>40</i>

8.2.2.2	<i>Moderating Role of Sleep Quality for Followers and Leaders</i>	42
8.2.2.3	<i>Independent Samples t-Test</i>	42
9	DISCUSSION	44
9.1	Interpretations of Findings	45
9.1.1	Autonomy as a Key Link between Post-Heroic Leadership and Well-Being	46
9.1.2	Sleep Quality and Perceptions.....	47
9.1.3	Employee Experience in the Context of Greater Post-Heroic Leadership	48
9.2	Theoretical Contributions	49
9.3	Practical Implications	50
9.4	Limitations and Future Research Directions	52
10	CONCLUSION	53
	LIST OF KEY LITERATURE	54
	REFERENCE LIST	55
	APPENDICES	61

LIST OF TABLES

Table 1: Descriptive Statistics and Correlations for Leaders	36
Table 2: Descriptive Statistics and Correlations for Followers.....	37
Table 3: Summary of Independent Samples t-test (PHL vs. less-PHL).....	43

LIST OF FIGURES

Figure 1: Types of Motivation According to Self-Determination Theory	9
Figure 2: The Role of Need Satisfaction in Motivation	10
Figure 3: Leadership Behaviours, Mediators and Forms of Employee Well-being.....	12
Figure 4: Sleep Architecture	15
Figure 5: Research Model	25

LIST OF APPENDICES

Appendix 1: Questionnaire for followers.....	1
Appendix 2: Questionnaire for leaders.....	6
Appendix 3: Additional descriptive statistics.....	11

Appendix 4: SPSS output – followers	12
Appendix 5: SPSS output – leaders	50
Appendix 6: SPSS output – followers and leaders	88

LIST OF ABBREVIATIONS

sl. – Slovene

BPNT – (sl. Teorija osnovnih psiholoških potreb); Basic Psychological Needs Theory

EU – (sl. Evropska unija); European Union

IRROZ – (sl. Inštitut za raziskave in razvoj osnovnega zdravstva); Healthcare Research and Development Institute

JZZ – (sl. javni zdravstveni zavodi); National Network of Public Healthcare Institutions

NREM – (sl. ne-hitro premikanje očes); Non-Rapid Eye Movement

PHL – (sl. Post-herojsko vodenje); Post-Heroic Leadership

REM – (sl. hitro premikanje očes); Rapid Eye Movement

SDT – (sl. Teorija samoodločanja); Self-Determination Theory

WB – (sl. dobro počutje); Well-Being

1 INTRODUCTION

An ageing population, rapid medical advancements, growing demand for care, rising public expectations and a continuous shortage of healthcare professionals show that healthcare organizations need to improve how they perform (Krijgsheld et al. 2022). Rosen et al. (2018, p. 17) state, “The health care system touches all of our lives, and the quality of the teamwork within that system impacts the experiences we have and the outcomes we see.”

Addressing the growing challenges, there is a pressing need for leadership that can retain staff, attract new professionals, and ensure that healthcare team are not only skilled but also motivated and engaged in providing high-quality patient care (Hampel & Hajduova, 2023). This requires a deeper understanding of what drives employees’ motivation and engagement (Holtan et al., 2024), in order to safeguard well-being (Inceoglu et al., 2018).

According to Self-Determination Theory (SDT), motivation and well-being are influenced by satisfying basic psychological needs: autonomy, relatedness, and competence (Deci et al., 2017). Sleep deprivation poses a significant challenge, as it hinders mindfulness and the fulfilment of these basic psychological needs (Campbell et al., 2018). Moreover, it can weaken leader–follower relationships by increasing negative emotions, reducing empathy and trust, and amplifying perceptions of threat (Guarana & Barnes, 2017; Chen et al., 2022).

In recent years, the servant leadership model has gained prominence for its moral and professional alignment with the core values of the healthcare environment (Trastek et al., 2014; Demeke et al., 2024). At the same time, shared leadership has been emerging as a team characteristic, emphasizing mutual influence and shared responsibility among team members (Chamberlin et al., 2024). Post-heroic leadership (PHL) integrates both, servant and shared leadership, focusing on collective empowerment, collaboration, and interdependence over individual authority. It emphasises shared responsibility, co-created solutions, and viewing leading and following as complementary roles (McCrimmon, 2010; Fletcher, 2004; Škerlavaj, 2022).

The purpose of this master’s thesis is to help leaders in the Community Health Centre Ljubljana, specifically, and broader healthcare management, in general, in using leadership to activate Self-Determination Theory concepts and later examines its relationship with psychological well-being. The aim is to examine the presence of post-heroic leadership in the organization and explore to what extent leaders of a team activates the autonomy, relatedness and competence among its followers.

Additionally, the study aims to explore how the psychological well-being of the team is connected with leadership style, mediated by autonomy, relatedness and competence. The study seeks to explore how post-heroic leadership is perceived by followers and by leaders of the group. Supplementary aims are to explore how sleep quality moderates the

relationship between leadership style and employees' perceptions of autonomy, relatedness, and competence. Lastly, aim is to examine differences between more and less post-heroic leaders.

A cross-sectional research model was developed to explore the relationship between post-heroic leadership and employee well-being in community healthcare settings. By identifying the psychological mechanisms that may be linked to both leadership behaviour and employee well-being, the model points to potential mediating and moderating variables in these relationships. The empirical part of the thesis is supported by a survey designed for employees of the Community Health Centre Ljubljana. The survey was conducted separately for leaders and followers of the team and was distributed in cooperation with the Primary Healthcare Research and Development Institute (IRROZ).

The structure of the study is designed to provide a comprehensive exploration of the topic, beginning with a literature review that covers key concepts such as post-heroic leadership, Self-Determination Theory, well-being and sleep. I rely on meta-analyses, which provide an overview of the main trends and conclusions from previous research. Following this theoretical grounding, the next step involves constructing a research model that links these concepts together, hypothesizing how post-heroic leadership might be connected to well-being, mediated by the psychological needs' satisfaction and moderated by sleep quality.

The study proceeds with data collection based on a conducted questionnaire among healthcare professionals. The interpretation part involves analysing the results in the context of existing literature and empirical evidence. First, the mediation of basic psychological needs and the moderation of sleep quality are explained using the followers' data. As supplementary research, the roles of mediators and moderators are examined in the leaders' sample. Later, the main differences between more and less post-heroic teams are described. Finally, the study discusses theoretical contributions, practical implications and the future prospects of this research.

2 POST-HEROIC LEADERSHIP

The old industrial-era model portrayed leaders as heroic figures who set visions, assign roles, and reward performance, while followers were seen as passive and easily shaped. This top-down, one-way model, reflected in many leadership theories, created a clear divide between leaders and followers. Many argue that this kind of leadership view no longer fits today's complex, knowledge-based, and collaborative organisational reality and that traditional "carrot and stick" methods are increasingly ineffective, especially with younger, more connected employees (Sobral & Furtado, 2019).

New models acknowledge that success in knowledge-based environments depends less on the heroic efforts of a few individuals at the top (Fletcher, 2004) and emphasise the collective role of both leaders and team members in driving organisational success (Škerlavaj, 2022).

Modern approaches, therefore, focus on transforming organisational norms, structures, and work practices to foster more cooperative work environments (Fletcher, 2004).

Now, effective leadership plays a critical role in shaping the organisational climate and influencing employee performance, behaviour, and well-being. Leaders impact not only how work is done but also the emotional and psychological environment, creating conditions where employees can thrive and succeed. The leader's approach significantly affects organisational effectiveness by enhancing productivity, reducing conflicts, and promoting quicker conflict resolution. This, in turn, leads to higher employee satisfaction and better achievement of both individual and organisational goals (Inceoglu et al., 2018; Boršnak & Sitar, 2021).

Consequently, several scholars have begun to question the traditional, individual-centric model of heroic leadership, advocating instead for a shift towards the relational paradigm of post-heroic leadership, which highlights the relational, collectivist, and participatory nature of leadership (Sobral & Furtado, 2019). It challenges rigid hierarchies and encourages shared responsibility, collaboration, and adaptability (Fletcher, 2004).

Specifically, PHL is a dynamic, collective process where leadership is built on relationships and networks of influence rather than formal positions. It is shared across all levels, promoting equal, flexible, and mutual interactions. This redefines leadership from an individual identity to an interdependent one (Fletcher, 2004). It stands out for its emphasis on self-reflection and the leader's commitment to making a positive impact on their organisation and the world at large (Škerlavaj, 2022).

In other words, post-heroic leaders care deeply about helping others reach their full potential, prioritising the needs of their team and stakeholders above traditional top-down control (Škerlavaj, 2022). By prioritising collaboration over rigid authority, post-heroic leadership strengthens individual and team capabilities, driving sustainable organisational success. This requires self-awareness, empathy, vulnerability, and the ability to navigate fluid power dynamics (Fletcher, 2004). Post-heroic leadership is defined by following the dimensions of shared and servant leadership (Škerlavaj, 2022).

2.1 Servant Leadership

In response to the growing demand for ethical, people-centred leadership, organisations may benefit from adopting servant leadership principles (Van Dierendonck, 2010). The concept of servant leadership, first introduced by Robert Greenleaf in 1970, is grounded in the idea that true leadership emerges from an intrinsic desire to serve others (Chiniara & Bentein, 2015). During the industrial revolution, strict hierarchies were common practice, led by autocratic or transactional leaders. Employees received salaries in exchange for serving employers. Greenleaf's perception turned the traditional model upside down and made followers the subject who is being served (Langhof & Güldenbergh, 2019). For Greenleaf,

leadership was not merely a management strategy, but a way of life built upon ethical principles and a commitment to putting others' needs ahead of one's own (Chiniara & Bentein, 2015).

While other leadership styles rely on authority and hierarchical influence, servant leadership shifts the focus to service and stewardship, reshaping these dynamics (Van Dierendonck, 2010). Servant leaders serve as role models, inspiring trust and engaging deeply with their followers to understand their skills, aspirations, and potential (Chiniara & Bentein, 2015). Self-determination of leaders is considered a key requirement (Van Dierendonck, 2010).

Their primary focus of leader is fulfilling the needs of others, fostering an environment where individuals feel valued and empowered to reach their full potential. They provide guidance, meaningful challenges, empathy, emotional support, constructive feedback, and the resources necessary for followers to succeed (Chiniara & Bentein, 2015). They give each follower unique value and room for participative thinking, autonomy, personal growth, and well-being dynamics (Van Dierendonck, 2010).

There has never been provided an empirically validated definition of servant leadership, leading researchers to develop their own interpretations and models that reflect a wide range of behaviours, with 44 different characteristics in different models. They all share core characteristics focused on serving others, empowering and developing people, fostering strong interpersonal relationships, leading with moral integrity, providing clear direction and encouraging collaboration and shared responsibility (Van Dierendonck, 2010). Despite different opinions, Van Dierendonck's (2010) conceptual definition states that model entails six core elements it gives an overview of servant leadership as experienced by followers.

Humility is the ability to see one's own achievements and talents in the right perspective. Servant leaders recognise that they can learn from the expertise of others and actively seek their contributions. Humility is reflected in how much a leader prioritises the needs of others and supports their performance while providing them with the necessary resources. It is also about stepping back and letting others take the spotlight when a task has been successfully completed (Van Dierendonck, 2010).

Authenticity means expressing oneself in a way that aligns with inner thoughts and feelings. It involves being genuine in one's intentions, commitments, and actions. Servant leaders demonstrate authenticity by keeping their promises, being visible within the organisation, and showing honesty and vulnerability. Greater emphasis is placed on who leaders are as individuals rather than on their formal professional roles (Van Dierendonck, 2010).

Interpersonal acceptance is the ability to understand and empathise with others, recognising their feelings and perspectives. It involves letting go of past mistakes. This includes seeing situations from others' viewpoints and showing concern even during conflicts, disagreements, or mistakes. For a servant leader, fostering a culture of trust is crucial. They

build an environment where people feel accepted, can make mistakes without fear, and know they will not be judged (Van Dierendonck, 2010).

Empowering and developing people is a motivational approach that focuses on enabling individuals, fostering a proactive and self-assured mindset and giving them a sense of personal development. Empowering leadership involves promoting self-directed decision-making, sharing information openly, and providing coaching to encourage innovation. At its core, servant leadership is based on the belief in the intrinsic value of every individual. It is about recognising, appreciating, and nurturing each person's abilities and supporting their personal growth (Van Dierendonck, 2010).

Providing direction ensures that people understand expectations. Their work needs to be adapted to their abilities and needs. Last but not least, stewardship is the willingness to take responsibility for a larger institution, prioritising service over control and self-interest. Leaders should not only act as caretakers but also serve as role models (Van Dierendonck, 2010).

The literature shows the positive effects of the servant leadership style on employee outcomes, including increased well-being, job satisfaction, organisational commitment, employee engagement, motivation, creativity, innovation, task performance organisational citizenship behaviours and lower turnover intentions (Chiniara & Bentein, 2015; Demeke et al., 2024). Servant leadership enhances job satisfaction and perceptions of organisational justice through fairness and psychological need fulfilment (Van Dierendonck, 2010).

2.2 Shared Leadership

Shared leadership is defined as a dynamic and interactive process of influence between individuals in groups, aimed at achieving group and organisational goals. This challenges the traditional view by setting aside heroic actions, distributing leadership across several individuals rather than relying on a single authority leader (Pearce & Conger, 2003), and enhancing leadership as a collective effort (Fletcher, 2004).

It promotes flatter organisational structures, making organisations more responsive, agile, and resilient (Mehta & Sharma, 2019). It involves individuals at all levels of the organisation, recognising that effective leadership depends on a broader network of contributors. The success of visible leaders is contingent on the support and contributions of others (Fletcher, 2004). Therefore, leading and following are no longer seen as distinct roles but as interconnected skills, requiring individuals to develop relational competencies to work effectively in interdependent environments (Fletcher, 2004; Pearce & Conger, 2003). Roles can rotate, allowing different team members to lead at various stages of the team's development (Carson et al., 2007).

For shared leadership to thrive, team members must actively communicate, share information, acknowledge each other's competencies and take responsibility for achieving team goals (Mehta & Sharma, 2019). The internal team environment essential for shared leadership is supported by three key elements: shared purpose, social support, and voice. Those are interrelated and mutually reinforcing, forming a framework that helps cultivate a culture where team members are both willing to take on leadership roles and trust in the leadership of their peers (Carson et al., 2007).

Firstly, a shared purpose exists when team members have a common understanding of the team's objectives and work collectively towards these goals, fostering motivation, empowerment and commitment. Secondly, social support involves team members providing emotional and psychological encouragement to one another, which helps maintain team cohesion and fosters supportive leadership behaviours. The third element, voice, promotes participation, fosters constructive discussions, and enhances collective decision-making, ultimately strengthening the team's influence and commitment to shared goals (Carson et al., 2007).

Shared purpose, social support and voice work together to create a team environment where members actively engage with one another, share leadership responsibilities, and work towards common goals. When team members are encouraged to speak up, it strengthens the team's shared purpose, as collaborative decision-making aligns members around common objectives. Social support reinforces this process by recognising individual and collective contributions, creating a trusting environment where members feel comfortable taking on leadership roles. As a result, the team becomes more effective, with each member contributing to leadership and supporting the efforts of others (Carson et al., 2007).

This approach to leadership has gained recognition in both psychology and management for its positive influence on team dynamics, decision-making, and performance outcomes (Carson et al., 2007). Particularly in teams with specialised roles, where collaboration and communication are vital, shared leadership enables leaders to focus on their areas of expertise while relying on others to bring their own specialised skills to the table (Mehta & Sharma, 2019). In other words, it is suitable for knowledge-intensive environments in which complex problem solving is dependent on a collaborative effort among people with different skills (Pearce & Conger, 2003).

High-performing teams tend to exhibit more shared leadership behaviours, which in turn improve satisfaction, coordination, goal commitment, and overall team success (Aufegger et al., 2019). Shared leadership also leads to greater empowerment, collaboration, and accountability, resulting in better outcomes for clients and a stronger sense of purpose within the team. Additionally, it improves communication, increases job satisfaction, and reduces employee turnover (Mehta & Sharma, 2019). When team members both offer and receive leadership, trust and respect are built, enhancing team dynamics and driving greater effort and efficiency (Carson et al., 2007).

3 MOTIVATIONAL MECHANISMS ACCORDING TO THE SELF-DETERMINATION THEORY

Self-Determination Theory (SDT), introduced by Deci and Ryan in the 1980s, offers a comprehensive framework for understanding human motivation and functioning. At its core, SDT emphasises that humans are proactive beings who naturally and actively orient themselves toward growth and self-organisation. It focuses on understanding people's inherent growth tendencies and innate basic psychological needs (Ryan & Deci, 2000).

The theory consists of six mini theories, all connected through the idea of three universal and inherent basic psychological needs: autonomy, relatedness, competence. Autonomy is the need to experience being free and self-directed. Relatedness is the need to connect closely with others and competence is the need to feel effective (Legault, 2017). When needs are satisfied they lead to enhanced self-motivation and mental health (Ryan & Deci, 2000). Moreover, when one is self-determined the person will also help others to be more self-determined (Van Dierendonck, 2010).

One must note that SDT differentiates autonomy from independence. Independence means not relying on others. Perceiving autonomy, on the other hand, is still possible while depending on others. This means that a person can be autonomously dependent or independent, while experiencing full self-direction within a supportive social context. Independence can also hinder competence if it makes someone feel incapable. It can also undermine relatedness if one feels like a burden (Ryan & La Guardia, 2000).

When needs are undermined, people can start to feel controlled and disconnected. In other words, SDT sees people constantly interacting with the world around them, trying to meet the needs, while also being influenced by whether the surroundings help or block those needs (Legault, 2017). Furthermore, the satisfaction or frustration of these basic psychological needs has a direct impact on the type and quality of motivation a person experiences (Ryan & Deci, 2000).

Motivation, as the driving force behind people's energy, focus, persistence, and goal setting, is strongly influenced by the environment. Particularly, when basic psychological needs are supported by the environment, individuals are more likely to develop autonomous motivation and when they are neglected, people are more prone to controlled motivation or even amotivation (Ryan & Deci, 2000).

SDT differs from other well-known theories of needs. For example, Maslow (in Van Den Broeck et. al., 2010) considers human needs to be hierarchically ordered. He believes that higher needs can only be satisfied when lower needs are met. In contrast, SDT does not propose a specific order, thus all three psychological needs are considered equally important. McClelland (1965) suggests that needs develop through learning and socialisation. When people receive praise after achieving a particular goal, they learn to associate positive

feelings with it and, as a result, develop a strong need for achievement. SDT, however, views the three psychological needs as innate (Van Den Broeck et al., 2010).

Both Maslow (in Van Den Broeck et al., 2010) and McClelland (1965) assume that a particular need drives behaviour until it is sufficiently satisfied, at which point the need is temporarily reduced. According to SDT, a need does not have to be in deficit for it to influence behaviour. Once these needs are met, individuals are more likely to feel energised and further engage in activities that fulfil their psychological needs (Van Den Broeck et al., 2010).

3.1 Types of Motivation According to the Self-Determination Theory

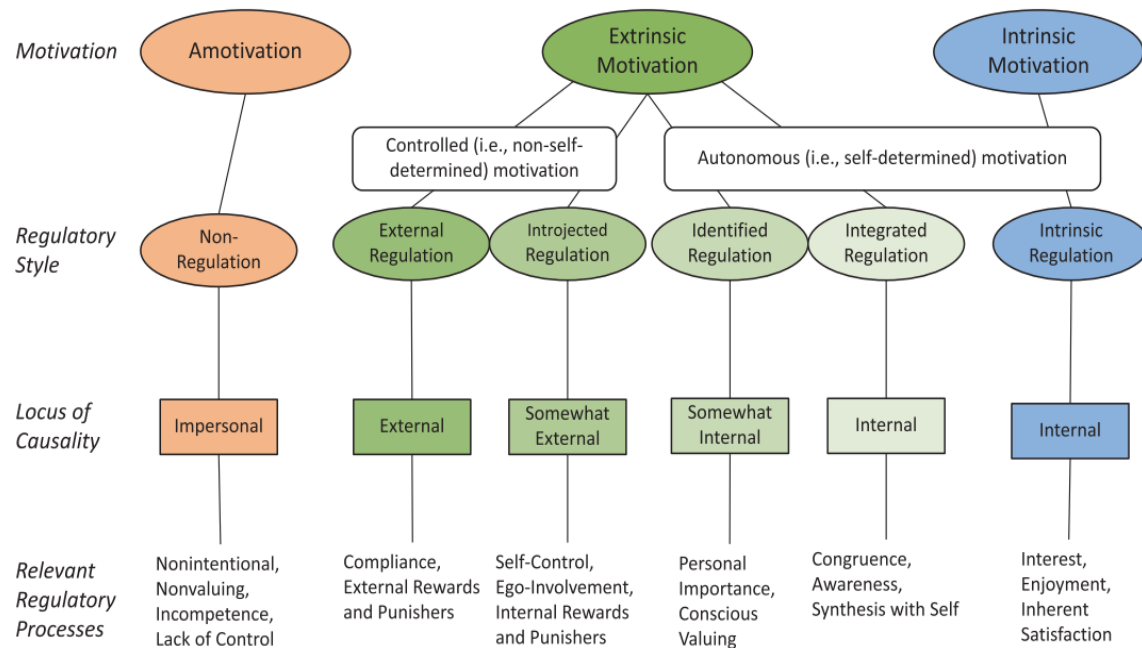
SDT focuses on understanding what type of motivation is happening at any moment (Ryan & Deci, 2000) and explores the motivational processes underlying human development, studying how personal and environmental factors promote or obstruct intrinsic motivation, value internalization and self-consistent functioning (Ryan & La Guardia, 2000). By looking at the reasons that make people driven to act, SDT has identified several different kinds of motivation and has explained how each motivation develops and what makes it weak or blocked (Ryan & Deci, 2000).

This approach shows that people naturally have a positive drive to grow and succeed, while also explaining why they might feel unmotivated, disconnected, or even experience mental health challenges (Ryan & Deci, 2000). While identifying the factors essential for these processes, the concept of basic psychological needs emerged (Ryan & La Guardia, 2000). Much of Ryan & Deci (2000) studies focus on the association between basic psychological needs and well-being, through intrinsic motivation (Nunes et al., 2023).

As shown on Figure 1, SDT differentiates between amotivation, intrinsic and extrinsic motivation (Deci et al., 2017). On the far left, there is amotivation. Amotivation is the state of lacking the intention to act, usually resulting from not valuing an activity, not feeling competent to do it, or not expecting it to bring the wanted results (Ryan & Deci, 2000). To the right, there is extrinsic motivation, which is essentially about doing something to get a specific result. People are extrinsically motivated when they focus on the outcome of an action, doing something because they expect a reward or want to avoid a negative consequence. In this case, their behaviour depends on the result, which is separate from the activity itself (Legault, 2017).

Intrinsic motivation is about doing things because you enjoy them or find them interesting, not because you are after a reward or trying to avoid a negative consequence. When someone is intrinsically motivated, they are not thinking about what they will gain or avoid by doing something but are simply doing it because it is enjoyable and satisfying in itself (Legault, 2017).

Figure 1: Types of Motivation According to Self-Determination Theory



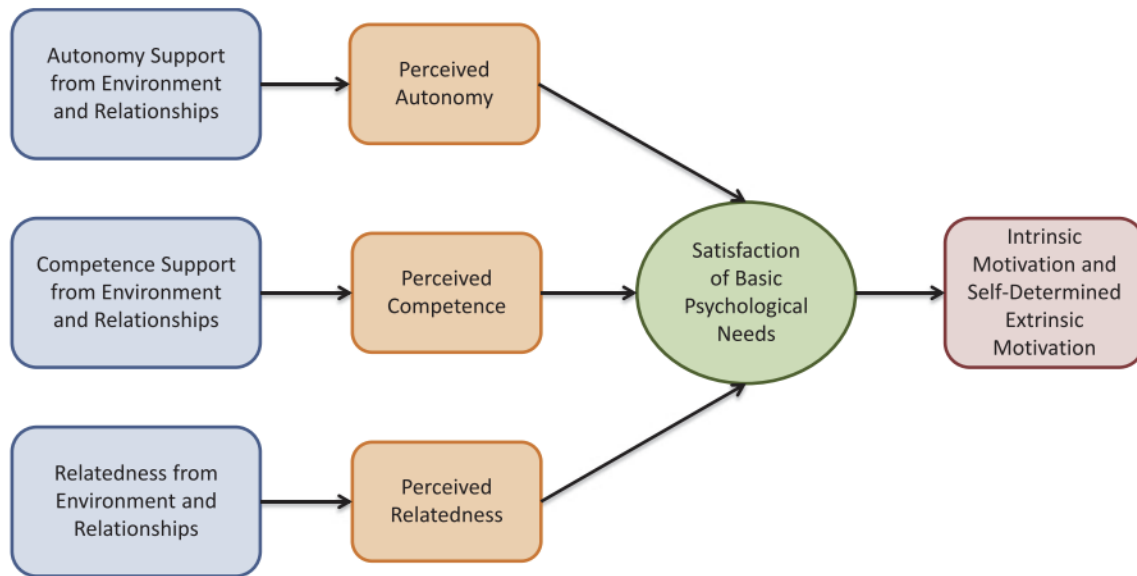
Source: Legault (2017).

When comparing individuals who are motivated by their own choices and values with those driven by external pressure, it is clear that the former tend to show more interest, enthusiasm, and confidence. This often results in higher levels of performance, persistence, creativity, and a stronger sense of vitality, self-esteem, and overall well-being. What is especially noteworthy is that, regardless of their source of motivation, people believe they are equally capable of performing the task (Ryan & Deci, 2000).

Developed from studies on intrinsic and extrinsic motivation, SDT provides a foundation for designing policies, practices, and environments that foster both well-being and high-quality performance (Deci et al., 2017). More specifically, while the basic psychological needs play an important role in SDT in general, the Basic Psychological Needs Theory (BPNT), as a sub-theory of SDT, explains how needs are important for health and well-being. The satisfaction of basic psychological needs has subsequent effect on intrinsic motivation and autonomous forms of extrinsic motivation (Legault, 2017).

For example, as shown in Figure 2, when people are in environments and relationships where they have a chance to make their own choices, the sense of autonomy increases. As a result, autonomous motivation tends to grow and they are more likely to feel interested, engaged and involved (Legault, 2017). Studying the factors that support or hinder positive potential is important both theoretically and practically, since it helps us understand what drives human behaviour and how the social environment can support person's development, performance and well-being (Ryan & Deci, 2000).

Figure 2: The Role of Need Satisfaction in Motivation



Source: Legault (2017).

3.2 Self-Determination Theory at Work

This small set of basic psychological needs must be fulfilled across life in order for a person to experience well-being, integrity and continued growth. As people age, their abilities, strategies, and social environments change, influencing how they meet these needs. Although the basic needs stay the same throughout life, the ways and opportunities to fulfil them evolve, affecting personal adaptation and well-being (Ryan & La Guardia, 2000).

SDT offers a clear, dynamic, and empirically grounded framework that explains how basic psychological needs and different types of motivation operate across various areas of life — from education and healthcare to families, teams, and workplaces (Legault, 2017). Furthermore, it offers a theoretical model for understanding the social-psychological impact of management in organisations (Forner et al., 2020).

Leadership that aligns with SDT principles is primarily focused on creating conditions where employees experience need satisfaction and foster autonomous motivation, with managerial styles playing a key role in shaping these environments (Graves & Luciano, 2013; Deci et al., 2017). Research indicates that leadership behaviours such as providing employees with choices, acknowledging their perspectives, encouraging initiative, and offering constructive feedback significantly contribute to fulfilling their psychological needs (Gagné & Deci, 2005).

Where there is organisational and managerial support for autonomy, the satisfaction of all three of the employees' basic psychological needs tends to be highly correlated. Employees who feel more autonomy support feel not only more independent, but also experience greater

competence and relatedness. Furthermore, they are more likely to find ways to satisfy their other needs (Deci et al., 2017).

Moreover, when basic psychological needs are met, workers are more likely to be autonomously motivated and fully engaged in their tasks, leading to positive work-related outcomes such as well-being, job satisfaction, commitment, and performance (Forner et al., 2020; Graves & Luciano, 2013). Additionally, organisations benefit from lower turnover and ultimately contribute to long-term organisational success (Deci et al., 2017; Van Den Broeck et al., 2010).

On the other hand, the frustration of needs, when one or more of these three needs is unmet, is consistently linked to various signs of ill-being, such as depression, negative emotions, and burnout (Martela & Sheldon, 2019). When people feel too controlled, feel disconnected from others and face challenges that do not suit them, it leads them to feeling unmotivated, avoiding responsibility and experiencing stress or mental health problems (Ryan & Deci, 2000).

4 WELL-BEING

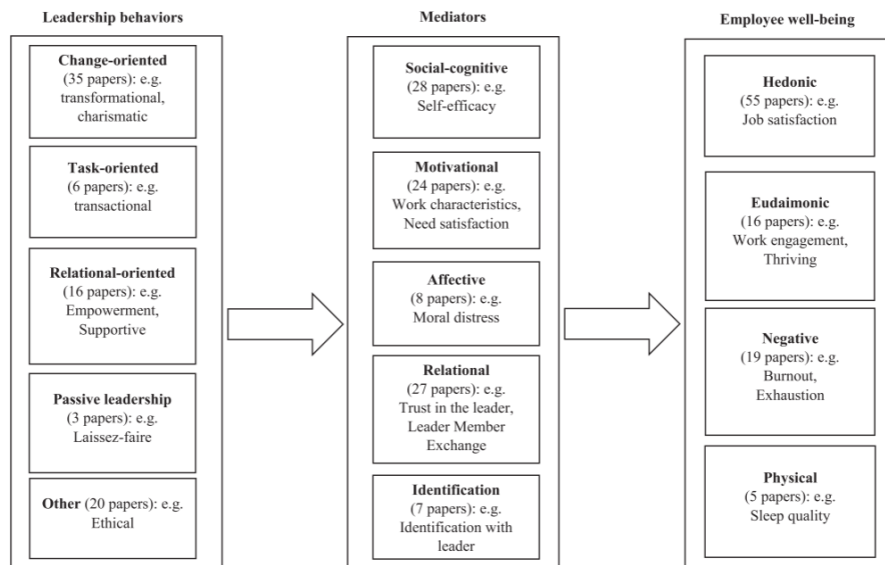
4.1 Forms of Employee Well-Being

Well-being (WB) is a multidimensional construct, a mix of feeling good, positive emotions, and effective functioning (Ruggeri et al., 2020b) and is one of the most basic aspirations of human beings (Kozusznik et al., 2023b). It involves realizing one's potential, having control, purpose, achieving goals, and building positive relationships (Ruggeri et al., 2020b; Kundi et al., 2020b). Well-being can be viewed narrowly as individual pleasures or broadly as part of a group (Martela & Sheldon, 2019), including contributing to community and meaningful social interactions (Huppert, 2009).

Psychological well-being is usually understood as how people feel and function in their daily lives. It includes both emotional and mental aspects. These two parts are connected and influence each other. At workplace, they shape how engaged someone feels, how satisfied they are with their job and whether they experience burnout. As seen in Figure 3, we distinguish between positive, negative and physical forms of employee well-being (Inceoglu et al., 2018).

Positive well-being includes aspects like life satisfaction, positive mood, and energy, while negative well-being is associated with distress, negative mood, and symptoms like hyperarousal. Within positive well-being, there are two main components: hedonic well-being, which focuses on the experience of pleasure, and eudaimonic well-being, which emphasizes feeling purposeful and alive (Inceoglu et al., 2018).

Figure 3: Leadership Behaviours, Mediators and Forms of Employee Well-being



Source: Inceoglu et al. (2018).

Hedonic well-being, as a form of subjective well-being (Kundi et al., 2020b), is associated with feelings of comfort, satisfaction and serenity, reflecting a sense of happiness derived from pleasure and enjoyment (Inceoglu et al., 2018; Kundi et al., 2020b). It consists of two main components: a cognitive aspect, which involves a conscious evaluation of different areas of life, and an affective aspect, which refers to the emotions people experience in response to positive or negative events. Hedonic well-being is centred on happiness, characterised by positive emotions, pleasure, and overall life satisfaction (Kundi et al., 2020b).

Well-being extends beyond hedonism and the mere pursuit of happiness or pleasurable experiences. It also encompasses the degree to which individuals are functioning effectively in their lives (Ruggeri et al., 2020b). Eudaimonic well-being, focuses on personal growth, vitality, a deep sense of purpose in life (Inceoglu et al., 2018) and thriving, and it is often referred to as psychological well-being (Bartels et al., 2019).

Rather than being based on pleasure, eudaimonic well-being is connected to self-discovery, the realization of one's full potential, and the mastery of new skills (Kundi et al., 2020b). As a multidimensional concept, we can explain eudaimonic well-being as thriving or engagement. It is a sustained work-related state of mind characterised by energy, persistence, and a strong sense of enthusiasm and significance (Inceoglu et al., 2018). It can be defined as individuals' perception that the activities they engage in are meaningful, valuable to others and contribute to the achievement of their personal goals (Kozusznik et al., 2023).

Eudaimonic well-being promotes long-term fulfilment by encouraging individuals to engage in meaningful activities that align with their values and aspirations. It involves feeling alive, energetic and continuously learning, which contributes to an enduring sense of well-being

beyond temporary happiness. It is therefore closely tied to an individual's true nature and highest capabilities, fostering resilience and a deeper sense of satisfaction in life (Kundi et al., 2020b).

Negative well-being is often linked to burnout (Inceoglu et al., 2018). Maslach (in Shalaby et al., 2023) describes burnout as a psychological syndrome characterised by emotional exhaustion, depersonalisation, and a reduced sense of personal accomplishment. It mainly develops from prolonged exposure to workplace stress, especially in jobs that are highly emotionally demanding, such as healthcare and education (Ahmad et al., 2025b). Burnout usually starts with emotional exhaustion, and over time, people can start to feel mentally distant and disconnected from others. Common signs include trouble with sleeping, headaches, irritability and changes in appetite. Unlike depression, which affects an individual's overall emotional state, burnout is primarily linked to work-related stressors (Shalaby et al., 2023).

4.2 Well-being as an Outcome

Despite this broad conceptualisation, employee well-being has rarely been considered as a significant outcome on its own. In work settings, most research has focused on job satisfaction, as the hedonic part of well-being, while other dimensions have remained underexplored. Furthermore, in leadership studies well-being is often treated as a secondary outcome or as a mediator that explains the relationship between leadership and performance (Inceoglu et al., 2018). However, leadership behaviours can affect as well positive and negative psychological well-being (Karademas, 2007).

Positive psychological well-being at work can be defined as the cognitive and emotional responses to having adequate personal traits, accomplishments, effective interactions with the world, social integration, and a sense of positive progress over time (Karademas, 2007). At work hedonic well-being is defined in terms of what people feel about specific components, such as the comfort of the work environment, their relationship with coworkers, salary, etc. On the other hand, eudaimonic well-being at work is about meaningful engagement, purposeful activities, personal growth, and the fulfillment of one's true potential rather than just pleasure or external rewards (Kozusznik et al., 2023b).

Individuals, with higher levels of well-being tend to demonstrate greater workplace productivity, enhanced learning, increased creativity, more prosocial behaviours, and stronger positive relationships (Ruggeri et al., 2020b). Moreover, several studies show that employee well-being positively influences both individuals and organisations, leading to higher performance and productivity, greater customer satisfaction, stronger employee engagement, and more organisational citizenship behaviour (Kundi et al., 2020a). In contrast, burnout not only impairs individual performance but also disrupts team dynamics and reduces organizational efficiency. Moreover, it is associated with high levels of

absenteeism, turnover, and job dissatisfaction. Addressing burnout is therefore essential for maintaining sustainable employee satisfaction and engagement (Ahmad et al., 2025b).

In improving well-being, research suggests that psychosocial interventions are generally more effective in improving well-being than purely physical ones. Psychosocial-oriented strategies focus on improving employees' psychological and social working conditions to improve their overall well-being. These strategies often involve increasing employee involvement and autonomy through participative decision-making, employee committees, and suggestion forums, which give workers a greater sense of control and ownership over their tasks (Kozusznik et al., 2023).

Organisations can also encourage employee growth and development by offering training opportunities, mentoring programmes and leadership development initiatives. Additionally, recognition and fairness play a crucial role in supporting well-being, as fair pay, acknowledgement of achievements, and equitable treatment contribute to a positive and motivating work environment. Lastly, health and safety initiatives, such as stress management workshops can help employees cope with work-related pressures. Promoting work-life balance is another key element, achieved through flexible working hours, telecommuting options, and support services such as childcare or eldercare (Kozusznik et al., 2023).

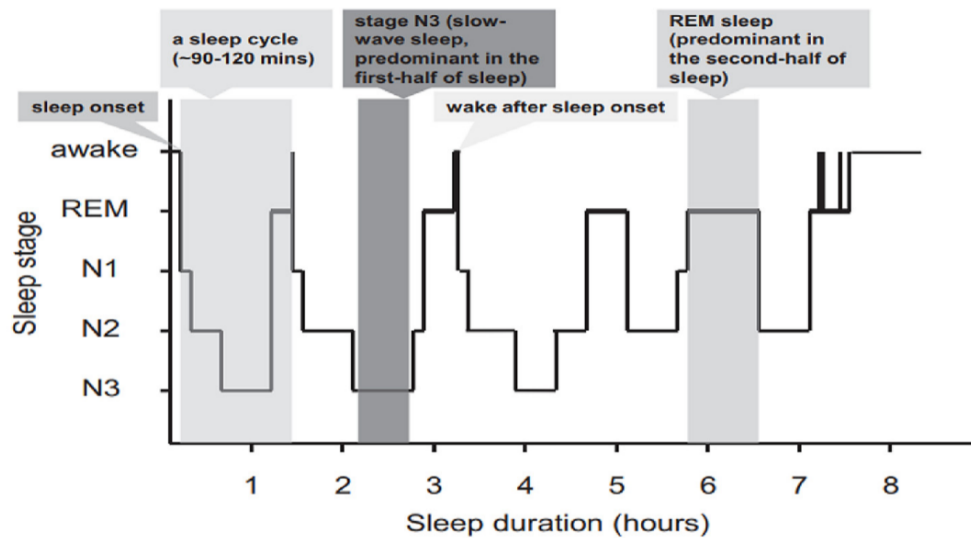
5 SLEEP QUALITY

Buysse (2014, p. 14) has defined sleep as a “multidimensional pattern of sleep-wakefulness, adapted to individual, social, and environmental demands, promoting physical, and mental well-being” and there is no doubt that sleep is one of the basic physiological processes for human survival (Kohyama, 2021). The body's internal clock, located in the hypothalamus, regulates sleep, wakefulness, body temperature, hormones, and appetite on a roughly 24-hour cycle. It is influenced by both internal and external factors, especially light. Daylight reduces melatonin, the sleep hormone, while low light increases it. Meanwhile, cortisol, which promotes alertness, rises in response to morning light (Baranwal et al., 2023).

5.1 Sleep Architecture

A healthy night's sleep follows a regular cycle known as sleep architecture, as shown on Figure 4. Sleep cycle architecture consists of cycles through different phases of sleep, which are often divided into overall categories of rapid eye movement (REM) and non-rapid eye movement (NREM) (Barnes, 2012). Sleep consists of three stages of NREM sleep and one stage of REM sleep. These stages repeat in 4–5 sleep cycles throughout the night, each lasting about 90 minutes (Baranwal et al., 2023).

Figure 4: Sleep Architecture



Source: Baranwal et al. (2023).

Stage 1 in NREM, is a light sleep that marks the transition from wakefulness to sleep. It typically makes up around 5% of total sleep. During this stage, a person can be easily awakened, and the eyes may move slowly beneath the eyelids. It is often described as the ‘entry point’ into sleep. Stage 2 follows and represents a deeper phase of sleep, where eye movements stop, heart rate slows, and body temperature drops. This stage usually accounts for about 50% of a full night's sleep. Brain activity during Stage 2 is marked by specific patterns, which are thought to play a role in processing and consolidating memories (Baranwal et al., 2023).

Stage 3, also referred to as deep sleep or slow-wave sleep, is the most restorative part of the sleep cycle. It typically occurs in the first half of the night and makes up approximately 20–25% of total sleep. During this stage, the brain produces slow, high-amplitude waves, and the body focuses on repairing tissues, strengthening the immune system, and restoring energy. This is also the stage where it is most difficult to wake someone (Baranwal et al., 2023).

The final stage is REM sleep, is characterised by rapid eye movements and temporary muscle paralysis. REM sleep usually dominates the second half of the night and comprises about 20% of sleep. It is during this stage that most dreaming takes place. REM sleep plays a critical role in learning, memory consolidation, and emotional processing. Heart rate and breathing often become faster and less regular during this phase. People with certain sleep disorders, such as obstructive sleep apnoea, may not reach sufficient REM sleep, which can affect both mental and physical health (Baranwal et al., 2023).

5.2 Sleep Quality

One of the aspects for understanding and measuring sleep health is sleep quality, a subjective, multidimensional assessment of sleep quality, based on individual's personal evaluation of their sleep (Buysse, 2014), with all aspects of the sleep experience (Nelson et al., 2021). Sleep quality is an essential and complex construct composed of both subjective and objective aspects. Objective sleep quality can be measured using polysomnography and actigraphy (Nelson et al., 2021). The subjective aspect on the other hand refers to the number of awakenings experienced during the night and how an individual feels throughout the day (Harvey et al., 2008). In the literature there are five sleep quality attributes derived about sleep quality (Buysse, 2014).

Sleep efficiency relates to how easily someone falls asleep and remains asleep throughout the night. Wake after sleep onset is the objective measure of a person's ability to stay awake and maintain focus during waking hours (Buysse, 2014). Sleep latency refers to the time it takes a person to transit from the state of wakefulness to sleep. It varies from person to person, however, based on research; sleep latency of 16–30 minutes is considered good sleep quality, while a sleep latency of 60 minutes or more indicates poor sleep quality (Nelson et al., 2021).

Sleep duration, which refers to the total amount of sleep a person gets within a 24-hour period (Buysse, 2014), where recommendation suggest that adults should aim for at least 7 hours of sleep (Nelson et al., 2021). Sleep disturbances are combinations of occurrences that can happen before sleep and initiate problems maintaining sleep (Buysse, 2014). When sleep is disrupted, for example, by light, noise, caffeine, alcohol, or lack of sleep, people may not experience the full restorative benefits of sleep (Baranwal et al., 2023).

Furthermore, sleep quality is influenced by a complex combination of physiological, psychological or environmental antecedents. For example, physiological factors include age and body mass index, psychological are antecedents such as stress, anxiety, and depression. Environmental influences include room temperature, prior disturbances during sleep, device use before bed (Nelson et al., 2021), work or school-related pressures (shift work, travel, stress, or heavy workload) (Hafner et al., 2017).

Sleep is not simply just a period of rest, but a time of intense physiological inactivity, which is vital for restoring brain and body functions (Barnes, 2012). Good sleep quality can lead to many positive consequences, such as feeling rested, normal reflexes and positive relationships. On the other hand, poor sleep quality can lead to many negative consequences (Nelson et al., 2021).

5.3 Consequences of Sleep Deprivation

Lack of sleep can lead to many physical and mental consequences (Nelson et al., 2021), since sleep supports numerous essential functions, including cardiovascular health, immune system performance, cognitive functioning, memory consolidation, hormonal balance, and reproductive health (Baranwal et al., 2023). For example, research has found that due to sleep loss the levels of B-amyloid can increase, causing cognitive decline (Nelson et al., 2021). It can cause forgetfulness, inability to concentrate and causes tensions in social environments (Nelson et al., 2021). Furthermore, with poor sleep quality, prefrontal cortex, essential for executive functions such as decision-making, and the amygdala, which regulates emotional reactions, are affected (Chuah et al., 2010).

When functional connectivity between prefrontal cortex and amygdala is reduced, it makes it harder to regulate emotional responses (Chuah et al., 2010). Findings suggest that a full night of sleep may serve to ‘reset’ the brain’s emotional balance, preserving the healthy functioning of the mPFC-amygdala circuit. This, in turn, supports more appropriate emotional responses, better social judgement, and more rational decision-making (Walker, 2010). Consequently, inadequate sleep is further associated with emotional instability and irritability (Giorgi et al., 2017).

Therefore, sleep deprived people are more likely to become emotionally overwhelmed, especially when engaging in tasks that require them to suppress negative emotions or enhance positive ones. It reduces the ability to recognize emotions in others, reduces emotional intelligence and increases social loafing (Barnes, 2012). In practice, individuals are most likely not aware of the impact of their lack of sleep on other people's perceptions. Also at workplace, research suggests that leaders and followers may damage their relationships without even realizing it (Guarana & Barnes, 2017). However, the connection between sleep and psychological well-being is bidirectional. People with depression often experience insomnia, fragmented REM sleep, and reduced slow-wave sleep (Nelson et al., 2021).

Several work-related psychosocial antecedents are linked to reduced sleep. Unrealistic time pressure has a strong effect, reducing sleep by around 8 minutes daily and increasing the chances of sleeping under 6 hours. For example, employees with little control over their tasks sleep about 2.3 minutes less per day and are more likely to get only 6–7 hours of sleep. In addition, a lack of peer support and limited involvement in workplace changes reduce sleep duration and raise the likelihood of short sleep. Strained work relationships are associated with sleeping less than 6 hours. Irregular working hours and long commutes further contribute to sleep deprivation, showing how job conditions can significantly affect sleep, linked to higher risk of sleep deprivation (Hafner et al., 2017).

When cognitive (Nelson et al., 2022) and emotional (Chen et al., 2022) functioning are impaired it can result in memory loss, poor concentration difficulties with decision-making,

anxiety and depression (Nelson et al., 2021). It can also result in lower academic and work performance and increased workplace injuries, accidents, and medical errors due to reduced alertness and slower reaction times (Albakri et al., 2021). Given the negative impact of insufficient sleep on health, well-being, and productivity, its effects have far-reaching societal and economic consequences (Hafner et al., 2017).

6 RESEARCH AND MODEL DEVELOPMENT

I developed a cross-sectional research model that explores the associations between post-heroic leadership and employee well-being in community healthcare settings. By identifying the psychological mechanisms that may be linked to both leadership behaviour and employee well-being, the model points to potential mediating and moderating variables in these relationships.

6.1 Leadership's Role in Shaping Employee Well-being

Managing highly skilled professionals in high-pressure environments requires leaders to play an important role in shaping the work environment (Boršnak & Sitar, 2021), where workers are supported by essential psychological resources and assigned to meaningful, engaging tasks (Inceoglu et al., 2018). In the healthcare context, this is particularly crucial. The effectiveness of healthcare systems and their ability to adapt to new challenges are highly dependent on having a sufficient number of professionally trained healthcare workers in an environment that fosters their motivation and engagement (Podbregar, 2022).

Leadership in healthcare is unique due to the complexity of the medical profession. High demands of the job, combined with perfectionism and workplace pressures, can lead to frustration and burnout, negatively affecting both individual performance and team dynamics. Leaders must be aware of their role, understand their team, and adopt the right leadership style to improve job satisfaction and help followers succeed in their tasks (Boršnak & Sitar, 2021). Therefore, healthcare providers need leadership knowledge about different leadership models. Some are more suitable in certain situations than others; for that reason, healthcare providers require both the opportunity and the resources to identify which models are most relevant to the sector and build effective leadership skills (Trastek et al., 2014).

Traditionally, healthcare leadership emerged from a hierarchical structure (Kumar, 2021), where leader is an outstanding healthcare professional and leads their employees through expert power (Boršnak & Sitar, 2021). Hierarchies, whether between different professions or based on experience, can make it harder for staff to speak up when problems arise, which is crucial for correcting mistakes or preventing departures from evidence-based treatment protocols (Rosen et al., 2018).

Today, one of the often-used leadership models is transactional leadership, which is based on reinforcement and punishment. The leader sets goals for employees and, in return, promises to provide (monetary) rewards or punish if the goals are not met. The model relies on the extrinsic motivation of the employees. But on the other hand, many health care providers enter their profession from their intrinsic motivation to help people, which conflicts with transactional leadership. It negatively affects the relationship between the leader and the follower; consequently, the performance of the employee and team may suffer, leading to negative outcomes (Trastek et al., 2014).

Besides, transformational leadership is a style of leadership that inspires followers to look beyond their personal interests. The leader encourages followers to adopt the leader's vision and values as their own. While a leader can inspire on a larger scale, this approach has limitations in healthcare. In healthcare, the primary goal is to meet the individual health needs and preferences of patients. Relying too heavily on a single leader's vision can create problems, as patient care needs to be flexible and personalised, not tied to one leader's idea or mission (Trastek et al., 2014).

This highlights the importance of moving beyond traditional hierarchical models and developing the skills, knowledge, and competencies required for effective leadership in today's healthcare environment. Even though the relationship between healthcare professionals and patients is especially important, the relationship is still part of a bigger network of relationships that all matter for good patient care. How nurses, doctors, managers, support staff and others work and communicate with each other plays a big role in making sure care is fair, high quality, and effective (Campbell, 2020).

Effective leadership in this context requires a focus on empowerment and participation, giving team members the responsibility to make decisions in order to unlock their potential. Moreover, taking on a leadership role in this context means more than managing one's own task. It involves guiding teams, fostering motivation, managing relationships, encouraging collaboration, and resolving conflicts. These elements are vital not only for the success of healthcare teams but also for the quality of patient care (Boršnak & Sitar, 2021).

Accordingly, servant leadership fosters community, encouraging team members to put patients first. It leads to high performance, innovation and higher efficiency in the health care system. Servant leadership is particularly effective in meeting employees' psychological needs for autonomy, competence, and relatedness. Servant leaders focus on the development, growth, and success of their team members. They actively encourage individuals to take on new responsibilities, develop their skills, show initiative, and tackle challenges in their own way. For instance, constructive and thoughtful verbal feedback from a servant leader is often associated with employees' sense of competence and self-confidence. Both of which may contribute to better task performance (Chiniara & Bentein, 2015).

The theory of servant leadership uniquely blends the motivation to lead with a deep commitment to serve, making it morally and professionally aligned with the core values of healthcare environments (Demeke et al., 2024b). Healthcare workers, for instance, inherently include helping, serving patients and has high listening and empathy abilities. They are committed to creating secure and safe environments, especially in high-risk workplaces, highlighting a natural synergy between the profession's demands and the servant leadership style's core attributes (Kül & Sönmez, 2021).

Leadership is equally important within the network of healthcare peers. Providers rely on one another to share vital developments in science and healthcare delivery. Shared leadership and healthcare teams converge on mutual respect, shared goals, dynamic role allocation, ongoing communication, and continuous collaboration, creating resilient and effective care delivery systems (Podbregar, 2022; Trastek et al., 2014). It is valuable within individual healthcare organisations, across regions, and even on a national scale, where they have the opportunity to share and influence best practices (Trastek et al., 2014).

When managing employees facing excessive stress and heavy workloads, it is crucial to foster mutual trust, cultivate positive interpersonal relationships, and ensure clear, effective communication (Boršnak & Sitar, 2021). Studies show that autonomy-supportive environments increase job satisfaction (Moreau & Mageau, 2011). Supportive learning environments or organisational support in the workplace are important for well-being (Martela & Sheldon, 2019). Supportive peer relationships protect against emotional exhaustion and burnout (Gillet et al., 2011). Previous studies show that in healthcare surroundings co-worker support, shown as their helpfulness, sharing information, shared creativity in problem solving and talking about difficulties approached is related to lower levels of emotional exhaustion and lower intention to leave (Ducharme et al., 2007).

Therefore, I propose that post-heroic leadership, combining dimensions of servant and shared leadership, may be linked to enhanced well-being by fulfilling employees' psychological needs.

6.2 Mediating Effect of Perceived Basic Psychological Needs Satisfaction

According to SDT, all human beings have three basic psychological needs: autonomy, competence and relatedness (Ryan & Deci, 2020). Individuals can meet their needs via interactions with people in different social settings (Martin et al., 2017). Need satisfaction is hypothesized to mediate between resource optimization and well-being (Ryan & La Guardia, 2000). When needs are supported, individuals experience greater intrinsic motivation, well-being and improved performance (Ryan & Deci, 2020). Furthermore, employees who are autonomously motivated approach their work with a genuine sense of willingness, clearly recognising the significance and purpose of their role, and demonstrating a self-determined commitment to accomplishing their tasks. In contrast, when the needs are not supported, the motivations become controlled (Forner et al., 2020).

The concept of psychological needs has been central to organisational behaviour for decades. (Martin et al., 2017). Central to SDT is the notion that the effects of various environmental factors, such as job design, pay structures, and managerial styles, on employees' motivation and experiences are primarily mediated by a core set of basic psychological needs (Deci et al., 2017). SDT posits that well-being and motivation arise when these needs are satisfied and decline when they are frustrated (Ryan & Deci, 2020).

Leaders who are able to satisfy these three needs promote high-quality motivation where workers feel personally endorsed and willingly participate in their work activities (Forner et al., 2020). Fulfilment of psychological needs is also associated with both hedonic and eudaimonic well-being (Legault, 2017). In particular, meeting these needs boosts job satisfaction and vigour, an essential element of work engagement, all while reducing exhaustion, the primary component of burnout (Van Den Broeck et al., 2010).

In the literature, the mediating role of the three basic psychological needs has been studied across a range of contexts, including the workplace, education, leisure, sports coaching, and even video games (Ryan & Deci, 2020). However, despite the extensive research on SDT in workplace settings, there is still a limited understanding of how each individual's basic psychological need specifically influences work-related psychological outcomes among healthcare professionals (Grinberg et al., 2024).

Autonomy is about one's sense of initiative and ownership in actions, and it is supported by experiences of interest and value (Ryan & Deci, 2020). Autonomy refers to workers' need to experience choice in their role, have the freedom to make decisions, express their ideas, and have input in deciding how to get their tasks done. People want to self-initiate their own actions, rather than be controlled and directed by others (Forner et al., 2020). When external social contexts target a person's need for autonomy, then the forces are said to be autonomy supportive. Environments nurture an individual's inner motivational resources and intrinsic preferences by providing choice and decision-making flexibility (Legault, 2017).

In a working context, the positive association between basic psychological needs and employees' well-being has indicated that adequate working conditions can lead to satisfaction that then consequently promotes motivation and well-being. Research suggests that employees who experience higher autonomy at work are likely to enjoy greater well-being compared to those with lower autonomy. If the working environment fails to provide satisfaction or frustrates the BNP, that leads to decrease in well-being, which can briefly be described as emotional and physical exhaustion (Nunes et al., 2023).

In the context of healthcare, autonomy does not imply complete independence or an absence of responsibility. Rather, it refers to having control over one's actions and understanding the rationale behind rules and procedures. Healthcare professionals can experience a sense of autonomy when they perceive their values to be aligned with their tasks and when they feel supported in expressing their thoughts and opinions (Ryan & Deci, 2000).

For instance, a doctor required to follow specific protocols may still feel autonomous if they comprehend the importance of these protocols and are encouraged to voice their perspectives (Moreau & Mageau, 2011). It means feeling free and willing in what you do, whether in dependent or independent, individualist or group-focused settings (Ryan & Deci, 2000). The findings from Moreau & Mageau (2011) show that perceived autonomy support from supervisors and colleagues predicts well-being among health professionals. Additionally, the results indicate that perceived autonomy support from colleagues makes an additional contribution to the prediction of work satisfaction.

Based on the findings described above, I hypothesise the following:

H1a: Autonomy mediates the relationship between post-heroic leadership and well-being.

Next, relatedness concerns a sense of belonging and connection, and it is facilitated by respect and caring (Ryan & Deci, 2020). Relatedness stems from humans being social creatures, and we have the need to experience a sense of belonging and feeling accepted and cared for by others (Forner et al., 2020). Satisfaction occurs when relationships are nurturing, reciprocal and allow acceptance of the authentic self (Legault, 2017).

In the workplace, a supportive environment fosters closeness and social interactions, reducing feelings of isolation and loneliness (Fotiadis et al., 2019). Therefore, workers' needs is satisfied when they feel part of the group and have supportive relationships at work (Forner et al., 2020). It is not just about the amount of time someone spends with others, but rather whether connections feel genuine and caring (Martela & Sheldon, 2019). When employees are encouraged to build relationships on their terms, they are more likely to experience psychological well-being. Positive psychological relatedness is closely linked to well-being and happiness, including hedonic enjoyment, vitality and life satisfaction (Fotiadis et al., 2019).

Research within healthcare professions consistently highlights the protective role of supportive colleague relationships in promoting psychological well-being and improving work-related outcomes. Co-worker support, shown through helpfulness, the sharing of knowledge and information and collaborative problem solving, has been associated with lower levels of emotional exhaustion, a key component of burnout, as well as a reduced intention to leave the profession (Moreau & Mageau, 2011).

Therefore, I hypothesise the following:

H1b: Relatedness mediates the relationship between post-heroic leadership and well-being.

Lastly, competence concerns a feeling of mastery (Ryan & Deci, 2000). It is best satisfied from context that provides optimal challenges, as well as structure and feedback that allow opportunities to grow (Legault, 2017). Competence represents workers' need to feel effective, successful, and have proof that they are good at what they do. They are satisfied

when they have the opportunity to use their skills and develop mastery of their tasks (Forner et al., 2020). The need for competence is not about constantly improving beyond past performance, but about experiencing challenges that are just right to engage and stimulate one's abilities (Ryan & La Guardia, 2000).

Competence enables individuals to adapt to complex and changing environments. Otherwise, competence frustration would lead to feelings of helplessness and a lack of motivation. In work environments, individuals who feel competent believe that they can achieve goals, develop new skills and master any challenge (Van Den Broeck et al., 2010). Highly skilled employees prefer adapting their behaviours rather than relying on routines, and they depend on supportive environments to foster the core competencies that enable them to thrive (Fotiadis et al., 2019).

Perceived competence represents how capable individuals believe they are, either in general or in specific activities. It plays a key role in shaping self-esteem and is linked to positive emotions and mental well-being. High perceived competence suggests a strong sense of self-worth and frequent experiences of positive emotional states (Martin et al., 2017). Fostering psychological competence benefits both employees and employers by boosting motivation for skill development, enhancing job performance, and fulfilling other needs such as happiness, life satisfaction, and vitality (Fotiadis et al., 2019).

Consequently, the following is hypothesised:

H1c: Competence mediates the relationship between post-heroic leadership and well-being.

7.3. Moderating Effect of Sleep Quality

Although people spend more time sleeping than working, sleep remains undervalued in modern society (Barnes, 2012). Its central role in supporting emotional stability, attention, and decision-making is often overlooked, yet essential for both individual and organisational well-being (Walker, 2010; Nelson et al., 2021). Sleep-deprived individuals are more likely to exhibit impatience, irritability, reduced emotional intelligence and inappropriate social behaviour (Barnes, 2012). This is especially true for people working in healthcare, transportation, and service sectors, where shift and night work can cause a misalignment between internal circadian rhythms and external demands, reducing both sleep quality and quantity (Nelson et al., 2021).

People need subjective energy to proactively engage and be present in daily activities (in other words, to be mindful) and seek opportunities for need satisfaction. Sleep deprivation reduces subjective energy, leading to a lack of focused attention and increasing mind wandering, resulting in higher need frustration. Additionally, reduced mindfulness makes individuals less aware of their interests and values and may result in being less proactive in choosing and engaging in activities that fulfil their needs and may also be less responsive to opportunities for need satisfaction throughout the day (R. Campbell et al., 2017).

Poor sleep affects an individual's capacity to be mindful and the satisfaction of their basic psychological needs for autonomy, competence and relatedness (R. Campbell et al., 2017). Sleep loss can impair key cognitive functions like understanding, empathy, and trust, making it more difficult to interpret social cues accurately. As a result, people are more likely to view unclear or ambiguous situations as threatening rather than neutral (Chen et al., 2022).

Furthermore, poor sleep affects not only individuals but also their relationships and workplace dynamics. In team settings, sleep deprivation can increase mistrust and conflict, as it impairs the ability to interpret others' emotions accurately, leading to miscommunication and tension. Additionally, it reduces job satisfaction, lowers motivation, causes difficulties with organisation, and increases absenteeism (Barnes, 2012).

Sleep deprivation also undermines the quality of interpersonal relationships, especially between leaders and followers. When followers are sleep-deprived, they may unintentionally become unresponsive or disengaged, weakening the relationship. Likewise, sleep-deprived leaders may appear less supportive or more distant, which can damage trust and communication. Overall, lack of sleep negatively affects how both leaders and followers perceive the quality of their relationship (Guarana & Barnes, 2017).

In the context of model development, I propose that sleep quality is not only directly associated with well-being but may also moderate the relationship between leadership and the perception of basic psychological needs satisfaction. Therefore, we suggest the next hypotheses:

H2a: Sleep quality moderates the relationship between post-heroic leadership styles and employees' perceptions of autonomy; at high levels of sleep quality, the relationship will be more positive.

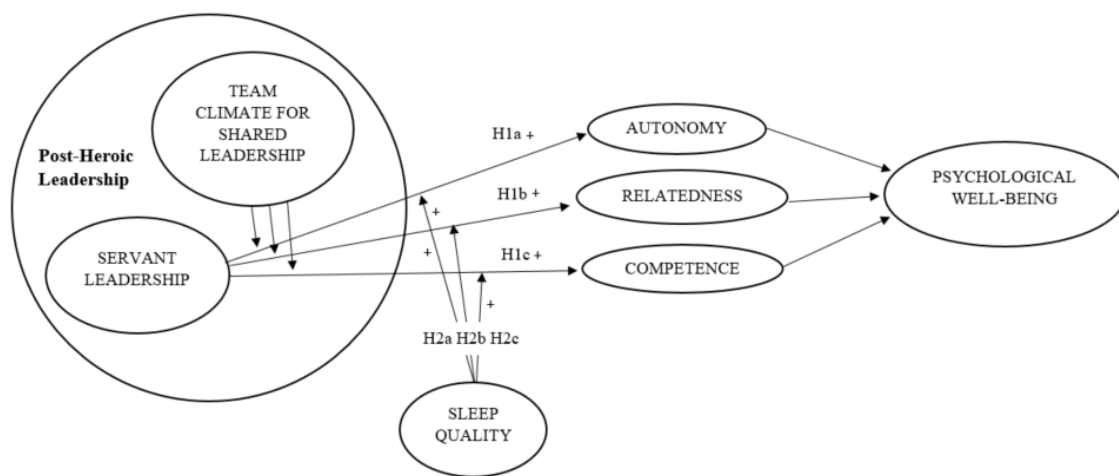
H2b: Sleep quality moderates the relationship between post-heroic leadership styles and employees' perceptions of relatedness; at high levels of sleep quality, the relationship will be more positive.

H2c: Sleep quality moderates the relationship between post-heroic leadership styles and employees' perceptions of competence; at high levels of sleep quality, the relationship will be more positive.

Based on existing theoretical foundations, I have developed a conceptual model (Figure 5) to represent the predicted relationships between the variables in this cross-sectional study. The model suggests that employees' perceptions of autonomy, relatedness, and competence, as influenced by leadership, are associated with their intrinsic motivation, which is linked to their well-being. Furthermore, sleep quality is proposed as a moderating variable that may strengthen or weaken the relationship between leadership and the satisfaction of basic psychological needs.

Post-heroic leadership is positioned as the independent variable, shaping the overall framework of the model. The three basic psychological needs (autonomy, competence, and relatedness) function as mediators, explaining how leadership relates to outcomes through the satisfaction of these needs. The model includes employee well-being, representing a subjective outcome variable. Additionally, sleep quality is examined as a moderator that may influence the strength of the relationship between leadership and employees' perception of basic psychological need satisfaction. This model aligns with previous research suggesting that leadership styles, which empower and support employees' basic psychological needs, contribute to improved well-being.

Figure 5: Research Model



Source: Own work.

7 METHODOLOGY

7.1 Sample

To examine the model within a real healthcare environment, I conducted my research at the Community Health Centre Ljubljana. Community Health Centre Ljubljana is the largest healthcare institution in Slovenia for primary care. It employs more than 1,600 people and provides care for over 500,000 registered patients. The centre consists of eight organisational units: Center, Šentvid, Moste-Polje, Šiška, Vič-Rudnik, Bežigrad, SNMP unit and the Institute for Research and Development of Primary Care. It provides healthcare services for the area of the Municipality of Ljubljana and, in some activities for the wider Ljubljana region (Zdravstveni dom Ljubljana, 2022). Primary care practitioners include family physicians, pediatricians, gynecologists, community nurses, midwives, dentists, pharmacists, therapists, psychologists, psychiatrists, and other specialists. Usual team

consists of one physician, graduate nurse, registered nurse and healthcare administrative assistant.

A healthcare system can be broadly defined as the way healthcare services are financed, organised and delivered to a population. It relies on medical, paramedical and nursing expertise to promote health, prevent illness, reduce premature deaths, provide treatment, and care for people with chronic or other health conditions (Kittipittayakorn, 2025; Eurostat, n.d.). In essence, it transforms financial, human, and material resources into health outcomes. Its core components include healthcare facilities, financing mechanisms, governance structures, health information systems and healthcare providers (Kittipittayakorn, 2025).

Healthcare has developed from personal service delivery into a complex system, now representing an extensive and costly network. It is delivered by a wide range of professional and support staff, making it one of the largest employment sectors in developed countries (Tulchinsky & Varavikova, 2014). The sector includes doctors, nurses, midwives, pharmacists, dentists, allied health professionals, public health specialists, healthcare managers, and administrative staff. Beyond these roles, the healthcare system also involves patients, government bodies, insurers, businesses, and academic institutions, reflecting its immense complexity (Trastek et al., 2014).

In the European Union (EU), healthcare is one of the largest and most labour-intensive sectors. At the start of 2024, over 22.2 million people were employed in human health and social work, making it the third-largest sector after wholesale and retail trade and manufacturing (Statista, 2024). Access to quality healthcare at an affordable cost is widely recognised as a fundamental principle across the EU. Supporting this, one of the twenty principles of the European Pillar of Social Rights affirms that everyone has the right to timely access to affordable, preventive, and high quality curative healthcare. Despite this shared commitment, healthcare systems across the EU vary in organisation and financing (Eurostat, n.d.).

The most common in EU are Beveridge-type and Bismarck-type. These models outline the system by which country finance, organize and deliver healthcare services. However, there is no consensus on which healthcare is superior in terms of performance or efficiency. In the Beveridge model healthcare is provided and finances by the government through taxation. On the other hand, in the Bismarck model, used also in Slovenia, employers and employees through compulsory payroll contributions, often supplemented by general tax revenue jointly fund health insurance (Kittipittayakorn, 2025).

The Slovenian healthcare system operates at three levels. The primary level encompasses general healthcare services and pharmacy services. Slovenia uses a gatekeeping system (Prevolnik Rupel & Marušič, 2021), which means that primary healthcare is the first point of contact for diagnosing and treating illnesses, promoting health, preventing disease and providing patient education. It is organised by municipalities through community healthcare

centres and local stations (Ministry of Health, n.d.). Patients have the right to choose their physician from those operating at primary healthcare centres and are required to obtain a referral from their family physician to access secondary care (Prevolnik Rupel & Marušič, 2021).

With the referral patients are free to choose their secondary care provider. The secondary level provides specialist outpatient care and hospital services (Ministry of Health, n.d.). Tertiary level involves more specialised services delivered by two university medical centres in Ljubljana and Maribor (“Slovenia: Country Health Profile 2023,” 2023), or other specialised healthcare facilities (Ministry of Health, n.d.).

Additionally, in Slovenia services are provided at public or private level. Public healthcare services are provided through a national network of public healthcare institutions (JZZ), which includes community healthcare centres, hospitals, social care facilities, training centres, pharmacies and other healthcare providers. They are founded and overseen by the state and local municipalities. Private healthcare providers may operate only with a licence from the Ministry of Health and can receive concessions at the primary or secondary level, granted when public institutions cannot ensure adequate service access. Municipalities with ministerial approval issue primary-level concessions, while secondary-level concessions are granted directly by the Ministry of Health (Ministry of Health, n.d.).

The majority of health and medical services are provided through coordinated teams of healthcare professionals due to the complexity and interdisciplinary nature of services (Podbregar, 2022). Healthcare teams are generally categorised as project teams, management teams, or work teams. Furthermore, work teams can be subdivided based on their focus. Some concentrate on specific patient populations or particular disease types, while others are oriented around care delivery settings (e.g. primary care). (Rosen et al., 2018).

While strong relationships between healthcare providers and patients build trust and improve outcomes, high-quality care and patient safety also heavily depend on effective team dynamics (Trastek et al., 2014). Effective teamwork not only enhances patient safety and clinical outcomes but also supports staff well-being, engagement, and retention during nursing and physician shortages (Rosen et al., 2018). Furthermore, implementation of teamwork in clinical settings has been associated with higher job satisfaction among workers (Roth et al., 2009).

Leadership within healthcare plays a critical role in enabling safe and efficient functioning, supporting professional development, and maintaining ethical, value-driven standards (Trastek et al., 2014). Physicians are skilled at recognising potential problems, anticipating their impact and prioritising effective solutions. They know how to manage stress, navigate difficult situations, and take responsibility for their actions. However, their training also

emphasises independent problem-solving and the development of strong, authoritative decision-making skills (Blythe et al., 2021b).

Moreover, healthcare organisations face the dual challenge of ensuring the health of all population groups, while operating sustainably and maintaining financial and economic viability (Podbregar, 2022). Ageing population, advances in medical technology and higher public expectations lead to high levels of healthcare spending and it is expected to rise even further. Along with increasing demand for care, a shortage of healthcare professionals poses another significant challenge (Krijgsheld et al. 2022), also in European Union (OECD/ European Commission, 2024).

In 2022 and 2023, 20 out of 27 countries of European Union reported a shortage of doctors, 15 reported a shortage of nurses. Based on minimum staffing thresholds for universal health coverage, EU countries had an estimated shortage of approximately 1.2 million doctors, nurses and midwives in 2022. That year, the EU average was 4.2 doctors and 8.4 nurses per 1 000 population. In Slovenia, the number of doctors per capita (3.3) is below the EU average, whereas the number of nurses per capita (10.5) is higher than the EU average (OECD/ European Commission, 2024).

The key drivers of this shortfall are an ageing health workforce, raising the need to replace retiring health workers and aging population, increasing demand for health services (OECD/ European Commission, 2024). Slovenia reflects these trends with aging work force. Approximately 40% of all doctors are aged 55 or older, with around 30% in the 55–64 age group and about 10% aged 65 or above. In contrast, only around 15% of physicians are under 35, reflecting a relatively low proportion of young doctors (Eurostat, 2025).

Furthermore, interest in health careers among young people is declining, with a noted fall in interest in nursing in more than half of EU countries between 2018 and 2022 (OECD/ European Commission, 2024). Difficult working conditions, low salaries, heavy workloads, and limited career opportunities are taking a toll on nurses' well-being and job satisfaction. Even prior to the COVID-19 pandemic, studies indicated that burnout among nurses was associated with factors like heavy workloads, understaffing, long shifts, and limited control over their work. The pandemic has only made matters worse, leading to a record number of nurses either leaving the profession or thinking so (Racoviță et al., 2023).

Like many EU countries, Slovenia is experiencing demographic and health changes, including ageing population, more patients with complex conditions, and rapid technological progress in healthcare. Staff shortages, which place heavy pressure on doctors, are most severe in family medicine and paediatrics at the primary care level, as well as among hospital nursing staff. The COVID-19 pandemic further exposed these shortages, especially in public health and primary care (Albrecht et al., 2021).

Despite financial measures to strengthen the workforce, long waiting times and access issues persisted in 2022, continuing to strain the primary healthcare system (“Slovenia: Country

Health Profile 2023,” 2023), which affects referrals to the secondary care. Significant regional disparities exist, with the highest concentration of physicians in Central Slovenia and the lowest in the Coastal-Karst region (Prevolnik Rupel & Marušič, 2021).

For example, in 2024, the Community Healthcare Centre Ljubljana continued to face shortages of healthcare professionals, particularly in family medicine and paediatrics. Despite recruitment efforts from abroad and scholarship programmes, challenges such as low interest in these specialisations, rising service costs, and increasing healthcare demand from an ageing and more health-aware population persist (Zdravstveni dom Ljubljana, 2024).

These factors highlight the pressing need to enhance organisational performance in healthcare. Since healthcare is mainly labour-intensive work, any changes or improvements will be closely tied to the actions and behaviours of employees (Krijgsheld et al. 2022).

7.2 Data Collection

The empirical part of this thesis is based on a quantitative research design, with data collected using the online tool 1KA. A structured survey was created specifically for healthcare employees at the Community Health Centre Ljubljana, without contractors and SNMP unit. Two versions of the survey were developed. One was for the team leaders (physician) and the other for the team followers (graduate nurse, registered nurse and healthcare administrative assistant). Both surveys contained the same questions; however, they were adjusted to suit the different roles and perspectives of each group. Questions were in the Slovenian language.

The survey was distributed in cooperation with the Primary Healthcare Research and Development Institute (IRROZ) and the management of the Community Health Centre Ljubljana. They assisted in disseminating the survey links to proposed email addresses of healthcare team members. Participation in the survey was voluntary and anonymous. The questionnaire was sent to approximately 919 employees, and 88 completed it in full. Data collection took place during March and April 2025. To test the hypotheses, data were analysed separately for leaders and followers using SPSS and the PROCESS macro (Model 4) in SPSS.

7.3 Measures

The variables in the model were mainly assessed using a Likert scale, ranging from 1 to 5. The scale used ranges from 1 (Strongly disagree) to 5 (Strongly agree) or 1 (Never) to 5 (Very often). For questions about sleep quality, the scale ranked from 1 (Very good) to 4 (Very bad). The entire research was conducted using two identical, yet respondent-adjusted

surveys. Through them, we aimed to capture the perspectives of both leaders and followers. Some scales also included reversed items to ensure reliability and minimise response bias.

Servant leadership was assessed as an independent variable, using a validated 14-item scale developed by Ehrhart (2004), based on their earlier conceptual work. The scale captures seven key behavioural dimensions of servant leadership: building strong relationships with subordinates, empowering them, supporting their development and success, acting ethically, demonstrating conceptual skills, prioritising others' needs, and creating value outside the organisation.

Each dimension was measured with two items, resulting in a comprehensive 14-item instrument. Participants responded using a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Two versions of the questionnaire were created: one for followers and one for team leaders. The version for followers included statements such as "My team leader spends the time to form quality relationships with team members". In the version for team leaders, the wording of the statements was adjusted to reflect self-assessment, for example: "I, as a team leader, spend the time to form quality relationships with my team members." (Cronbach's $\alpha = 0.98$ for followers and Cronbach's $\alpha = 0.93$ for leaders).

To capture shared leadership (Carson et al., 2007), another independent variable, participants responded using a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree), based on the original scale developed by Carson et al., 2007. The items captured various aspects of the team environment that support shared leadership, such as "The members of my team spend time discussing our team's purpose, goals, and expectations for the project" (shared purpose), "The members of my team give encouragement to team members who seem frustrated" (social support), and "Everyone on this team has a chance to participate and provide input" (voice).

To capture perspectives from both sides of the leadership dynamic, two versions of the questionnaire were used. Followers received statements phrased from a group perspective (e.g. "The members of my team..."), while team leaders were presented with a version reworded to reflect their own role (e.g. "In my team, we..."). This parallel design ensured consistency in the constructs assessed, while allowing for comparison between how leaders and followers perceive the team conditions that enable shared leadership. (Cronbach's $\alpha = 0.97$ for followers and Cronbach's $\alpha = 0.88$ for leaders).

To capture the post-heroic dimension, we first calculated the average scores separately for servant leadership and for the environment for shared leadership. These average values were then centralised. After that, we multiplied the centralised values together. The resulting product represents the value of post-heroic leadership. (Cronbach's $\alpha = 0.98$ for followers and Cronbach's $\alpha = 0.95$ for leaders).

Sleep quality, having a moderating role, was assessed through the Pittsburgh Sleep Quality Index (PSQI), developed by Buysse et al. Subjective sleep quality was self-rated by participants based on their experiences during the month preceding the completion of the questionnaire. The widely used Pittsburgh Sleep Quality Index (PSQI) offers a comprehensive measure of overall sleep quality, based on a respondent's retrospective assessment of various sleep-related factors over the past month. These include sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction (Krystal & Edinger, 2008).

To minimise respondent burden, we used only sections of the questionnaire while preserving the key constructs necessary for a valid subjective assessment of sleep, asking for subjective experience of sleep quality, sleep quantity and sleep latency. Respondents were asked to reflect on the majority of days and nights in that time. The questionnaire included items such as: "According to your feeling, how well did you sleep?" (Rated on a 4-point scale from "Very good" to "Very bad"), "On average, how many hours of actual sleep did you get per night during the past month?", and "On average, how long (in minutes) did it take you to fall asleep each night during the past month?"

To assess the core dimensions of Self-Determination Theory at work, we used the Work-Related Basic Need Satisfaction Scale developed by Van den Broeck et al. (2010). This scale captures the extent to which employees experience satisfaction in three fundamental psychological needs (autonomy, relatedness and competence) in the workplace, which is essential for fostering intrinsic motivation and well-being. The scale includes several statements across the three categories, and participants rated their agreement with each item on a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree).

For autonomy, examples included "I feel free to express my ideas and opinions in this job," "I feel like I can be myself at my job," and "The tasks I have to do at work are in line with what I really want to do," highlighting the freedom to act authentically and make choices aligned with one's values. (Cronbach's $\alpha = 0.79$ for followers and Cronbach's $\alpha = 0.83$ for leaders).

Competence was assessed with statements like "I really master my tasks at my job," "I feel competent at my job," and "I am good at the things I do in my job," reflecting feelings of capability and confidence. (Cronbach's $\alpha = 0.65$ for followers and Cronbach's $\alpha = 0.82$ for leaders).

Relatedness was captured through items such as "At work, I feel part of a group," "At work, there are people who really understand me," and "Some people I work with are close friends of mine," which reflect the sense of connection and support from colleagues. (Cronbach's $\alpha = 0.86$ for followers and Cronbach's $\alpha = 0.76$ for leaders).

The leadership literature has largely neglected research on employee health and well-being in favour of employee performance (Inceoglu et al., 2018). However, we distinguish between

different types of well-being, such as psychological well-being, which includes hedonic (pleasure-based), eudaimonic (meaning-oriented), and negative aspects, as well as physical well-being (Inceoglu et al., 2018). Very limited studies have measured psychological well-being through both hedonic and eudaimonic dimensions, which highlights the need for further exploration (Kundi et al., 2020a).

In response, this study evaluated employee well-being using three validated measures: hedonic well-being, eudaimonic well-being and negative well-being. The questionnaire included eudaimonic well-being through work engagement, hedonic well-being through job satisfaction, and the negative dimension of emotional exhaustion. Well-being was determined by computing the mean of the averages across all individual components. Together, these measures provide a comprehensive view of work-related well-being, encompassing both its positive and negative aspects. (Cronbach's $\alpha = 0.65$ for followers and Cronbach's $\alpha = 0.52$ for leaders).

While the Cronbach's alpha for the follower sample (0.65) falls into the questionable range and the alpha for the leader sample (0.52) is considered low, this may be due to the small number of items, the multidimensional nature of the construct (hedonic, eudaimonic and negative well-being), or variability in how leaders interpret and respond to the items. Despite the lower alpha, the scale was retained due to its theoretical relevance and its ability to capture both positive and negative aspects of work-related well-being.

First, work engagement was measured using a five-item scale that focuses on how employees feel about their work and their energy levels throughout the workday, the eudaimonic part. Example items included "When I get up in the morning, I feel like going to work," "At my work, I feel bursting with energy," and "At my job, I am very resilient, mentally." Participants rated these items on a scale ranging from "Never" to "Very often". This scale captures the vigour aspect of work engagement, which reflects the positive, energetic nature of engagement with work. The source for this measure is Schaufeli et al. (2002). (Cronbach's $\alpha = 0.85$ for followers and Cronbach's $\alpha = 0.80$ for leaders).

Job satisfaction was measured using a scale adapted from the Michigan Organisational Assessment Questionnaire by Fichman in 1983 (Amundsen and Martinsen, 2015). This scale included items assessing general job satisfaction, such as "All in all, I am satisfied with my job," "In general, I don't like my job" (reverse coded), and "In general, I like working here." Participants rated these items on a frequency scale ranging from "Never" to "Very often". This measure captures the hedonic aspect of work-related well-being, reflecting how employees feel about their jobs in general. (Cronbach's $\alpha = 0.83$ for followers and Cronbach's $\alpha = 0.65$ for leaders).

Finally, emotional exhaustion was assessed as part of burnout, using a single-item measure with the highest factor loading on emotional exhaustion: "I feel burned out from my work." This item was adapted from the Dutch version of the Maslach Burnout Inventory (West et

al., 2009), which evaluates burnout with an emphasis on emotional exhaustion as the central component. Participants rated this item on a frequency scale ranging from "Never" to "Very often". Emotional exhaustion was chosen as a key indicator of negative well-being at work, reflecting the emotional strain that employees experience.

Previous research on leadership has indicated that demographic variables such as age, gender, and tenure may be associated with employees' attitudes and work-related outcomes. Specifically, studies examining the impact of leadership on performance have suggested that organisational tenure may influence performance levels (Chiniara and Bentein, 2015). Additionally, self-efficacy expectations are strongly related to well-being, since they can reflect a personal sense of competence and can lead to positive well-being (Karademas, 2007). Furthermore, emotional exhaustion and dissatisfaction with one's job can be caused by emotional labour (Kim & Robert, 2019).

Therefore, in our study, we controlled for respondents' age (measured in years), gender (male =1 or female =2), organisational tenure (in years), team tenure (in years), self-efficacy and emotional labour. To capture generational differences, participants were asked to indicate their age group using the following categories: under 30 years, 31–45 years, 46–60 years, and over 60 years. Organisational and team tenure was assessed using the following categories: less than 5 years, 6–15 years, 16–25 years, 26–35 years, and 36–45 years.

Self-efficacy was assessed using a shortened, 5-item version of the Generalised Self-Efficacy Scale developed by Schwarzer et al. in 1995, with the abbreviated format adapted by Romppel et al. (2013). This scale captures individuals' general belief in their capacity to handle challenging or stressful situations and to achieve desired outcomes.

Participants rated their agreement with each statement on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Example items include "If someone opposes me, I can find means and ways to get what I want" and "It is easy for me to stick to my aims and accomplish my goals." The use of the shortened version allowed for efficient data collection while preserving the scale's reliability and validity. (Cronbach's $\alpha = 0.57$ for followers and Cronbach's $\alpha = 0.85$ for leaders).

The Cronbach's alpha for the self-efficacy scale was acceptable for leaders (0.85), but fell below the conventional threshold for followers (0.57). This discrepancy may be due to several reasons, such as sample heterogeneity among followers. Followers represent a more diverse group in terms of roles, levels of responsibility, making their interpretations of self-efficacy more varied and reducing internal consistency. Despite the lower reliability, the scale was retained due to its established validity in previous research.

Emotional labour was measured using a scale developed by De Castro et al. (2006), which assesses the emotional demands placed on workers in service-oriented roles. For this study, we specifically focused on surface emotional labour, which refers to the management and expression of emotions that may not align with an individual's true feelings. This form of

emotional labour has been shown to negatively affect psychological well-being, making it particularly relevant to the context of leadership and employee outcomes. We employed a shortened version of the original scale, as adapted and validated in subsequent research (De Castro et al., 2006).

Participants responded to a series of items assessing their engagement in surface emotional labour using a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Example items include: “I act like nothing bothers me, even when a client makes me mad or upset.”, “At work I have to seem concerned, even when I don’t feel like it,” and “I want patients to think I’m always calm.” These items reflect the emotional dissonance typical of surface acting, where the outward display of emotions is not necessarily aligned with one’s internal experience. (Cronbach’s $\alpha = 0.55$ for followers and Cronbach’s $\alpha = 0.66$ for leaders).

Low Cronbach’s alpha for the emotional labour scale for followers indicates low to borderline internal consistency. This may be due to varying roles among followers. Despite the lower internal consistency, the scale was retained due to its strong theoretical and practical relevance.

8 RESULTS

8.1 Descriptive Statistics

The final sample included 88 employees. Out of these, 27 were team leaders and 61 were followers. Among the leaders, 24 were women and 3 were men. Among the followers, 56 were women and 5 were men. Most participants were between 46 and 60 years old.

More specifically, the sample included 27 leaders, shown in Table 1, with the majority being women (mean = 1.89, SD = .032, where 1 = male and 2 = female). Participants’ age in the average falls within the age between 46 and 60 (mean = 2.81, SD .62, where 2 = from 31 to 45 and 3 = 46 to 60). On average, leaders have been a part of Healthcare Community Centre Ljubljana for 16 to 25 years (mean = 3.04, SD = 1.16). They have been a part of the current team for 16 to 25 years (mean = 2.26, SD = 1.13).

Post-heroic leadership is positively and significantly correlated with work engagement ($r = 0.546$, $p < .01$), sense of autonomy ($r = 0.525$, $p < 0.01$) and relatedness ($r = 0.596$, $p < 0.01$). There is also positive correlation with self-efficacy ($r = 0.448$, $p < 0.05$). Among SDT components, autonomy is positively correlated with relatedness ($r = 0.587$, $p < 0.01$) and self-efficacy ($r = 0.528$, $p < 0.01$), while competence is likewise positively related to relatedness ($r = 0.508$, $p < 0.01$). Sleep quantity positively correlates to subjective sleep quality ($r = 0.498$, $p < 0.01$) and sleep latency is negatively related to subjective sleep quality ($r = -0.443$, $p < 0.01$).

Well-being is negatively related to sleep latency ($r = -0.423$, $p < 0.01$) and positively to self-efficacy ($r = 0.531$, $p < 0.01$). Hedonic component, job satisfaction is positively correlated with well-being ($r = .668$, $p < .01$), work engagement ($r = 0.579$, $p < 0.01$) and control variable, self-efficacy ($r = 0.459$, $p < 0.05$). Eudaimonic component, work engagement is also positively correlated with well-being ($r = 0.720$, $p < 0.01$), autonomy ($r = 0.494$, $p < 0.01$) and self-efficacy ($r = 0.662$, $p < 0.01$). Expectedly, burnout is negatively correlated with well-being ($r = -0.809$, $p < 0.01$). Age is strongly positively correlated with organisation tenure ($r = 0.649$, $p < 0.01$). Organisation tenure is positively correlated with team tenure ($r = 0.491$, $p < 0.01$).

Furthermore, sample included 61 followers, shown in Table 2, with the majority being women (mean = 1.92, SD = 0.28, where 1 = male and 2 = female). Participants' age in the average falls within age between 46 and 60 (mean = 2.52, SD = 0.91, where 2 = from 31 to 45 and 3 = 46 to 60). Age groups are categorized as follows: 1 indicates participants aged up to 30 years old, 2 indicates those aged from 31 to 45 years old, 3 indicates those aged from 46 to 60 years old, and 4 indicates participants older than 60 years. On average, followers have been a part of Healthcare Community Centre Ljubljana on average from 16 to 25 years (mean = 2.53, SD = 1.33). They have been a part of the current team for 6 to 15 years (mean = 2.09, SD = 1.30).

Post-heroic leadership shows a positive correlation with job satisfaction ($r = 0.510$, $p < 0.01$) and work engagement ($r = 0.506$, $p < 0.01$), as well as with well-being ($r = 0.334$, $p < 0.01$). It also has a positive correlation with autonomy ($r = 0.602$, $p < 0.01$) and relatedness ($r = 0.598$, $p < 0.01$). Conversely, post-heroic leadership is positively correlated with emotional labour ($r = 0.293$, $p < 0.05$).

Well-being is positively correlated to autonomy ($r = 0.670$, $p < 0.01$), competence ($r = 0.284$, $p < 0.05$) and relatedness ($r = 0.344$, $p < 0.01$). Specifically, hedonic part, job satisfaction is negatively correlated with emotional exhaustion ($r = -0.286$, $p < 0.05$), and positively correlated with work engagement ($r = 0.675$, $p < 0.01$) and well-being ($r = 0.742$, $p < 0.01$). There is positive correlation with autonomy ($r = 0.680$, $p < 0.01$), competence ($r = 0.399$, $p < 0.01$) and relatedness ($r = 0.489$, $p < 0.01$). Work engagement is positively correlated with well-being ($r = 0.806$, $p < 0.01$). It is also positively correlated with autonomy ($r = .706$, $p < .01$), competence ($r = 0.339$, $p < 0.01$) and relatedness ($r = 0.468$, $p < 0.01$). Burnout is negatively correlated with work engagement ($r = -.0405$, $p < 0.01$), well-being ($r = -0.813$, $p < 0.01$) and autonomy ($r = -0.338$, $p < 0.01$).

Table 1: Descriptive Statistics and Correlations for Leaders

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHL (1)	17.22	5.1	1																
Job Satisfaction (2)	4.56	0.5	0.318	1															
Burnout (3)	2.41	0.9	-0.026	-0.196	1														
Work Engagement (4)	4.15	0.5	0.546**	0.579**	-0.274	1													
Well-being (5)	4.1	0.5	0.314	0.668**	-0.809**	0.720**	1												
Autonomy (6)	3.57	0.5	0.525**	0.156	-0.166	0.494**	0.332	1											
Competence (7)	4.16	0.5	0.267	0.06	-0.099	0.255	0.172	0.371	1										
Relatedness (8)	3.99	0.5	0.596**	0.073	0.04	0.368	0.126	0.587**	0.508**	1									
Sleep Quantity (9)	6.3	0.9	-0.108	-0.13	-0.107	0.067	0.047	0.218	-0.07	-0.31	1								
Sleep Latency (10)	15.63	9.9	-0.132	-0.266	0.342	-0.322	-0.423*	-0.381	-0.271	-0.217	-0.068	1							
Subjective Sleep Quality (11)	3.15	0.7	-0.066	-0.09	-0.303	0.228	0.243	0.286	0.023	-0.013	0.498**	-0.443*	1						
Gender (12)	1.89	0.3	-0.004	0.171	0.165	0.033	-0.036	0.033	-0.087	0.157	-0.278	0.084	-0.101	1					
Age (13)	2.81	0.6	0.01	-0.294	-0.276	0.1	0.111	-0.032	-0.216	0.058	-0.238	0.063	0.069	0.086	1				
Organisation Tenure (14)	3.04	1.2	0.028	0.032	-0.277	0.22	0.264	0.009	0.001	0.299	-0.302	-0.207	0.243	0.115	0.649**	1			
Team Tenure (15)	2.26	1.1	0.144	0.081	-0.186	0.209	0.219	0.177	0.147	0.358	-0.04	-0.036	0.255	0.189	0.344	0.491**	1		
Self-Efficacy (16)	3.79	0.6	0.448*	0.459*	-0.226	0.662**	0.531**	0.528**	0.187	0.331	0.11	-0.32	0.232	-0.134	0.04	0.048	-0.033	1	
Emotional Labour (17)	3.39	0.6	0.275	0.094	-0.161	0.299	0.239	0.134	-0.033	-0.244	0.256	0.086	0.07	-0.186	0.195	0.037	0.094	0.176	1
PHL 01	0.52	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes: For Gender, 1 = Male and 2 = Female. Age groups are coded as follows: 1 = up to 30 years, 2 = 31–45 years, 3 = 46–60 years, and 4 = over 60 years. For PHL 01, 0 indicates lower levels of Post-Heroic Leadership, and 1 indicates higher levels of Post-Heroic Leadership. ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Source: Own source.

Table 2: Descriptive Statistics and Correlations for Followers

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHL (1)	14.53	6.69	1																
Job Satisfaction (2)	4.25	0.66	0.510**	1															
Burnout (3)	2.79	1.08	0.011	-0.286*	1														
Work Engagement (4)	3.66	0.63	0.506**	0.675**	-0.405**	1													
Well-being (5)	3.71	0.62	0.344**	0.742**	-0.813**	0.806**	1												
Autonomy (6)	3.49	0.64	0.602**	0.680**	-0.338**	0.706**	0.670**	1											
Competence (7)	4.1	0.5	0.117	0.399**	-0.053	0.339**	0.284*	0.438**	1										
Relatedness (8)	3.77	0.68	0.598**	0.489**	-0.025	0.468**	0.344**	0.575**	0.377**	1									
Sleep Quantity (9)	6.57	1.04	0.068	0.174	-0.067	0.105	0.134	0.272*	0.267*	0.231	1								
Sleep Latency (10)	18.7	15.4	-0.088	-0.223	0.066	-0.167	-0.173	-0.138	0.023	-0.093	-0.152	1							
Subjective sleep Quality (11)	2.97	0.66	-0.081	0.194	-0.197	0.248	0.265*	0.225	0.248	0.075	0.442**	-0.401**	1						
Gender (12)	1.92	0.28	-0.161	-0.251	0.163	-0.017	-0.189	-0.146	-0.039	-0.072	0.05	0.072	-0.107	1					
Age (13)	2.52	0.91	-0.139	0.091	-0.189	0.237	0.22	0.054	0.028	0.041	0.105	-0.037	0.15	0.04	1				
Organization Tenure (14)	2.53	1.33	0.027	0.011	-0.021	0.155	0.068	-0.022	0.036	0.103	0.103	0.045	0.03	0.212	0.666**	1			
Team Tenure (15)	2.09	1.3	-0.08	0.003	-0.149	0.145	0.135	0.008	-0.007	-0.023	0.035	0.012	-0.012	0.206	0.576**	0.770**	1		
Self - Efficacy (16)	3.6	0.41	0.062	0.189	-0.039	0.202	0.157	0.093	0.388**	0.067	0.059	-0.125	0.037	-0.002	0.027	0.049	-0.086	1	
Emotional Labour (17)	3.19	0.52	0.293*	0.084	0.015	-0.012	0.017	-0.073	0.045	0.16	0.007	0.144	-0.148	-0.027	-0.026	0.151	0.014	0.242	1
PHL 01	0.52	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes: For Gender, 1 = Male and 2 = Female. Age groups are coded as follows: 1 = up to 30 years, 2 = 31–45 years, 3 = 46–60 years, and 4 = over 60 years. For PHL 01, 0 indicates lower levels of Post-Heroic Leadership, and 1 indicates higher levels of Post-Heroic Leadership. ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Source: Own source.

Autonomy has positive correlations with competence ($r = 0.438, p < 0.01$) and relatedness ($r = 0.575, p < 0.01$) and sleep quality ($r = 0.272, p < 0.05$). Competence is positively correlated with relatedness ($r = 0.377, p < 0.01$) and self-efficacy ($r = 0.388, p < 0.01$). Subjective sleep quality shows significant positive correlations with sleep quantity ($r = 0.442, p < 0.01$) and a negative correlation with sleep latency ($r = -0.401, p < 0.01$). Age is strongly positively correlated with organisation tenure ($r = 0.666, p < 0.01$) and team tenure ($r = 0.576, p < 0.01$). Organisation tenure is highly positively correlated with team tenure ($r = 0.770, p < 0.01$).

8.2 Hypothesis Testing

8.2.1 Followers

First, the sample included 61 participants (followers) and controlled for gender, age, tenure in the organization and team, self-efficacy, and emotional labour. All results of descriptive statistics and hypotheses tests on followers are presented in Appendix 3.

8.2.1.1 Mediating Role of Basic Psychological Needs

On the basis of the results, association between post-heroic leadership and well-being is indirect, as the direct path is not statistically significant. The coefficient for the direct association is negative, minimal and statistically non-significant ($b = -0.0082, se = 0.0151, p = 0.5910, LLCI = -0.00385, ULCI = 0.0221$), reinforcing the idea that the link of PHL and WB is mostly indirect through mediators.

The results indicates that PHL significantly increases perception of autonomy among followers ($b = 0.0695, se = 0.0102, p < 0.001, LLCI = 0.0491, ULCI = 0.0898$). The link of PHL and relatedness is also statistically significant ($b = 0.0629, se = 0.0120, p < 0.001, LLCI = 0.0389, ULCI = 0.0868$). However, there is no statistically significant link of PHL and competence ($b = 0.0089, se = 0.0102, p = 0.3860, LLCI = -0.0115, ULCI = 0.0293$). Autonomy is positively associated to WB ($b = 0.7095, se = 0.1560, p < 0.001, LLCI = 0.3962, ULCI = 1.0228$).

Results indicate there is full mediation through autonomy in the relationship between PHL and WB (effect = 0.0493, BootSE = 0.0136, BootLLCI = 0.0193, BootULCI = 0.0722). This effect size reflects the importance of autonomy as a mediator in the relationship between leadership style and well-being. There are no significant associations of competence or relatedness on well-being, indicating these variables do not contribute to the well-being in this model. These findings concerning followers support H1a, and do not support H1b or H1c.

In order to better understand the relationships, we divided the analysis into smaller components and examined the links between post-heroic leadership and burnout, work engagement and job satisfaction as key components of work-related well-being and how the relationship is mediated through basic psychological needs, controlling for age, gender, organizational tenure, team tenure, self-efficacy, and emotional labour.

The direct association of PHL and burnout is positive and statistically significant ($b = 0.0642$, $se = 0.0318$, $p = 0.0492$, $LLCI = 0.0002$, $ULCI = 0.1281$), indicating that higher levels of PHL are associated with greater burnout. The association of autonomy and burnout is also statistically significant and but negative ($b = -1.1634$, $se = 0.3292$, $p < 0.001$, $LLCI = -1.8246$, $ULCI = -0.5021$), indicating that higher perception of autonomy is associated with lower burnout. There is no statistically significant associations of competence ($b = 0.4460$, $p = 0.1913$) or relatedness ($b = 0.1288$, $p = 0.6321$) and burnout.

Despite the positive direct association of PHL and burnout, the total indirect association of PHL and burnout is negative and statistically significant (effect = -0.0688 , $BootSE = 0.0218$, $BootLLCI = -0.1147$, $BootULCI = -0.0272$). Specifically, autonomy fully mediates this positive indirect pathway (effect = -0.0808 , $BootSE = 0.0249$, $BootLLCI = -0.1279$, $BootULCI = -0.0267$). The indirect association via competence and relatedness are not significant, indicating higher PHL is linked to lower burnout only via autonomy.

PHL does not have a statistically significant direct link to work engagement. However, results indicate is significant link of autonomy on work engagement ($p = 0.5021$, $se = 0.1459$, $p = 0.0012$, $LLCI = 0.2091$, $ULCI = 0.7952$), while relatedness and competence do not have significant link. The total indirect relationship between PHL on work engagement is significant (effect = 0.0366 , $BootSE = 0.0128$, $BootLLCI = 0.0070$, $BootULCI = 0.00587$). The indirect link via competence and relatedness are not significant, indicating autonomy functions as full mediator in the positive relationship between PHL and work engagement.

PHL does not have a statistically significant direct association with job satisfaction. However, results indicate there is a significant link of autonomy and job satisfaction ($b = 0.4704$, $se = 0.1614$, $p = 0.0053$, $LLCI = 0.1462$, $ULCI = 0.7946$), while there is no with competence and relatedness. The total indirect link of PHL and job satisfaction through the mediators was statistically significant (effect = 0.0382 , $BootSE = 0.0115$, $BootLLCI = 0.0150$, $BootULCI = 0.0610$), suggesting that autonomy mediates the association between PHL and job satisfaction.

8.2.1.2 Moderating Role of Sleep Quality

Hypotheses H2a, H2b and H2c that state that sleep quality moderates the relationship between leadership styles and employees' perceptions of basic psychological needs, are not supported. Present research does not support H2a, H2b, H2c hypotheses.

At the between level, the moderation of subjective experience of sleep quality on the relationship between PHL and the three mediators was examined. The results showed that subjective experience of sleep quality did not significantly moderate these relationships. The interactions between PHL and subjective experience of sleep quality predicting autonomy ($p = 0.5320$), competence ($p = 0.1147$), and relatedness ($p = 0.3760$) were all non-significant. Therefore, hypothesis regarding leaders H2a is not supported.

The analysis showed a trend in interactions of post-heroic leadership and well-being through autonomy at different levels of subjective experience of sleep quality. At low subjective experience of sleep quality, the indirect link was 0.0415 (BootLLCI = 0.0048, BootULCI = 0.0811); at median subjective experience of sleep quality, it was 0.0495 (BootLLCI = 0.0194, BootULCI = 0.0741); and at high subjective experience of sleep quality, it increased to 0.0575 (BootLLCI = 0.0180, BootULCI = 0.1007). This indicates that better subjective experience of sleep quality strengthens the positive relationship of post-heroic leadership and well-being via autonomy, but it is not statistically confirmed moderation.

Secondly, the moderation pathway of sleep quantity on the relationship between PHL and the three mediators was examined. The results indicate that sleep quantity did not significantly moderate these relationships. The interaction between PHL and sleep quantity predicting autonomy ($p = 0.6666$), competence ($p = 0.6258$) or relatedness ($p = 0.9194$) was not significant. The analysis regarding leaders does not support H2b hypothesis.

Lastly, for autonomy ($p = 0.5221$), relatedness ($p = 0.1874$) and competence ($p = 0.0675$), the interaction term between PHL and sleep latency was not significant, indicating no moderation effect. The hypothesis H2c is not supported among leaders. However, the results showed a trend in the relationship of post-heroic leadership and well-being, mediated via autonomy at different levels of latency. At low latency, the indirect link was 0.0452 (BootLLCI = 0.0150, BootULCI = 0.0756); at median latency, it was 0.0482 (BootLLCI = 0.0177, BootULCI = 0.0733); and at high latency, it increased to 0.0528 (BootLLCI = 0.0189, BootULCI = 0.0794). This indicates that longer latency slightly strengthens the positive relationship of post-heroic leadership and well-being via autonomy, but it cannot be labelled a statistically confirmed moderation.

8.2.2 Supplementary analysis

8.2.2.1 *Mediating Role of Basic Psychological Needs and Moderating Role of Sleep Quality for Leaders*

We also examined how leaders assess the extent to which they provide their followers with basic psychological needs, and how this, in turn, affects the leaders' own well-being. The sample included 27 participants (leaders) and controlled for gender, age, tenure in the

organisation and team, self-efficacy, and emotional labour. All results of descriptive statistics and hypotheses tests on leaders are presented Appendix 4.

The basis of results show that none of the three basic needs significantly shows a link between leaders and their own well-being. However, the results show that leaders who identify more strongly with a post-heroic leadership style report significantly higher levels of perception of providing relatedness ($b = 0.0588$, $se = 0.0146$, $p = 0.0007$, $LLCI = 0.0282$, $ULCI = 0.0894$) to their followers. However, there is no association between PHL and autonomy or competence. Post-heroic leadership also does not have a significant indirect association with well-being. The results regarding leaders do not support hypotheses H1a, H1b or H1c.

To break it down, the direct or indirect link between PHL and burnout is not significant. None of the basic needs is significantly associated with a leader's burnout. PHL also does not have direct or indirect associations with work engagement. Self-efficacy, as a control variable, shows an association with work engagement ($b = 0.4404$, $se = 0.1688$, $p = 0.0190$, $LLCI = 0.0824$, $ULCI = 0.7983$). Finally, there is no association between PHL and job satisfaction directly or indirectly through the mediation of three psychological needs of followers. Age ($b = -0.5005$, $se = 0.1643$, $p = 0.0702$, $LLCI = -0.8487$, $ULCI = -0.1522$) and self-efficacy ($b = 0.4776$, $se = 0.1635$, $p = 0.0100$, $LLCI = 0.1310$, $ULCI = 0.8242$) significantly link to job satisfaction.

Furthermore, it was checked whether sleep quality moderates the relationship between leaders' self-perception as post-heroic and how much they perceive they support basic psychological needs in others. This additional analysis was carried out to provide a more in-depth look at the second hypothesis and to better understand whether sleep quality might help explain individual differences in the relationship between post-heroic leadership and need-supportive behaviour. Findings do not support hypotheses H2a, H2b or H2c.

Analysing at the between-level, the moderation of subjective experience of sleep quality on the relationship between PHL and autonomy and relatedness mediators, indicates that subjective experience of sleep quality does not significantly moderate those relationships. However, the results suggest that there is potential for moderation on the relationship between PHL and competence.

PHL has a positive association with provided competence when individuals report higher levels of subjective experience of sleep quality ($b = 0.1388$, $se = 0.0661$, $p = 0.0509$, $LLCI = -0.0006$, $ULCI = 0.2782$); however, it is not significant. In summary, the moderation on the PHL and competence relationship shows a near-significant trend with sleep quality, but not enough evidence to confirm statistical moderation, and neither sleep quantity nor sleep latency significantly moderates any of the mediation paths.

8.2.2.2 Moderating Role of Sleep Quality for Followers and Leaders

In addition, we merged the data from both leaders and followers to examine a broader perspective. We analysed whether there is any moderation between individuals who identify with or demonstrate post-heroic leadership behaviours (regardless of their role) and the extent to which they either provide or experience the fulfilment of basic psychological needs. The aim was to examine whether individuals who engage with post-heroic leadership, either as leaders or as followers, differ in the extent to which they support or feel supported in terms of autonomy, competence, and relatedness. However, no statistically significant moderation effect of sleep was found in these extended analyses either. Findings do not support any of H2 hypotheses. Results are represented in Appendix 5.

The relationship between PHL's and autonomy, competence, and relatedness does not depend on the subjective experience of sleep quality among all employees. However, the results showed a trend of connection between post-heroic leadership and well-being through autonomy at different levels of subjective experience of sleep quality. At low sleep quality, the relationship was 0.0294 (BootLLCI = 0.0082, BootULCI = 0.0553); at median subjective experience of sleep quality, it was 0.0337 (BootLLCI = 0.0132, BootULCI = 0.0531); and at high subjective experience of sleep quality, it increased to 0.0393 (BootLLCI = 0.0129, BootULCI = 0.0683). This indicates that better subjective sleep quality strengthens the positive relationship of post-heroic leadership on well-being via autonomy.

Sleep quantity also does not moderate the relationship between PHL and mediators or the indirect effect. Indirect effect on WB via autonomy does not depend on the quantity of sleep. No significant moderation effect of latency was found on the relationship between PHL and basic psychological needs. The relationship between PHL and WB mediated by autonomy does not depend on the latency of sleep.

However, the results showed a trend in the relationship of post-heroic leadership and well-being, mediated by autonomy at different levels of latency. At low latency (16th percentile), the relationship was 0.0307 (BootLLCI = 0.0110, BootULCI = 0.0541); at median latency (50th percentile), it was 0.0324 (BootLLCI = 0.0124, BootULCI = 0.0533); and at high latency (84th percentile), it increased to 0.0349 (BootLLCI = 0.0136, BootULCI = 0.0580). This indicates that longer latency slightly strengthens the positive connection between post-heroic leadership and well-being via autonomy.

8.2.2.3 Independent Samples t-Test

An Independent samples t-test was conducted to examine whether there were significant differences between the two groups (PHL01=0 and PHL01=1). Group 0 represents leadership recognised as less post-heroic, and Group 1 represents leadership recognised as more post-heroic. Grouping was done based on the perceptions of followers and leaders. Independent t-tests in SPSS regarding followers is shown in Appendix 3, regarding leaders

in Appendix 4, and combined followers and leaders (group level) in Appendix 5. Summarized results are showed in Table 3.

Table 3: Summary of Independent Samples t-test (PHL vs. less-PHL)

Variable	Level	t	df	p (2-tailed)	Mean Difference	Statistically significant
Autonomy	Followers	-3.910	59	< 0.001	0.517	Yes
	Leaders	-2.275	25	0.032	0.425	Yes
	Group	-5.065	86	< 0.001	0.582	Yes
Competence	Followers	-0.386	59	0.701	0.050	No
	Leaders	-1.150	25	0.261	0.212	No
	Group	-1.864	86	0.066	0.195	Marginal
Relatedness	Followers	-4.002	59	< 0.001	0.626	Yes
	Leaders	-2.837	25	0.009	0.470	Yes
	Group	-6.037	86	< 0.001	0.693	Yes
Well-being	Followers	-2.582	59	0.012	0.395	Yes
	Leaders	-1.409	25	0.171	0.244	No
	Group	-2.986	86	0.004	0.371	Yes
Work engagement	Followers	-3.524	59	< 0.001	0.521	Yes
	Leaders	-2.708	25	0.012	0.447	Yes
	Group	-4.702	86	< 0.001	0.569	Yes
Job satisfaction	Followers	-3.323	59	0.002	0.517	Yes
	Leaders	-1.009	25	0.323	0.181	No
	Group	-3.810	86	< 0.001	0.471	Yes
Burnout	Followers	0.514	59	0.610	0.143	No
	Leaders	0.300	25	0.767	0.104	No
	Group	0.315	86	0.754	0.071	No

Source: Own work.

As seen in Table 3, the findings indicate a significant difference in well-being for followers and at the group level. Followers who perceived leadership as more post-heroic reported significantly higher levels of well-being compared to those with less post-heroic leadership ($t(59) = -2.582$, $p = 0.012$, mean difference = -0.395, 95% CI: -0.70 to -0.09). Among leaders, there was no statistically significant difference in well-being. However, at the group level, individuals who either led with or were led by post-heroic leadership reported significantly higher overall well-being compared to the other group ($t(86) = -2.986$, $p = 0.004$, mean difference = -0.371, 95% CI: -0.62 to -0.12).

More specifically, the results revealed significant differences in work engagement, reflecting the eudaimonic aspect of well-being. From the followers' perspective, those who viewed

their leadership as more post-heroic reported significantly higher levels of work engagement than those who saw their leadership as less post-heroic ($t(59) = -3.524$, $p < 0.001$, mean difference = -0.521, 95% CI: -0.82 to -0.23). Similarly, leaders who identified themselves as post-heroic reported significantly higher work engagement than those who did not ($t(25) = -2.708$, $p = 0.012$, mean difference = -0.447, 95% CI: -0.79 to -0.11). At the group level, those associated with post-heroic leadership demonstrated significantly greater work engagement ($t(86) = -4.702$, $p < 0.001$, mean difference = -0.569, 95% CI: -0.81 to -0.33).

Results indicate significant differences in job satisfaction at the follower and group levels. Followers perceiving their leadership as more post-heroic reported significantly higher job satisfaction ($t(59) = -3.323$, $p = 0.002$, mean difference = -0.517, 95% CI: -0.83 to -0.21). Among leaders, job satisfaction did not differ significantly. However, at the group level, those involved with post-heroic leadership reported significantly higher job satisfaction ($t(86) = -3.810$, $p < 0.001$, mean difference = -0.471, 95% CI: -0.72 to -0.23). No statistically significant differences were found in burnout (emotional exhaustion) levels among followers, leaders, or at the group level.

Autonomy was significantly higher among followers with more post-heroic leadership ($t(59) = -3.910$, $p < 0.001$, mean difference = -0.577, 95% CI: -0.87 to -0.28). Leaders who viewed themselves as post-heroic also reported giving significantly more autonomy ($t(25) = -2.275$, $p = 0.032$, mean difference = -0.425, 95% CI: -0.81 to -0.04). At the group level, participants associated with post-heroic leadership experienced significantly greater autonomy ($t(86) = -5.065$, $p < 0.001$, mean difference = -0.582, 95% CI: -0.81 to -0.35).

Similarly, relatedness showed significant differences at all levels. Followers who perceived their leadership as more post-heroic felt significantly more connected to others ($t(59) = -4.00$, $p < 0.001$, mean difference = -0.63, CI: -0.94 to -0.031). Leaders who identified as post-heroic also reported offering greater relatedness ($t(25) = -2.837$, $p = 0.009$, mean difference = -0.470, 95% CI: -0.81 to -0.13). At the group level, post-heroic leadership was associated with significantly higher relatedness ($t(86) = -6.037$, $p < 0.001$, mean difference = -0.693, 95% CI: -0.92 to -0.47).

For competence, a marginally significant difference was found only at the group level, with those in the post-heroic leadership group reporting higher competence ($t(86) = -1.864$, $p = 0.066$, mean difference = -0.195, 95 % CI: -0.40 to 0.01). Although this result only approaches significance, it should be interpreted cautiously as a possible trend.

9 DISCUSSION

This thesis bridges post-heroic leadership with follower's well-being by emphasizing the satisfaction of basic psychological needs and the critical role of sleep quality. I examined whether the relationship between PHL and well-being is mediated by three variables and whether this mediation is moderated by sleep quality. The conducted analysis is extensive,

as the hypotheses were tested on followers, with supplementary analyses performed for leaders as well as on the combined dataset. In the following sections, the interpretation of findings is presented separately for followers and leaders, followed by the interpretation of the joint analysis according to leadership style. Due to the fact that the data collection took place at a certain point in time, we can only speculate about the nature of a causal relationship.

Key findings based on the results show that PHL positively influences followers' satisfaction of autonomy and relatedness. Greater autonomy leads to higher well-being and mediates the link between PHL and well-being, work engagement, and job satisfaction. Autonomy also reduces burnout, mediating the relationship between PHL and burnout. Additionally, better subjective sleep quality and longer sleep latency show marginal significance in strengthening the positive link between PHL and well-being through autonomy.

Furthermore, among leaders, analysis shows that those who identify more with post-heroic leadership feel they provide more relatedness to their followers, but this does not link to better leader well-being. Better subjective sleep quality of leaders appears show marginal significance in strengthening the link between PHL and providing competence. Lastly, comparing groups with less and more extensive PHL, the results indicate that higher levels of PHL are associated with greater job satisfaction, work engagement, well-being, autonomy and relatedness.

9.1 Interpretations of Findings

Out of approximately 919 questionnaires distributed, we obtained 88 usable responses in total. With the selected data, we received different numbers of responses from followers and leaders. In the Community Health Centre Ljubljana, most leaders typically have three followers. Based on our collected data, we obtained a ratio of 1 leader to 2 followers.

Regarding descriptive statistics, shown in the results section, it is seen that the average rating of followers views on how much they experience post-heroic leadership is lower than how leaders perceive the leadership. Moreover, based on descriptive statistics, on average, followers report a slightly lower perception of their basic psychological needs being satisfied than leaders feel. For followers the lowest perception is for autonomy, while the biggest difference between groups is in relatedness.

This could suggest that leaders perceive they fulfil their followers' basic psychological needs more fully than the followers themselves actually experience. The difference in perception could reflect this complex dynamic where leaders see their own efforts toward inclusive leadership more positively than followers do, possibly due to differences in what behaviours are valued by each group (Deci et al., 2017).

While a larger dataset would undoubtedly allow for more robust and concrete conclusions, the current findings represent the data available at this stage. Due to the cross-sectional design of the research model, the findings only show statistical associations and not causal effects. Based on these responses, we conducted the most comprehensive analysis possible, which nevertheless reveals meaningful patterns in these relationships.

9.1.1 Autonomy as a Key Link between Post-Heroic Leadership and Well-Being

In my research on followers, we can support hypothesis H1a, indicating that perceived autonomy mediates the relationship between post-heroic leadership and well-being. On the other hand, the results are not consistent with H1b and H1c, indicating that perceived competence or relatedness does not mediate the relationship between post-heroic leadership and well-being.

Scores on perceived satisfaction of basic psychological needs among followers suggest that while competence and relatedness are relatively well satisfied, there is somewhat less fulfilment of autonomy within the healthcare teams studied. However, autonomy is the central mechanism through which PHL is linked to positive outcomes. The findings of my research show that PHL in healthcare settings is not associated with higher followers' well-being without the mediating factors.

Specifically, PHL relates to higher well-being primarily through autonomy. This finding supports the previous that when professionals perceive greater autonomy from their supervisors and colleagues, report higher job satisfaction (Deci et al., 2017), as well as the greater general well-being (Moreau and Mageau 2011). Similarly, in my study, PHL is associated with an increased perception of autonomy among followers, and this autonomy is in turn related to higher well-being, work engagement, and job satisfaction. Moreover, this supports previous findings that the fulfilment of psychological needs is positively associated with both hedonic and eudaimonic well-being (Legault, 2017).

Unexpectedly, PHL is linked to higher levels of burnout among followers. As Trastek et al. (2014) stated in their research, the servant leadership dimension of post-heroic leadership can be less effective in urgent situations. For example, while PHL may foster positive outcomes, it can also increase pressure and workload if not supported by adequate organisational structures and resources. However, when accounting for the mediating role of autonomy, the results of my thesis show that a higher perception of autonomy is associated with lower burnout. Regarding competence and relatedness, my findings do not correspond with the theory. Supportive peer relationships protect against emotional exhaustion and burnout (Gillet et al., 2011); however, my findings do not show associations among competence, relatedness, and burnout.

The supplementary part of the present study shows that leaders who identify more strongly with post-heroic leadership perceive themselves as providing greater relatedness to their

followers, which is consistent with theoretical expectations (Fletcher, 2004). Nevertheless, there was no significant association with the perception of providing autonomy or competence. Furthermore, while leaders believe they are fostering relatedness that perception does not translate into their own better well-being. In other word, the provision of basic psychological needs, when used as mediators, does not explain the association between PHL and leaders' well-being. Interestingly, self-efficacy as a control variable reveals that leaders who believe in their own capabilities report higher levels of work engagement and job satisfaction.

9.1.2 Sleep Quality and Perceptions

Seen in descriptive statistics in result section, leaders reported sleeping less hours per night than followers did. Although both groups slept slightly less than the recommended, their sleep duration can still be considered adequate. Leaders also demonstrated a shorter sleep latency compared to followers, indicating that leaders generally fall asleep more quickly. In terms of subjective sleep quality, leaders reported higher scores than followers. Overall, these findings suggest that leaders report somewhat better subjective sleep quality and fall asleep faster than followers do, even though they get slightly less total sleep.

Due to previous research, sleep contributes not only to restorative functioning but also to emotional regulation (Chuah et al., 2010) and positively to affects, how both leaders and followers perceive the quality of their relationship (Guarana & Barnes, 2017). The differences in sleep quality in present research could help explain why leaders perceive themselves as more post-heroic and why they believe they fulfil their followers' basic psychological needs largely than their followers perceive. In other words, leaders tend to see themselves as meeting followers' needs more fully than followers actually experience, which may be influenced by differences in sleep quality and its effects on perception.

Additionally, even though the present cross-sectional study among followers and leaders does not support any of H2 hypotheses about sleep quality having a moderate role, there are some trends. This could be due to the small sample size and collecting data at only one point in time, which limits the ability to show causal relationships. Additionally, the data is based on participant's opinions, which could affect the reliability of the results.

Among leaders, there is a trend suggesting that post-heroic leadership is associated with providing higher competence to their followers when leaders report better subjective sleep quality. This indicates that when leaders sleep well, they perceive themselves as better equipped to help their team members develop the skills and confidence they need, which aligns with previous research that leaders that sleep better are more supportive (Guarana & Barnes, 2017).

Among followers, there is a trend that subjective sleep quality may have a role in the relationship between post-heroic leadership, autonomy and well-being. The present findings

among followers suggest that the better subjective experience of sleep quality and, unexpectedly, longer sleep latency are associated with a stronger positive relationship between post-heroic leadership and well-being through autonomy. This aligns with previous research showing that good sleep supports the satisfaction of basic psychological needs (R. Campbell et al., 2017), and increase job satisfaction (Barnes, 2012). The seemingly paradoxical role of sleep latency seen in my research may reflect individual differences in sleep patterns or coping strategies.

9.1.3 Employee Experience in the Context of Greater Post-Heroic Leadership

The results show that leadership style, recognized as more post-heroic leadership, is mainly positively associated with job satisfaction, work engagement, well-being, autonomy, and relatedness. The biggest differences between more and less post-heroic leadership are in aspects of relatedness, autonomy, and work engagement. Significant differences in autonomy and relatedness were found across all levels, while competence was only marginally significant at the group level.

In environments where post-heroic leadership is more recognized, followers and leaders report more perceived or given autonomy and relatedness. The results reflect servant and shared leadership principles in practice (Škerlavaj, 2022). However, neither followers nor leaders reported more perceived or provided competence. This might indicate that feeling capable at work is influenced by multiple factors beyond leadership style, such individual differences (Deci et al., 2017).

Followers engaged in a more extensive post-heroic leadership style also reported higher levels of overall well-being (including only job satisfaction and work engagement). This again fits with the post-heroic model, which emphasizes shared responsibility, empowerment, and relational support, and may make followers feel included, respected, and empowered, who are likely to experience more satisfaction and a sense of purpose at work (Fletcher, 2004).

Interestingly, leaders themselves did not show significant differences in overall well-being between groups, though their work engagement was higher when they identified with more extensive post-heroic leadership. There was no difference in job satisfaction between the groups of leaders. This could mean that post-heroic leadership mostly affects followers' psychological experiences, while leaders themselves feel more engaged when practicing post-heroic leadership, but it does not necessarily improve their overall well-being.

No significant difference was seen for emotional exhaustion, measured as burnout, in any of the groups. This could mean that while post-heroic leadership is associated with positive aspects of well-being, it might not be enough on its own to be linked to lower negative aspects of work stress, especially in highly demanding healthcare environments. Factors like

workload, staffing shortages, and shift work might overshadow leadership effects on burnout (Trastek et al., 2014).

9.2 Theoretical Contributions

This work provides an overview and support for the well-being of healthcare personnel, which is crucial for the long-term sustainability and success of healthcare services. Specifically, primary care, except in cases of emergency, constitutes the initial point of contact for individuals in distress. It is therefore essential to recognise and explicitly address their role and ensure that these employees feel supported and well, as only under such conditions they can provide effective assistance. Therefore, through a moderated mediation, investigating the link between post-heroic leadership and employee well-being through the satisfaction of basic psychological needs and quality sleep among employees healthcare, I offer theoretical contributions.

Firstly, this thesis contributes to the understanding and application of Self-Determination Theory. Previous research has shown that leadership grounded in SDT focuses on fostering employee need satisfaction and autonomous motivation, with managerial behaviours being key to fulfilling psychological needs and improving employees' subjective and objective outcomes (Graves & Luciano, 2013; Deci et al., 2017; Gagné & Deci, 2005). However, most leadership research tends to measure mediators solely from the follower's perspective, neglecting group-level or leader viewpoints and thus limiting insights into leadership dynamics (Inceoglu et al., 2018).

This study addresses that gap by incorporating measures of sleep quality and leaders' perceptions of followers' need satisfaction, offering a more comprehensive understanding of leadership processes. Building on this foundation, the present research supports the use of SDT as a mediating framework and extends it by applying it to a different leadership model. By doing so, this thesis advances existing SDT-based leadership research and provides new insights into how post-heroic leadership fosters employees' psychological well-being in the context of community healthcare.

Secondly, present research contributes on further research on well-being. Previous research has established that employee well-being is a multidimensional construct encompassing hedonic, eudaimonic, negative, and physical aspects (Inceoglu et al., 2018). Although this multidimensional nature of well-being is theoretically recognised in mostly psychological fields of studies, prior studies on work environment have often focused primarily on job performance considered well-being as a secondary performance outcome (Inceoglu et al., 2018) or measured well-being using narrow indicators such as life satisfaction or happiness, failing to capture its true multidimensionality (Ruggeri et al., 2020b).

The present thesis accepts employee well-being as a central theoretical outcome rather than a by-product of performance. It adopts a holistic perspective on well-being, encompassing

both hedonic and eudaimonic dimensions while acknowledging potential negative aspects. This design allows for a more realistic and comprehensive understanding of well-being within organisational contexts. The study deepens theoretical understanding of the construct and clarifies how different components of well-being are activated through leadership processes.

Thirdly, the study extends existing leadership literature by implementing post-heroic leadership within healthcare settings. Existing leadership research in healthcare has traditionally focused on transactional and transformational leadership (Trastek et al., 2014), as the sector has relied on hierarchical structures (Kumar, 2021). Despite growing recognition of the importance of collaboration and interdependence in healthcare, limited attention has been paid to how post-heroic leadership operates within environments traditionally dominated by rigid structures. As a result, there is not much research done on to what extent such non-hierarchical approaches are already embedded in healthcare practice and how they influence team dynamics.

Addressing this gap, the present thesis positions post-heroic leadership within the healthcare context and empirically examines how integrated its principles already are in daily practice. This research shows that healthcare, despite its hierarchy, already embodies many post-heroic leadership values, as both leaders and followers evaluated their environments positively. Its reliance on teamwork, trust, and interdependence aligns closely with servant and shared leadership principles (Demeke et al., 2024b; Podbregar, 2022; Trastek et al., 2014). Moreover, PHL fosters a collaborative, knowledge-intensive environment that allows individuals to focus on their areas of expertise, serving patients and the team while relying on colleagues to contribute specialised skills.

Finally, the thesis integrates sleep quality as a novel factor influencing employees' perceptions of need satisfaction. Good sleep quality is highlighted as crucial for cognitive processing (Baranwal et al., 2023), interpersonal relationships and emotional regulation (Barnes, 2012). Although sleep has been widely recognised as an important aspect of physical well-being (Inceoglu et al., 2018), less attention has been given to its moderating role in perception and social cue interpretation.

Addressing this gap, the present thesis integrates sleep quality as a novel moderating variable. This study advances theory by extending existing sleep and leadership research beyond physical outcomes, highlighting sleep's role that can affect how leadership is perceived and experienced. This research extends sleep theory by proposing the meaningful trends of better subjective sleep quality and longer sleep latency.

9.3 Practical Implications

There is a need to adapt leadership roles in healthcare and move away from hierarchical leadership (Boršnak and Sitar, 2021). In the complex, knowledge-extensive nature of

healthcare, a post-heroic leadership style naturally aligns with the core values and daily practices of healthcare professionals, such as empathy, service, and prioritizing patient safety. This leadership style enables healthcare professionals to focus on their expertise while relying on colleagues' complementary skills.

Specifically, there is a need for leadership practices that actively involve healthcare staff in decision-making and recognise their expertise. The findings of this research show that followers already have moderately satisfied psychological needs with little discrepancy between perceptions of leaders, yet theory suggests that increasing this satisfaction further (e.g., raising ratings from 3 to 5) can boost employee satisfaction.

We found out that relationship between leadership and well-being among followers is mostly mediated through autonomy, however is the one that it is perceived the least. To enhance autonomy, organisations should involve employees in decisions, acknowledge their expertise, and encourage open communication. Rather than leaving employees unsupported, promoting autonomy means guiding and enabling them while granting freedom to initiate and contribute meaningfully (Moreau & Mageau, 2011).

Additionally, the critical role of subjective sleep quality in cognitive functioning, emotional regulation, and well-being identified in this study further suggests that healthcare organisations must prioritise initiatives promoting healthy sleep and recovery. Raising awareness about sleep hygiene is vital in healthcare settings, since adequate rest enhances memory, concentration, decision-making, and general well-being. This improves employee performance and reduces stress, errors, accidents, and burnout (Guarana & Barnes, 2017).

Adapting to new leadership styles within healthcare organizations is not an easy task and it requires cautious implementation (Demeke et al., 2024b). Aiming to foster post-heroic leaderships, organizations should first employ the right people, then develop servant leadership capabilities, and finally encourage shared leadership practices. Followers' implicit leadership theories need to shift from heroic to post-heroic models (Škerlavaj, 2022). Therefore, management training of healthcare professionals and clinical services personnel is necessity rather than a privilege (Tulchinsky & Varavikova, 2014).

Students and practitioners of public health must be prepared to understand that a healthcare system extends far beyond the direct provision of individual services and involves complex structures and interrelated processes (Tulchinsky & Varavikova, 2014). Training should begin early, during education, to prepare future healthcare professionals with knowledge of leadership approaches that value their well-being. Introducing leadership and teamwork concepts at this stage facilitates smoother transitions into clinical environments. However, continuous monitoring and evaluation systems should be used to track employee well-being and leadership effectiveness. Using quantitative and qualitative data, including employee feedback, organisations can identify improvement areas and adapt strategies accordingly.

By creating an environment that values employees' basic psychological needs, healthcare organisations can attract and retain young professionals. Staff will feel motivated not only by a desire to help others but also because they feel valued, supported, and able to grow professionally within a positive team atmosphere. Nevertheless, organizations should recognize that while this post-heroic leadership style supports positive psychological outcomes, addressing stress-related issues as burnout may require broader organizational strategies, such as workload management and resource allocation, to complement leadership initiatives.

9.4 Limitations and Future Research Directions

This study provides valuable insights into the relationship between post-heroic leadership and well-being, through the mediation of basic psychological needs, and the moderation of sleep quality. However, several limitations may be acknowledged, as they also point to directions for future research aimed at developing healthier and more resilient healthcare organisations.

The first limitation concerns the study's relatively small and homogeneous sample. The data were collected only from employees of a single community healthcare centre, and out of approximately 919 distributed questionnaires, only 88 usable responses were obtained. The low response rate may reduce the reliability of the findings and could be attributed to the lack of interest or knowledge in this topic, high workload and time pressures that healthcare workers face on a daily basis.

Future research could address this by implementing shorter surveys or by integrating data collection into existing organisational processes. Questionnaires could be distributed across multiple healthcare institutions. Institutions with different organisational cultures, workloads, and team dynamics would help create a larger and more diverse sample, allowing the results to be validated and expanded. However, differences in team structures may also be taken into account.

Secondly, since data was collected at a single point in time, incorporating a longitudinal research design could provide deeper insights and understanding. Although the mediation model shows associations that are consistent with our theoretical assumption, the temporal ordering of variables cannot be determined. It remains unclear whether post-heroic leadership enhances basic psychological needs and subsequently well-being.

It is possible that followers with higher well-being are more likely to perceive need satisfaction and see their leader as more post-heroic. Unlike cross-sectional design, longitudinal data would provide information on how behaviours, perceptions and well-being evolve over time. Such a design would also create an opportunity to follow causal inferences between post-heroic leadership and well-being.

Future studies could explore whether different dimensions of post-heroic leadership have distinct effects on outcomes. In the present study, the post-heroic leadership construct was analysed as a product of shared and servant leadership scores. However, examining these dimensions separately could provide a deeper understanding of how each leadership style uniquely contributes to psychological need satisfaction, team functioning, and well-being. In future, an independent t-test could also be made based on demographics differences, such as age and gender. This would allow us to explore whether younger and older doctors perceive the satisfaction of psychological needs differently.

According to Van Dierendonck (2010), when one is self-determined, the person will also help others to be more self-determined. Therefore, it would be valuable to investigate the extent to which leaders (doctors in teams) perceive their own needs as being satisfied by their supervisors, since the current study only assessed whether they believe they support the needs of their followers. It would be interesting to research how their supervisors are leading them and what is the association of how they satisfy the needs of their followers.

10 CONCLUSION

Post-heroic leadership is a style of leadership that does not rely completely on leaders but also on followers. It is composed of the dimensions of servant and shared leadership. Both leaders and followers play a key role in giving and receiving this style of leadership. Post-heroic leadership is suitable for many work environments, and in our analysis, we placed it within teams in primary healthcare.

My study finds that post-heroic leadership is positively associated with the satisfaction of followers' basic psychological needs, mostly autonomy and relatedness. The satisfaction of autonomy, in turn, is associated with higher well-being and fully mediates the relationship between PHL and followers' well-being, work engagement and job satisfaction. The study also finds that followers' autonomy significantly mediates the relationship between PHL and burnout, with the association being negative. The moderation of sleep quality shows a trend that improved followers' subjective experience of sleep quality and longer sleep latency strengthens the association between post-heroic leadership and well-being, mediated by autonomy.

The supplementary part of the present study shows that leaders who identify more strongly with post-heroic leadership perceive themselves as providing greater relatedness to their followers. However, that does not translate into better well-being of leaders. There is a trend suggesting that leaders who engage in more post-heroic leadership are associated with providing higher competence to their followers when leaders report better subjective sleep quality.

Leaders tend to report better subjective sleep quality and fall asleep faster than followers, despite getting slightly less sleep time. Furthermore, leaders tend to perceive that they meet

followers' needs more fully than followers do actually experience, likely due to differences in sleep quality and perception. Additionally, employees who experience higher levels of post-heroic leadership report greater job satisfaction, work engagement, and well-being, and increased feelings of autonomy and relatedness.

Our findings are based on a small number of responses, and additionally, due to the cross-sectional design, we cannot define causal effects. Nevertheless, the research is significant for the development of healthcare teams, showing that there is room for improvement of satisfaction of basic psychological needs, sleep quality, and employee well-being. There is an opportunity to create working environment where not only new investments matter, but also where employees, good interpersonal collaboration, and the well-being of all involved are prioritised.

LIST OF KEY LITERATURE

1. Baranwal, N., Yu, P. K., & Siegel, N. S. (2023). Sleep physiology, pathophysiology, and sleep hygiene. *Progress in Cardiovascular Diseases*, 77, 59–69. <https://doi.org/10.1016/j.pcad.2023.02.005>
2. Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal*, 50(5), 1217–1234. <https://doi.org/10.5465/amj.2007.20159921>
3. Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work Organizations: The State of a Science. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 19–43. <https://doi.org/10.1146/annurev-orgpsych-032516-113108>
4. Fletcher, J. K. (2004). The paradox of postheroic leadership: An essay on gender, power, and transformational change. *The Leadership Quarterly*, 15(5), 647–661. <https://doi.org/10.1016/j.leaqua.2004.07.004>
5. Inceoglu, I., Thomas, G., Chu, C., Plans, D., & Gerbasi, A. (2018). Leadership behavior and employee well-being: An integrated review and a future research agenda. *The Leadership Quarterly*, 29(1), 179–202. <https://doi.org/10.1016/j.leaqua.2017.12.006>
6. Kundi, Y. M., Aboramadan, M., Elhamalawi, E. M., & Shahid, S. (2020b). Employee psychological well-being and job performance: exploring mediating and moderating mechanisms. *International Journal of Organizational Analysis*, 29(3), 736–754. <https://doi.org/10.1108/ijoa-05-2020-2204>
7. Legault, L. (2017). *Self-Determination Theory*. In Springer eBooks (pp. 1–9). https://doi.org/10.1007/978-3-319-28099-8_1162-1
8. Škerlavaj, M. (2022). *Post-Heroic leadership*. In Springer eBooks. <https://doi.org/10.1007/978-3-030-90820-1>
9. Trastek, V. F., Hamilton, N. W., & Niles, E. E. (2014). Leadership Models in Health Care—A case for servant leadership. *Mayo Clinic Proceedings*, 89(3), 374–381. <https://doi.org/10.1016/j.mayocp.2013.10.012>

10. Van Dierendonck, D. (2010). Servant Leadership: A review and Synthesis. *Journal of Management*, 37(4), 1228–1261. <https://doi.org/10.1177/0149206310380462>

REFERENCE LIST

1. Ahmad, N. R., Ullah, I., Aziz, M. U., & Iqbal, F. (2025b). Investigating stress, burnout, and organizational factors contributing to psychological well-being at work. *Review of Education Administration and Law*, 8(1), 29–40. <https://doi.org/10.47067/real.v8i1.401>
2. Albreht, T., Polin, K., Pribaković Brinovec, R., Kuhar, M., Poldrugovac, M., Ogrin Rehberger, P., Prevolnik Rupel, V., & Vracko, P. (2021). Slovenia: Health system review. *Health Systems in Transition*, 23(1), i–188.
3. Albakri, U., Drotos, E., & Meertens, R. (2021). Sleep Health Promotion Interventions and their Effectiveness: An umbrella review. *International Journal of Environmental Research and Public Health*, 18(11), 5533. <https://doi.org/10.3390/ijerph18115533>
4. Amundsen, S., & Martinsen, Ø. L. (2015). Linking empowering leadership to job satisfaction, work effort, and creativity. *Journal of Leadership & Organizational Studies*, 22(3), 304–323. <https://doi.org/10.1177/1548051814565819>
5. Aufegger, L., Shariq, O., Bicknell, C., Ashrafian, H., & Darzi, A. (2019). Can shared leadership enhance clinical team management? A systematic review. *Leadership in Health Services*, 32(2), 309–335. <https://doi.org/10.1108/lhs-06-2018-0033>
6. Barnes, C. M. (2012). Working in our sleep. *Organizational Psychology Review*, 2(3), 234–257. <https://doi.org/10.1177/2041386612450181>
7. Bartels, A. L., Peterson, S. J., & Reina, C. S. (2019). Understanding well-being at work: Development and validation of the eudaimonic workplace well-being scale. *PLoS ONE*, 14(4), e0215957. <https://doi.org/10.1371/journal.pone.0215957>
8. Blythe, W. R., Malekzadeh, S., & Wei, J. L. (2021b). The physician as leader. *Otolaryngologic Clinics of North America*, 55(1), 1–9. <https://doi.org/10.1016/j.otc.2021.07.006>
9. Boršnak, T., & Sitar, A. S. (2021). Izzivi vodenja v zdravstvu. *Izzivi managementu*, 8(1), 4–14, 65. URN:NBN:SI:DOC-0GGIU808 from <http://www.dlib.si>
10. Buysse, D. J. (2014). Sleep health: Can we define it? Does it matter? *SLEEP*, 37(1), 9–17. <https://doi.org/10.5665/sleep.3298>
11. Campbell, L. (2020). *Organisation ethics, relational leadership and nursing*. In Springer eBooks (pp. 99–115). https://doi.org/10.1007/978-3-030-49104-8_7
12. Campbell, R., Soenens, B., Weinstein, N., & Vansteenkiste, M. (2017). Impact of partial sleep deprivation on psychological functioning: Effects on mindfulness and basic psychological need satisfaction. *Mindfulness*, 9(4), 1123–1133. <https://doi.org/10.1007/s12671-017-0848-1>
13. Chamberlin, M., Nahrgang, J. D., Sessions, H., & De Jong, B. (2024). An examination of shared leadership configurations and their effectiveness in teams. *Journal of Organizational Behavior*, 45(4), 595–619. <https://doi.org/10.1002/job.2774>

14. Chen, M., Dong, H., Luo, Y., & Meng, H. (2022). The effect of sleep on workplace interpersonal conflict: The mediating role of ego depletion. *International Journal of Mental Health Promotion*, 24(6), 901–916. <https://doi.org/10.32604/ijmhp.2022.020006>
15. Chiniara, M., & Bentein, K. (2015). Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. *The Leadership Quarterly*, 27(1), 124–141. <https://doi.org/10.1016/j.leaqua.2015.08.004>
16. Chuah, L. Y., Dolcos, F., Chen, A. K., Zheng, H., Parimal, S., & Chee, M. W. (2010). Sleep deprivation and interference by emotional distracters. *SLEEP*, 33(10), 1305–1313. <https://doi.org/10.1093/sleep/33.10.1305>
17. De Castro, A. B., Curbow, B., Agnew, J., Haythornthwaite, J. A., & Fitzgerald, S. T. (2006). Measuring Emotional Labor among Young Workers. *Workplace Health & Safety*, 54(5), 201–209. <https://doi.org/10.1177/216507990605400503>
18. Demeke, G., Van Engen, M., & Markos, S. (2024). Servant Leadership in the Healthcare Literature: A Systematic review. *Journal of Healthcare Leadership*, Volume 16, 1–14. <https://doi.org/10.2147/jhl.s440160>
19. Ducharme, L. J., Knudsen, H. K., & Roman, P. M. (2007). Emotional Exhaustion and Turnover Intention in Human Service Occupations: The Protective Role of Coworker Support. *Sociological Spectrum*, 28(1), 81–104. <https://doi.org/10.1080/02732170701675268>
20. Ehrhart, M. G. (2004). Leadership and Procedural Justice Climate as Antecedents of Unit-Level Organizational Citizenship Behavior. *Personnel Psychology*, 57(1), 61–94. <https://doi.org/10.1111/j.1744-6570.2004.tb02484.x>
21. Eurostat. (2025, January 16). *Medical workforce in the EU: An ageing profession*. European Commission. <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/ddn-20250116-2>
22. Eurostat. (n.d.). *Glossary: Healthcare*. European Commission. <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Healthcare>
23. Eurostat. (n.d.). *Healthcare expenditure statistics by function, provider and financing scheme*. Statistics Explained, European Commission. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Healthcare_expenditure_statistics_by_function_provider_and_financing_scheme
24. Fotiadis, A., Abdulrahman, K., & Spyridou, A. (2019). The mediating roles of psychological autonomy, competence and relatedness on Work-Life Balance and Well-Being. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.01267>
25. Forner, V. W., Jones, M., Berry, Y., & Eidenfalk, J. (2020). Motivating workers: how leaders apply self-determination theory in organizations. *Organization Management Journal*, 18(2), 76–94. <https://doi.org/10.1108/omj-03-2020-0891>
26. Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331–362. <https://doi.org/10.1002/job.322>

27. Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2011). The Impact of Organizational Factors on Psychological Needs and Their Relations with Well-Being. *Journal of Business and Psychology*, 27(4), 437–450. <https://doi.org/10.1007/s10869-011-9253-2>
28. Giorgi, F., Mattei, A., Notarnicola, I., Petrucci, C., & Lancia, L. (2017). Can sleep quality and burnout affect the job performance of shift-work nurses? A hospital cross-sectional study. *Journal of Advanced Nursing*, 74(3), 698–708. <https://doi.org/10.1111/jan.13484>
29. Graves, L. M., & Luciano, M. M. (2013). Self-determination at work: Understanding the role of leader-member exchange. *Motivation and Emotion*, 37(3), 518–536. <https://doi.org/10.1007/s11031-012-9336-z>
30. Grinberg, E., Nachoum, R., & Kanat-Maymon, Y. (2024). The effect of basic psychological needs on healthcare professionals' work-related psychological outcomes. *Work*. <https://doi.org/10.1177/10519815241295906>
31. Guarana, C. L., & Barnes, C. M. (2017). Lack of sleep and the development of leader-follower relationships over time. *Organizational Behavior and Human Decision Processes*, 141, 57–73. <https://doi.org/10.1016/j.obhdp.2017.04.003>
32. Hafner, M., Troxel, W., Stepanek, M., Taylor, J., & Van Stolk, C. (2017). 0803 Why Sleep Matters: The Macroeconomic Costs of Insufficient Sleep. *Sleep*, 40(suppl_1), A297. <https://doi.org/10.1093/sleepj/zsx050.802>
33. Hampel, K., & Hajduova, Z. (2023). Human resource management as an area of changes in a healthcare institution. *Risk Management and Healthcare Policy*, Volume 16, 31–41. <https://doi.org/10.2147/rmhp.s388185>
34. Harvey, A. G., Stinson, K., Whitaker, K. L., Moskowitz, D., & Virk, H. (2008). The Subjective Meaning of Sleep Quality: A Comparison of Individuals with and without Insomnia. *SLEEP*, 31(3), 383–393. <https://doi.org/10.1093/sleep/31.3.383>
35. Holtan, K. H., Halvari, A. E. M., Olafsen, A. H., Øvergård, K. I., & Halvari, H. (2024). The role of leadership in nurses' wellbeing and performance: A cross-sectional survey using a dual motivational pathway model. *Journal of Advanced Nursing*, 80(8), 3211–3225. <https://doi.org/10.1111/jan.16084>
36. Huppert, F. A. (2009). Psychological Well-being: Evidence Regarding its Causes and Consequences†. *Applied Psychology Health and Well-Being*, 1(2), 137–164. <https://doi.org/10.1111/j.1758-0854.2009.01008.x>
37. Karademas, E. C. (2007). Positive and negative aspects of well-being: Common and specific predictors. *Personality and Individual Differences*, 43(2), 277–287. <https://doi.org/10.1016/j.paid.2006.11.031>
38. Kim, S., & Roberts, L. P., Jr. (2019, December). Emotional carrying capacity in virtual teams: Developing a capability to constructively share a range of emotions [Paper presentation]. Fortieth International Conference on Information Systems, Munich, Germany.

39. Kittipittayakorn, C. (2025). Association between healthcare resources, healthcare systems, and population health in European countries. *BMC Health Services Research*, 25(1). <https://doi.org/10.1186/s12913-024-11743-0>
40. Kohyama, J. (2021). Which is more important for health: sleep quantity or sleep quality? *Children*, 8(7), 542. <https://doi.org/10.3390/children8070542>
41. Kozusznik, M., Soriano, A., & Peiró, J. M. (2023). *Well-being at work*. Oxford Research Encyclopedia of Psychology. <https://doi.org/10.1093/acrefore/9780190236557.013.105>
42. Krijgsheld, M., Tummers, L. G., & Scheepers, F. E. (2022). Job performance in healthcare: a systematic review. *BMC Health Services Research*, 22(1). <https://doi.org/10.1186/s12913-021-07357-5>
43. Krystal, A. D., & Edinger, J. D. (2008). Measuring sleep quality. *Sleep Medicine*, 9, S10–S17. [https://doi.org/10.1016/s1389-9457\(08\)70011-x](https://doi.org/10.1016/s1389-9457(08)70011-x)
44. Kumar, R. D. (2021). Leadership in healthcare. *Clinics in Integrated Care*, 10, 100080. <https://doi.org/10.1016/j.intcar.2021.100080>
45. Kül, S., & Sönmez, B. (2021). The effect of nurse managers' servant leadership on nurses' innovative behaviors and job performances. *Leadership & Organization Development Journal*, 42(8), 1168–1184. <https://doi.org/10.1108/loj-07-2020-0318>
46. Langhof, J. G., & Guldenberg, S. (2019). Servant Leadership: A systematic literature review—toward a model of antecedents and outcomes. *German Journal of Human Resource Management Zeitschrift Für Personalforschung*, 34(1), 32–68. <https://doi.org/10.1177/2397002219869903>
47. Martela, F., & Sheldon, K. M. (2019). Clarifying the concept of Well-Being: psychological need satisfaction as the common core connecting eudaimonic and subjective Well-Being. *Review of General Psychology*, 23(4), 458–474. <https://doi.org/10.1177/1089268019880886>
48. Martin, J. J., Byrd, B., Wooster, S., & Kulik, N. (2017). Self-determination theory: the role of the health care professional in promoting mindfulness and perceived competence. *Journal of Applied Biobehavioral Research*, 22(4). <https://doi.org/10.1111/jabr.12072>
49. McClelland, D. C. (1965). N achievement and entrepreneurship: A longitudinal study. *Journal of Personality and Social Psychology*, 1(4), 389–392. <https://doi.org/10.1037/h0021956>
50. McCrimmon, M. (2010). Is heroic leadership all bad? *Development in Learning Organizations an International Journal*, 24(5). <https://doi.org/10.1108/dlo.2010.08124ead.003>
51. Mehta, S., & Sharma, S. (2019). Shared leadership in teams and its impact on team effectiveness: Moderating effects of variables. *IPE International*, 9, 68–84.
52. Ministrstvo za zdravje. (n.d.). *Organiziranost zdravstvenega varstva*. GOV.SI. <https://www.gov.si/podrocja/zdravje/organiziranost-zdravstvenega-varstva/>
53. Moreau, E., & Mageau, G. A. (2011). The importance of perceived autonomy support for the psychological health and work satisfaction of health professionals: Not only

- supervisors count, colleagues too! *Motivation and Emotion*, 36(3), 268–286. <https://doi.org/10.1007/s11031-011-9250-9>
54. Nelson, K. L., Davis, J. E., & Corbett, C. F. (2021). Sleep quality: An evolutionary concept analysis. *Nursing Forum*, 57(1), 144–151. <https://doi.org/10.1111/nuf.12659>
 55. Nunes, P. M., Proença, T., & Carozzo-Todaro, M. E. (2023). A systematic review on well-being and ill-being in working contexts: contributions of self-determination theory. *Personnel Review*, 53(2), 375–419. <https://doi.org/10.1108/pr-11-2021-0812>
 56. Ohayon, M., Wickwire, E. M., Hirshkowitz, M., Albert, S. M., Avidan, A., Daly, F. J., Dauvilliers, Y., Ferri, R., Fung, C., Gozal, D., Hazen, N., Krystal, A., Lichstein, K., Mallampalli, M., Plazzi, G., Rawding, R., Scheer, F. A., Somers, V., & Vitiello, M. V. (2016). National Sleep Foundation's sleep quality recommendations: first report. *Sleep Health*, 3(1), 6–19. <https://doi.org/10.1016/j.sleh.2016.11.006>
 57. Pearce, C., & Conger, J. (2003). Shared Leadership: Reframing the hows and whys of leadership. In SAGE Publications, Inc. eBooks. <https://doi.org/10.4135/9781452229539>
 58. Podbregar, I. (2022). Management: Izbrana poglavja. <https://doi.org/10.18690/um.fov.2.2022>
 59. Racoviță, M., Tate, J., Wait, S., & Adams, E. (2023). Overcoming the nursing workforce crisis in Europe to improve care for people with non-communicable diseases. *British Journal of Nursing*, 32(14), 698. <https://doi.org/10.12968/bjon.2023.32.14.698>
 60. Romppel, M., Herrmann-Lingen, C., Wachter, R., Edelmann, F., Düngen, H., Pieske, B., & Grande, G. (2013). A short form of the General Self-Efficacy Scale (GSE-6): Development, psychometric properties and validity in an intercultural non-clinical sample and a sample of patients at risk for heart failure. PubMed. <https://doi.org/10.3205/psm000091>
 61. Rosen, M. A., DiazGranados, D., Dietz, A. S., Benishek, L. E., Thompson, D., Pronovost, P. J., & Weaver, S. J. (2018a). Teamwork in healthcare: Key discoveries enabling safer, high-quality care. *American Psychologist*, 73(4), 433–450. <https://doi.org/10.1037/amp0000298>
 62. Roth, L. M., Markova, T., Monsur, J. C., & Severson, R. K. (2009). Effects of implementation of a team model on physician and staff perceptions of a clinic's organizational and learning environments. *Family Medicine*, 41(6), 434–439.
 63. Ruggeri, K., Garcia-Garzon, E., Maguire, Á., Matz, S., & Huppert, F. A. (2020b). Well-being is more than happiness and life satisfaction: a multidimensional analysis of 21 countries. *Health and Quality of Life Outcomes*, 18(1). <https://doi.org/10.1186/s12955-020-01423-y>
 64. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066x.55.1.68>
 65. Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions.

- Contemporary Educational Psychology*, 61, 101860.
<https://doi.org/10.1016/j.cedpsych.2020.101860>
66. Ryan, R. M., & La Guardia, J. G. (2000). What is being optimized?: Self-determination theory and basic psychological needs. In *American Psychological Association eBooks* (pp. 145–172). <https://doi.org/10.1037/10363-008>
 67. Rupel, V. P., & Marušič, D. (2021). Structure, processes and results in healthcare system in Slovenia. In *IntechOpen eBooks*. <https://doi.org/10.5772/intechopen.98608>
 68. Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*, 3(1), 71–92. <https://doi.org/10.1023/a:1015630930326>
 69. Shalaby, R., Oluwasina, F., Eboreime, E., Gindi, H. E., Agyapong, B., Hrabok, M., Dhanoa, S., Kim, E., Nwachukwu, I., Abba-Aji, A., Li, D., & Agyapong, V. I. O. (2023). Burnout among Residents: Prevalence and Predictors of Depersonalization, Emotional Exhaustion and Professional Unfulfillment among Resident Doctors in Canada. *International Journal of Environmental Research and Public Health*, 20(4), 3677. <https://doi.org/10.3390/ijerph20043677>
 70. Slovenia: Country Health Profile 2023. (2023). In *State of health in the EU*. <https://doi.org/10.1787/0eb17a30-en>
 71. Sobral, F., & Furtado, L. (2019). A Liderança Pós-Heroica: Tendências Atuais E Desafios Para O Ensino De Liderança. *Revista De Administração De Empresas*, 59(3), 209–214. <https://doi.org/10.1590/s0034-759020190306>
 72. Tulchinsky, T. H., & Varavikova, E. A. (2014). Planning and managing health systems. In *Elsevier eBooks* (pp. 613–641). <https://doi.org/10.1016/b978-0-12-415766-8.00012-4>
 73. Van Den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, 83(4), 981–1002. <https://doi.org/10.1348/096317909x481382>
 74. Walker, M. P. (2010). Sleep, memory and emotion. *Progress in Brain Research*, 49–68. <https://doi.org/10.1016/b978-0-444-53702-7.00004-x>
 75. West, C. P., Dyrbye, L. N., Sloan, J. A., & Shanafelt, T. D. (2009). Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *Journal of General Internal Medicine*, 24(12), 1318–1321. <https://doi.org/10.1007/s11606-009-1129-z>
 76. Zdravstveni dom Ljubljana. (2022). *Predstavitev*. <https://zdlj.si/zdlj/brosure/predstavitev.html>
 77. Zdravstveni dom Ljubljana. (2025). *Letno poročilo zdravstvenega doma Ljubljana za leto 2024*. Zdravstveni dom Ljubljana. https://www.zdlj.si/zdlj/images/stories/urska/Letno_poroilo_2024.pdf

APPENDICES

Appendix 1: Questionnaire for followers

Pozdravljeni,

sem Patricija Varšek, študentka mednarodnega magistrskega programa iz poslovanja in organizacije (IMB) na Ekonomski fakulteti v Ljubljani.

V sklopu magistrske naloge preučujem stile vodenja in timsko delo med zaposlenimi v zdravstvenem sektorju. Namen magistrskega dela je pomagati vodjem v Zdravstvenem domu Ljubljana in širšemu vodstvu v zdravstvu, da ob uspešnem doseganju rezultatov prispevajo tudi k boljšemu počutju zaposlenih.

V ta namen vas vljudno vabim, da izpolnite spodnji vprašalnik. Vzel vam bo približno 10 minut. Vprašalnik predstavlja osnovo za akademsko raziskavo, vsi zbrani odgovori bodo ustrezno hranjeni v skladu z etičnim kodeksom v raziskovanju ter varovanjem osebnih podatkov.

Zahvaljujem se za vaše sodelovanje in vaš dragoceni čas!

Q1 Prosim, označite, kako se strinjate z naslednjimi trditvami. Moj vodja tima... (1 -Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5 - Popolnoma se strinjam.)

si vzame čas za vzpostavljanje kakovostnih odnosov z zaposlenimi v timu.

ustvarja občutek skupnosti med zaposlenimi v timu.

si prizadeva doseči soglasje med zaposlenimi v timu pri pomembnih odločitvah.

je občutljiv na odgovornosti zaposlenih v timu zunaj delovnega mesta.

postavlja osebni razvoj zaposlenih v timu kot prioriteto.

zahteva od zaposlenih v timu visoke etične standarde.

izpolnjuje svoje obljube.

uravnoveša skrb za vsakodnevne podrobnosti s predvidevanjem za prihodnost.

kaže široko znanje in zanimanje pri iskanju rešitev za delovne izzive.

mi daje občutek, da delam z njim, ne zanj.

se močno trudi poiskati načine, kako pomagati drugim, da dosežejo svoj največji potencial.

spodbuja zaposlene v timu k sodelovanju v prostovoljnih in skupnostnih aktivnostih izven dela.

poudarja pomen vračanja skupnosti.

Na odločitve moje vodje tima vplivajo prispevki zaposlenih v timu.

Q2 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Člani mojega tima si vzamejo čas za razpravo o namenu, ciljih in pričakovanjih našega tima glede dela v ambulantih.

Člani mojega tima razpravljajo o glavnih nalogah in ciljih našega tima, da zagotovimo skupno razumevanje.

Člani mojega tima oblikujejo načrt in časovni raspored, ki omogočajo doseganje našega tima.

Člani mojega tima z navdušenjem govorijo o napredku našega tima.

Člani mojega tima prepoznavajo dosežke in trdo delo drug drugega.

Člani mojega tima spodbujajo druge člane, ko se ti zdijo razočarani.

Člani v mojem timu so spodbujeni, da se izrazijo in posvetujejo o predpostavkah, ki so v razpravi.

Kot član mojega tima, imam vpliv, kako tim opravlja delo.

Vsi v tem timu imamo priložnost sodelovati in prispevati z idejami.

Q3 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2-Redko. 3-Včasih. 4-Pogosto. 5-Zelo pogosto.)

Na splošno sem zadovoljen/a s svojim delom.

Na splošno mi je delo všeč.

Počutim se izgorelo zaradi svojega dela.

Q4 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2-Redko. 3-Včasih 4-Pogosto. 5-Zelo pogosto.)

Ko zjutraj vstanem, se veselim odhoda na delo.

Na svojem delovnem mestu se počutim poln/a energije.

Na delu vedno vztrajam, tudi ko stvari ne gredo dobro.

Lahko delam zelo dolga obdobja brez prekinitve.

Na svojem delovnem mestu sem duševno zelo odporn/a.

Na delu se počutim močno in energično.

Q5 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Pri tem delu se počutim svobodno izražati svoje ideje in mnenja.

Imam občutek, da lahko na svojem delovnem mestu sem to, kar sem.

Na delu imam pogosto občutek, da moram slediti ukazom drugih ljudi.

Če bi lahko izbral/a, bi stvari na delu počel/a drugače.

Naloge, ki jih moram opraviti pri delu, so v skladu s tem, kar si resnično želim delati.

Počutim se svobodno opravljati svoje delo na način, za katerega menim, da je najboljši.

Na svojem delovnem mestu se počutim prisiljeno opravljati stvari, ki jih ne želim.

Q6 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Na svojem delovnem mestu se ne počutim zelo kompetentno.

Resnično obvladam svoje naloge pri delu.

Počutim se kompetentno na svojem delovnem mestu.

Dvomim, ali sem sposoben/a pravilno opravljati svoje delo.

Dober sem v stvareh, ki jih delam v službi.

Imam občutek, da lahko pri delu opravim tudi najzahtevnejše naloge.

Q7 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Pogosto se počutim osamljen/a, ko sem s svojimi sodelavci.

Pri delu me ljudje vključujejo v družabne aktivnosti.

Na delu so ljudje, ki me resnično razumejo.

Nekateri ljudje, s katerimi delam, so moji bližnji prijatelji.

Na delu me nihče ne posluša.

Ni nikogar, s komer bi lahko delil svoje misli, če bi to želel/a.

Q8 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Splošno se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Če mi nekdo nasprotuje, najdem način, da dosežem, kar želim.

Enostavno mi je, da se držim svojih ciljev in jih dosežem.

Prepričan sem, da lahko učinkovito obvladujem nepričakovane dogodke.

Zahvaljujoč svoji iznajdljivosti vem, kako ravnati v nepredvidenih situacijah.

Lahko ostanem miren/a, ko se soočam s težavami, ker se lahko zanesem na svoje sposobnosti spoprijemanja.

Q9 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2-Redko. 3-Včasih. 4-Pogosto. 5-Zelo pogosto.)

Delujem, kot da me nič ne moti, tudi ko me pacient razjezi ali vznemiri.

Moram se obnašati tako, kot drugi pričakujejo, da se oseba v mojem poklicu obnaša.

Želim si, da moji pacienti mislijo, da sem vedno sposoben/a obvladovati delo.

Na delovnem mestu delujem zaskrbljen, tudi ko se tako ne počutim.

Želim si, da moji pacienti mislijo, da sem vedno miren.

Naslednja vprašanja se nanašajo na vaše spalne navade v preteklem mesecu. Vaši odgovori naj bodo čim bolj natančni in naj veljajo za večino dni in noči v preteklem mesecu. Prosim, da odgovorite na vsa vprašanja.

Q10 Koliko ur ste (v preteklem mesecu) v povprečju na noč ponoči res spali (ta številka se lahko razlikuje od števila ur, ki ste jih preživeli v postelji)? _____

Q11 Koliko dolgo (v minutah) ste v preteklem mesecu vsak večer potrebovali, da ste zaspali? _____

Q12 Kako bi ocenili kakovost spanja v preteklem mesecu?

Zelo dobro Dokaj dobro Dokaj slabo Zelo slabo

V zadnjem delu vprašalnika, sledijo splošna demografska vprašanja, pri katerih je možno izbrati samo en odgovor.

Q13 Prosim, izberite spol

Moški, Ženska, Ne želim odgovoriti

Q14 Prosim, izberite svojo starost

do 30 let, od 31 do 45 let, od 46 do 60 let, več kot 60 let

Q15 Prosim, izberite število let zaposlitve v Zdravstvenem domu Ljubljana

do 5 let, od 6 do 15 let, od 16 do 25 let, od 26 do 35 let, od 36 do 45 let, več

Q16 Ali ste bili v obdobju januar 2024 do december 2024 član istega tima kot ste danes?

Da, ne

Q17 Prosim, izberite število let zaposlitve v trenutnem, izbranem timu v Zdravstvenem domu Ljubljana.

do 5 let, od 6 do 15 let, od 16 do 25 let, od 26 do 35 let, od 36 do 45 let, več

Appendix 2: Questionnaire for leaders

Pozdravljeni,

sem Patricija Varšek, študentka mednarodnega magistrskega programa iz poslovanja in organizacije (IMB) na Ekonomski fakulteti v Ljubljani.

V sklopu magistrske naloge preučujem stile vodenja in timsko delo med zaposlenimi v zdravstvenem sektorju. Namen magistrskega dela je pomagati vodjem v Zdravstvenem domu Ljubljana in širšemu vodstvu v zdravstvu, da ob uspešnem doseganju rezultatov prispevajo tudi k boljšemu počutju zaposlenih.

V ta namen vas vljudno vabim, da izpolnite spodnji vprašalnik. Vzel vam bo približno 10 minut. Vprašalnik predstavlja osnovo za akademsko raziskavo, vsi zbrani odgovori bodo ustrezno hranjeni v skladu z etičnim kodeksom v raziskovanju ter varovanjem osebnih podatkov.

Zahvaljujem se za vaše sodelovanje in vaš dragoceni čas!

Q1 Prosim, označite, kako se strinjate z naslednjimi trditvami. Kot vodja tima... .. (1 - Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5 - Popolnoma se strinjam.)

si vzamem čas za vzpostavljanje kakovostnih odnosov z zaposlenimi v timu.

ustvarjam občutek skupnosti med zaposlenimi v timu.

si prizadevam doseči soglasje med zaposlenimi v timu pri pomembnih odločitvah.

sem občutljiv na odgovornosti zaposlenih v timu zunaj delovnega mesta.

postavljam osebni razvoj zaposlenih v timu kot prioriteto.

zahtevam od zaposlenih v timu visoke etične standarde.

izpolnjujem svoje obljube.

uravnovešam skrb za vsakodnevne podrobnosti s predvidevanjem za prihodnost.

kažem široko znanje in zanimanje pri iskanju rešitev za delovne izzive.

dajem občutek, da zaposleni delajo z mano, ne zame.

se močno trudim poiskati načine, kako pomagati drugim, da dosežejo svoj največji potencial.

spodbujam zaposlene v timu k sodelovanju v prostovoljnih in skupnostnih aktivnostih izven dela.

poudarjam pomen vračanja skupnosti.

Na moje odločitve vplivajo prispevki zaposlenih v timu.

Q2 Prosim, označite, kako se strinjate z naslednjimi trditvami(1-Splošno se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Člani mojega tima si vzamejo čas za razpravo o namenu, ciljih in pričakovanjih našega tima glede dela v ambulantih.

Člani mojega tima razpravljajo o glavnih nalogah in ciljih našega tima, da zagotovimo skupno razumevanje.

Člani mojega tima oblikujejo načrt in časovni raspored, ki omogočajo doseganje našega tima.

Člani mojega tima z navdušenjem govorijo o napredku našega tima.

Člani mojega tima prepoznavajo dosežke in trdo delo drug drugega.

Člani mojega tima spodbujajo druge člane, ko se ti zdijo razočarani.

Člani v mojem timu so spodbujeni, da se izrazijo in posvetujejo o predpostavkah, ki so v razpravi.

Kot član mojega tima, imam vpliv, kako tim opravlja delo.

Vsi v tem timu imamo priložnost sodelovati in prispevati z idejami.

Q3 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2-Redko. 3-Včasih. 4-Pogosto. 5-Zelo pogosto.)

Na splošno sem zadovoljen/a s svojim delom.

Na splošno mi je delo všeč.

Počutim se izgorelo zaradi svojega dela.

Q4 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2-Redko. 3-Včasih 4-Pogosto. 5-Zelo pogosto.)

Ko zjutraj vstanem, se veselim odhoda na delo.

Na svojem delovnem mestu se počutim poln/a energije.

Na delu vedno vztrajam, tudi ko stvari ne gredo dobro.

Lahko delam zelo dolga obdobja brez prekinitve.

Na svojem delovnem mestu sem duševno zelo odporn/a.

Na delu se počutim močno in energično.

Q5 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Menim, da se člani tima pri tem delu počutijo svobodni pri izražanju svojih idej in mnenj.

Menim, da imajo člani tima občutek, da lahko na svojem delovnem mestu pokažejo svoje pristoječe.

Menim, da člani tima čutijo pritisk, da morajo slediti navodilom drugih.

Menim, da če bi člani tima imeli priložnost, bi se verjetno odločili, da bi določene stvari na delovnem mestu počeli drugače.

Menim, da so naloge, ki jih izvajajo, usklajene z njihovimi željami in interesi.

Menim, da se člani tima počutijo svobodne, da opravljajo svoje naloge na način, za katerega menijo, da je najboljši.

Meni, da se člani tima na svojem delovnem mestu počutijo prisiljeni opravljati naloge, ki jih ne želijo izvajati.

Q6 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Menim, da se člani tima morda ne počutijo zelo kompetentno na svojem delovnem mestu.

Menim, da člani tima resnično obvladajo naloge, ki jih opravljajo.

Menim, da se člani tima počutijo kompetentno na svojem delovnem mestu.

Menim, da člani tima dvomijo, ali so sposobni pravilno opravljati svoje naloge.

Menim, da so člani tima dobri v stvareh, ki jih počnejo v službi.

Menim, da imajo člani tima občutek, da lahko opravijo tudi najzahtevnejše naloge pri delu.

Q7 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploh se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Menim, da se člani tima pogosto počutijo osamljene, tudi ko so skupaj z drugimi.

Menim, da se člani tima pri delu vključujejo v družabne aktivnosti.

Menim, da so na delovnem mestu člani tima, ki se resnično razumejo med seboj.

Menim, da so nekateri člani tima tudi bližnji prijatelji.

Menim, da člani tima čutijo, da jih na delu nihče ne posluša.

Menim, da člani tima nimajo nikogar, s komer bi lahko delili svoje misli, če bi to želeli.

Q8 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Sploš se ne strinjam. 2-Ne strinjam se. 3-Niti se ne strinjam, niti se strinjam. 4-Strinjam se. 5-Popolnoma se strinjam.)

Če mi nekdo nasprotuje, najdem način, da dosežem, kar želim.

Enostavno mi je, da se držim svojih ciljev in jih dosežem.

Prepričan sem, da lahko učinkovito obvladujem nepričakovane dogodke.

Zahvaljujoč svoji iznajdljivosti vem, kako ravnati v nepredvidenih situacijah.

Lahko ostanem miren/a, ko se soočam s težavami, ker se lahko zanesem na svoje sposobnosti spoprijemanja.

Q9 Prosim, označite, kako se strinjate z naslednjimi trditvami. (1-Nikoli. 2- Redko. 3-Včasih. 4-Pogosto. 5-Zelo pogosto.)

Delujem, kot da me nič ne moti, tudi ko me pacient razjezi ali vznemiri.

Moram se obnašati tako, kot drugi pričakujejo, da se oseba v mojem poklicu obnaša.

Želim si, da moji pacienti mislijo, da sem vedno sposoben/a obvladovati delo.

Na delovnem mestu delujem zaskrbljen, tudi ko se tako ne počutim.

Želim si, da moji pacienti mislijo, da sem vedno miren.

Naslednja vprašanja se nanašajo na vaše spalne navade v preteklem mesecu. Vaši odgovori naj bodo čim bolj natančni in naj veljajo za večino dni in noči v preteklem mesecu. Prosim, da odgovorite na vsa vprašanja.

Q10 Koliko ur ste (v preteklem mesecu) v povprečju na noč ponoči res spali (ta številka se lahko razlikuje od števila ur, ki ste jih preživel v postelji)? _____

Q11 Koliko dolgo (v minutah) ste v preteklem mesecu vsak večer potrebovali, da ste zaspali? _____

Q12 Kako bi ocenili kakovost spanja v preteklem mesecu?

Zelo dobro Dokaj dobro Dokaj slabo Zelo slabo

V zadnjem delu vprašalnika, sledijo splošna demografska vprašanja, pri katerih je možno izbrati samo en odgovor.

Q13 Prosim, izberite spol

Moški, Ženska, Ne želim odgovoriti

Q14 Prosim, izberite svojo starost

do 30 let, od 31 do 45 let, od 46 do 60 let, več kot 60 let

Q15 Prosim, izberite število let zaposlitve v Zdravstvenem domu Ljubljana

do 5 let, od 6 do 15 let, od 16 do 25 let, od 26 do 35 let, od 36 do 45 let, več

Q16 Ali ste bili v obdobju januar 2024 do december 2024 član istega tima kot ste danes?

Da, ne

Q17 Prosim, izberite število let zaposlitve v trenutnem, izbranem timu v Zdravstvenem domu Ljubljana.

do 5 let, od 6 do 15 let, od 16 do 25 let, od 26 do 35 let, od 36 do 45 let, več

Appendix 3: Additional descriptive statistics

	FOLLOWERS				LEADERS			
	Mean	SD	N	%	Mean	SD	N	%
Gender	1.92	0.28			1.89	0.32		
Female			5	92.00%			3	11.11%
Male			56	8.00%			24	88.89%
Age	2.52	0.91			2.81	0.62		
up to 30 years			7	11.48%			0	0
31-45 years			28	45.90%			8	29.63%
46-60 years			15	24.59%			16	59.26%
over 60 years			11	18.03%			3	11.11%
Organization Tenure	2.53	1.33			3.04	1.16		
up to 5 years			15	24.59%			2	7.41%
6-15 years			22	36.07%			7	25.93%
16-25 years			11	18.03%			10	37.04%
26-35 years			4	6.56%			4	14.81%
36-45 years			9	14.75%			4	14.81%
Team Tenure	2.09	1.3			2.26	1.13		
up to 5 years			27	44.26%			8	29.63%
6-15 years			16	26.23%			9	33.33%
16-25 years			9	14.75%			6	22.22%
26-35 years			3	4.92%			3	11.11%
36-45 years			6	9.84%			1	3.70%

Appendix 4: SPSS output – followers

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 4.2
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

```
*****
*****
```

Model : 4
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

```
*****
*****
```

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7025	,4935	,2351	7,3776	7,0000	53,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6224	,8167	3,2111	,0022	,9844
4,2605					
PHL	,0695	,0102	6,8414	,0000	,0491
,0898					
Gender	-,0438	,2395	-,1828	,8557	-,5241
,4366					
Age	,1715	,0970	1,7686	,0827	-,0230
,3660					
TenOrg	-,1457	,0874	-1,6660	,1016	-,3210
,0297					

TenTeam	,0872	,0786	1,1094	,2723	-,0704
,2447					
SeEffi	,2124	,1595	1,3319	,1886	-,1074
,5322					
EmotLab	-,3345	,1332	-2,5111	,0151	-,6016
-,0673					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,4100	,1681	,2355	1,5295	7,0000	53,0000
,1776						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5178	,8174	3,0804	,0033	,8784
4,1573					
PHL	,0089	,0102	,8742	,3860	-,0115
,0293					
Gender	-,0522	,2397	-,2176	,8286	-,5329
,4286					
Age	,0086	,0971	,0883	,9300	-,1861
,2032					
TenOrg	-,0055	,0875	-,0634	,9497	-,1811
,1700					
TenTeam	,0181	,0786	,2302	,8188	-,1396
,1758					
SeEffi	,4939	,1596	3,0946	,0031	,1738
,8140					
EmotLab	-,0839	,1333	-,6293	,5318	-,3513
,1835					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6169	,3806	,3260	4,6520	7,0000	53,0000
,0004						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5270	,9617	2,6276	,0112	,5980
4,4560					
PHL	,0629	,0120	5,2577	,0000	,0389
,0868					
Gender	,0672	,2820	,2383	,8126	-,4985
,6329					
Age	,1011	,1142	,8855	,3799	-,1279
,3301					
TenOrg	,0469	,1030	,4558	,6504	-,1596
,2534					
TenTeam	-,0659	,0925	-,7120	,4796	-,2514
,1197					
SeEffi	,0296	,1878	,1575	,8755	-,3471
,4062					
EmotLab	-,0442	,1569	-,2817	,7792	-,3588
,2704					

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7247	,5252	,2221	5,5298	10,0000	50,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	,9114	,8967	1,0164	,3143	-,8897
2,7124					
PHL	-,0082	,0151	-,5408	,5910	-,0385
,0221					
Auto	,7095	,1560	4,5484	,0000	,3962
1,0228					
Comp	-,0898	,1595	-,5629	,5760	-,4103
,2306					
Relat	-,0120	,1266	-,0951	,9246	-,2664
,2423					
Gender	-,2382	,2332	-1,0215	,3120	-,7067
,2302					
Age	,1260	,0979	1,2864	,2042	-,0707
,3227					
TenOrg	-,0766	,0884	-,8660	,3906	-,2541
,1010					
TenTeam	,0823	,0782	1,0518	,2979	-,0749
,2394					

SeEffi	,1793	,1704	1,0524	,2977	-,1629
,5215					
EmotLab	,1166	,1378	,8464	,4014	-,1601
,3933					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0082	,0151	-,5408	,5910	-,0385	,0221

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0477	,0115	,0246	,0699
Auto	,0493	,0136	,0193	,0722
Comp	-,0008	,0021	-,0055	,0033
Relat	-,0008	,0120	-,0177	,0296

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.
The number of times this happened was:
23

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : Burnout
X : PHL

M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7025	,4935	,2351	7,3776	7,0000	53,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6224	,8167	3,2111	,0022	,9844
4,2605					
PHL	,0695	,0102	6,8414	,0000	,0491
,0898					
Gender	-,0438	,2395	-,1828	,8557	-,5241
,4366					
Age	,1715	,0970	1,7686	,0827	-,0230
,3660					
TenOrg	-,1457	,0874	-1,6660	,1016	-,3210
,0297					
TenTeam	,0872	,0786	1,1094	,2723	-,0704
,2447					
SeEffi	,2124	,1595	1,3319	,1886	-,1074
,5322					
EmotLab	-,3345	,1332	-2,5111	,0151	-,6016
-,0673					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4100	,1681	,2355	1,5295	7,0000	53,0000
	,1776					

Model	coeff	se	t	p	LLCI
ULCI					
constant	2,5178	,8174	3,0804	,0033	,8784
4,1573					
PHL	,0089	,0102	,8742	,3860	-,0115
,0293					
Gender	-,0522	,2397	-,2176	,8286	-,5329
,4286					
Age	,0086	,0971	,0883	,9300	-,1861
,2032					
TenOrg	-,0055	,0875	-,0634	,9497	-,1811
,1700					
TenTeam	,0181	,0786	,2302	,8188	-,1396
,1758					
SeEffi	,4939	,1596	3,0946	,0031	,1738
,8140					
EmotLab	-,0839	,1333	-,6293	,5318	-,3513
,1835					

OUTCOME VARIABLE:

Relat

Model Summary	R	R-sq	MSE	F	df1	df2
p						
,6169		,3806	,3260	4,6520	7,0000	53,0000
,0004						

Model	coeff	se	t	p	LLCI
ULCI					
constant	2,5270	,9617	2,6276	,0112	,5980
4,4560					
PHL	,0629	,0120	5,2577	,0000	,0389
,0868					
Gender	,0672	,2820	,2383	,8126	-,4985
,6329					
Age	,1011	,1142	,8855	,3799	-,1279
,3301					
TenOrg	,0469	,1030	,4558	,6504	-,1596
,2534					
TenTeam	-,0659	,0925	-,7120	,4796	-,2514
,1197					
SeEffi	,0296	,1878	,1575	,8755	-,3471
,4062					
EmotLab	-,0442	,1569	-,2817	,7792	-,3588
,2704					

OUTCOME VARIABLE:

Burnout

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,5438	,2958	,9892	2,0999	10,0000	50,0000
	,0420					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,6468	1,8923	2,4556	,0176	,8459
8,4476					
PHL	,0642	,0318	2,0156	,0492	,0002
,1281					
Auto	-1,1634	,3292	-3,5339	,0009	-1,8246
-,5021					
Comp	,4460	,3367	1,3247	,1913	-,2302
1,1223					
Relat	,1288	,2673	,4818	,6321	-,4081
,6656					
Gender	,5760	,4922	1,1702	,2475	-,4127
1,5646					
Age	-,1256	,2067	-,6077	,5462	-,5407
,2896					
TenOrg	,1389	,1866	,7447	,4599	-,2358
,5137					
TenTeam	-,1766	,1651	-1,0699	,2898	-,5083
,1550					
SeEffi	-,1720	,3596	-,4784	,6344	-,8942
,5502					
EmotLab	-,3758	,2907	-1,2927	,2021	-,9598
,2081					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0642	,0318	2,0156	,0492	,0002	,1281

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-,0688	,0218	-,1147	-,0272
Auto	-,0808	,0249	-,1279	-,0267
Comp	,0040	,0056	-,0060	,0171

Relat ,0081 ,0218 -,0466 ,0414

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence
intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to
be replaced.

The number of times this happened was:
25

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
 Y : WorkEng
 X : PHL
 M1 : Auto
 M2 : Comp
 M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample
Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p						

,7025 ,4935 ,2351 7,3776 7,0000 53,0000
,0000

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6224	,8167	3,2111	,0022	,9844
4,2605					
PHL	,0695	,0102	6,8414	,0000	,0491
,0898					
Gender	-,0438	,2395	-,1828	,8557	-,5241
,4366					
Age	,1715	,0970	1,7686	,0827	-,0230
,3660					
TenOrg	-,1457	,0874	-1,6660	,1016	-,3210
,0297					
TenTeam	,0872	,0786	1,1094	,2723	-,0704
,2447					
SeEffi	,2124	,1595	1,3319	,1886	-,1074
,5322					
EmotLab	-,3345	,1332	-2,5111	,0151	-,6016
-,0673					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,4100		,1681	,2355	1,5295	7,0000	53,0000
,1776						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5178	,8174	3,0804	,0033	,8784
4,1573					
PHL	,0089	,0102	,8742	,3860	-,0115
,0293					
Gender	-,0522	,2397	-,2176	,8286	-,5329
,4286					
Age	,0086	,0971	,0883	,9300	-,1861
,2032					
TenOrg	-,0055	,0875	-,0634	,9497	-,1811
,1700					
TenTeam	,0181	,0786	,2302	,8188	-,1396
,1758					
SeEffi	,4939	,1596	3,0946	,0031	,1738
,8140					

EmotLab -,0839 ,1333 -,6293 ,5318 -,3513
,1835

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6169	,3806	,3260	4,6520	7,0000	53,0000
	,0004					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5270	,9617	2,6276	,0112	,5980
4,4560					
PHL	,0629	,0120	5,2577	,0000	,0389
,0868					
Gender	,0672	,2820	,2383	,8126	-,4985
,6329					
Age	,1011	,1142	,8855	,3799	-,1279
,3301					
TenOrg	,0469	,1030	,4558	,6504	-,1596
,2534					
TenTeam	-,0659	,0925	-,7120	,4796	-,2514
,1197					
SeEffi	,0296	,1878	,1575	,8755	-,3471
,4062					
EmotLab	-,0442	,1569	-,2817	,7792	-,3588
,2704					

OUTCOME VARIABLE:

WorkEng

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7690	,5914	,1943	7,2364	10,0000	50,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	,0155	,8386	,0184	,9854	-1,6690
1,6999					

PHL	,0234	,0141	1,6572	,1037	-,0050
,0517					
Auto	,5021	,1459	3,4415	,0012	,2091
,7952					
Comp	,0268	,1492	,1794	,8584	-,2730
,3265					
Relat	,0236	,1185	,1996	,8426	-,2143
,2616					
Gender	,2037	,2181	,9336	,3550	-,2345
,6418					
Age	,1660	,0916	1,8120	,0760	-,0180
,3500					
TenOrg	-,0405	,0827	-,4897	,6265	-,2066
,1256					
TenTeam	,0409	,0732	,5589	,5787	-,1061
,1879					
SeEffi	,2317	,1594	1,4538	,1522	-,0884
,5517					
EmotLab	-,0838	,1288	-,6503	,5185	-,3426
,1750					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0234	,0141	1,6572	,1037	-,0050	,0517

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0366	,0128	,0070	,0587
Auto	,0349	,0132	,0043	,0565
Comp	,0002	,0023	-,0031	,0066
Relat	,0015	,0104	-,0145	,0261

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
24

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : JobSat
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7025	,4935	,2351	7,3776	7,0000	53,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6224	,8167	3,2111	,0022	,9844
4,2605					
PHL	,0695	,0102	6,8414	,0000	,0491
,0898					
Gender	-,0438	,2395	-,1828	,8557	-,5241
,4366					
Age	,1715	,0970	1,7686	,0827	-,0230
,3660					
TenOrg	-,1457	,0874	-1,6660	,1016	-,3210
,0297					

TenTeam	,0872	,0786	1,1094	,2723	-,0704
,2447					
SeEffi	,2124	,1595	1,3319	,1886	-,1074
,5322					
EmotLab	-,3345	,1332	-2,5111	,0151	-,6016
-,0673					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,4100	,1681	,2355	1,5295	7,0000	53,0000
,1776						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5178	,8174	3,0804	,0033	,8784
4,1573					
PHL	,0089	,0102	,8742	,3860	-,0115
,0293					
Gender	-,0522	,2397	-,2176	,8286	-,5329
,4286					
Age	,0086	,0971	,0883	,9300	-,1861
,2032					
TenOrg	-,0055	,0875	-,0634	,9497	-,1811
,1700					
TenTeam	,0181	,0786	,2302	,8188	-,1396
,1758					
SeEffi	,4939	,1596	3,0946	,0031	,1738
,8140					
EmotLab	-,0839	,1333	-,6293	,5318	-,3513
,1835					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6169	,3806	,3260	4,6520	7,0000	53,0000
,0004						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5270	,9617	2,6276	,0112	,5980
4,4560					
PHL	,0629	,0120	5,2577	,0000	,0389
,0868					
Gender	,0672	,2820	,2383	,8126	-,4985
,6329					
Age	,1011	,1142	,8855	,3799	-,1279
,3301					
TenOrg	,0469	,1030	,4558	,6504	-,1596
,2534					
TenTeam	-,0659	,0925	-,7120	,4796	-,2514
,1197					
SeEffi	,0296	,1878	,1575	,8755	-,3471
,4062					
EmotLab	-,0442	,1569	-,2817	,7792	-,3588
,2704					

OUTCOME VARIABLE:

JobSat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7344	,5394	,2378	5,8548	10,0000	50,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,3464	,9278	1,4512	,1530	-,5171
3,2100					
PHL	,0158	,0156	1,0126	,3161	-,0155
,0472					
Auto	,4704	,1614	2,9145	,0053	,1462
,7946					
Comp	,1495	,1651	,9056	,3695	-,1821
,4811					
Relat	,0667	,1310	,5089	,6130	-,1965
,3299					
Gender	-,3377	,2413	-1,3992	,1679	-,8224
,1471					
Age	,0864	,1013	,8526	,3980	-,1171
,2899					
TenOrg	-,0501	,0915	-,5477	,5863	-,2338
,1336					
TenTeam	,0302	,0810	,3731	,7106	-,1324
,1928					

SeEffi	,1315	,1763	,7460	,4592	-,2226
,4856					
EmotLab	,0603	,1425	,4232	,6740	-,2260
,3466					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y					
Effect	se	t	p	LLCI	ULCI
,0158	,0156	1,0126	,3161	-,0155	,0472

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0382	,0115	,0150	,0610
Auto	,0327	,0139	,0027	,0574
Comp	,0013	,0027	-,0038	,0076
Relat	,0042	,0134	-,0139	,0348

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
17

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB

X : PHL
 M1 : Auto
 M2 : Comp
 M3 : Relat
 W : Quants

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7372	,5435	,2202	6,7470	9,0000	51,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4169	1,5162	1,5941	,1171	-,6270
5,4608					
PHL	,0362	,0730	,4962	,6219	-,1103
,1827					
Quants	,0700	,1663	,4211	,6755	-,2638
,4038					
Int_1	,0047	,0108	,4334	,6666	-,0171
,0265					
Gender	-,1115	,2473	-,4506	,6542	-,6080
,3851					
Age	,1566	,0942	1,6628	,1025	-,0325
,3457					
TenOrg	-,1575	,0848	-1,8584	,0689	-,3277
,0126					
TenTeam	,0981	,0762	1,2862	,2042	-,0550
,2511					
SeEffi	,1977	,1545	1,2796	,2065	-,1125
,5079					
EmotLab	-,3329	,1309	-2,5433	,0141	-,5957
-,0701					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0017	,1878	1,0000	51,0000	,6666

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4780	,2285	,2269	1,6785	9,0000	51,0000
	,1187					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5080	1,5392	1,6294	,1094	-,5821
5,5982					
PHL	-,0288	,0741	-,3881	,6996	-,1775
,1200					
Quants	,0389	,1688	,2306	,8186	-,3000
,3778					
Int_1	,0054	,0110	,4906	,6258	-,0167
,0275					
Gender	-,1207	,2511	-,4805	,6329	-,6248
,3835					
Age	-,0036	,0956	-,0373	,9704	-,1955
,1884					
TenOrg	-,0158	,0861	-,1832	,8553	-,1885
,1570					
TenTeam	,0271	,0774	,3496	,7281	-,1283
,1824					
SeEffi	,4819	,1569	3,0721	,0034	,1670
,7968					
EmotLab	-,0855	,1329	-,6433	,5229	-,3523
,1813					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0036	,2407	1,0000	51,0000	,6258

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6401	,4097	,3228	3,9333	9,0000	51,0000
,0008						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,0636	1,8359	1,1240	,2663	-1,6222
5,7493					
PHL	,0524	,0884	,5928	,5560	-,1250
,2298					
Quants	,0942	,2013	,4680	,6418	-,3100
,4984					
Int_1	,0013	,0131	,1017	,9194	-,0250
,0277					
Gender	,0314	,2995	,1047	,9170	-,5699
,6326					
Age	,0880	,1140	,7714	,4441	-,1410
,3169					
TenOrg	,0374	,1026	,3648	,7167	-,1686
,2435					
TenTeam	-,0564	,0923	-,6109	,5440	-,2417
,1289					
SeEffi	,0167	,1871	,0891	,9293	-,3589
,3923					
EmotLab	-,0377	,1585	-,2378	,8130	-,3559
,2805					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0001	,0103	1,0000	51,0000	,9194

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7247	,5252	,2221	5,5298	10,0000	50,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					

constant	,9114	,8967	1,0164	,3143	-,8897
2,7124					
PHL	-,0082	,0151	-,5408	,5910	-,0385
,0221					
Auto	,7095	,1560	4,5484	,0000	,3962
1,0228					
Comp	-,0898	,1595	-,5629	,5760	-,4103
,2306					
Relat	-,0120	,1266	-,0951	,9246	-,2664
,2423					
Gender	-,2382	,2332	-1,0215	,3120	-,7067
,2302					
Age	,1260	,0979	1,2864	,2042	-,0707
,3227					
TenOrg	-,0766	,0884	-,8660	,3906	-,2541
,1010					
TenTeam	,0823	,0782	1,0518	,2979	-,0749
,2394					
SeEffi	,1793	,1704	1,0524	,2977	-,1629
,5215					
EmotLab	,1166	,1378	,8464	,4014	-,1601
,3933					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0082	,0151	-,5408	,5910	-,0385	,0221

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,9200	,0454	,0144	,0159	,0714
7,0000	,0490	,0142	,0178	,0726
8,0000	,0524	,0181	,0143	,0846

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0033	,0079	-,0133	,0180

INDIRECT EFFECT:

PHL -> Comp -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,9200	-,0003	,0026	-,0053	,0060
7,0000	-,0008	,0023	-,0062	,0037

8,0000 -,0013 ,0040 -,0108 ,0052

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	-,0005	,0023	-,0068	,0031

INDIRECT EFFECT:

PHL -> Relat -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,9200	-,0007	,0123	-,0160	,0327
7,0000	-,0007	,0119	-,0178	,0285
8,0000	-,0008	,0124	-,0226	,0273

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0000	,0030	-,0091	,0040

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
28

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7

Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : QualityS

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7384	,5452	,2193	6,7935	9,0000	51,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,3167	1,1532	2,0089	,0499	,0015
4,6319					
PHL	,0361	,0554	,6507	,5182	-,0752
,1474					
QualityS	,0796	,2452	,3246	,7468	-,4127
,5719					
Int_1	,0112	,0178	,6293	,5320	-,0246
,0471					
Gender	,0007	,2336	,0030	,9976	-,4683
,4697					
Age	,1486	,0951	1,5632	,1242	-,0422
,3395					
TenOrg	-,1536	,0845	-1,8172	,0751	-,3234
,0161					
TenTeam	,0978	,0765	1,2789	,2067	-,0557
,2514					
SeEffi	,1950	,1543	1,2633	,2122	-,1149
,5049					
EmotLab	-,3009	,1309	-2,2981	,0257	-,5638
-,0380					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0035	,3960	1,0000	51,0000	,5320

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,5103	,2604	,2175	1,9952	9,0000	51,0000
	,0591					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,0884	1,1485	2,6892	,0097	,7827
5,3940					
PHL	-,0775	,0552	-1,4041	,1664	-,1884
,0333					
QualityS	-,1760	,2442	-,7207	,4744	-,6663
,3143					
Int_1	,0285	,0178	1,6048	,1147	-,0072
,0642					
Gender	-,0374	,2326	-,1606	,8730	-,5044
,4296					
Age	,0005	,0947	,0052	,9958	-,1896
,1906					
TenOrg	-,0154	,0842	-,1827	,8557	-,1844
,1537					
TenTeam	,0194	,0762	,2553	,7995	-,1335
,1724					
SeEffi	,4843	,1537	3,1508	,0027	,1757
,7929					
EmotLab	-,0726	,1304	-,5567	,5801	-,3344
,1892					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0373	2,5754	1,0000	51,0000	,1147

OUTCOME VARIABLE:

Relat

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	,6327	,4003	,3280	3,7824	9,0000	51,0000
	,0010					

Model	coeff	se	t	p	LLCI
ULCI					
constant	2,9777	1,4101	2,1116	,0396	,1467
5,8087					
PHL	,0037	,0678	,0551	,9563	-,1324
,1399					
QualityS	-,1373	,2999	-,4580	,6489	-,7393
,4647					
Int_1	,0195	,0218	,8931	,3760	-,0243
,0633					
Gender	,0729	,2856	,2551	,7996	-,5006
,6463					
Age	,0979	,1163	,8417	,4039	-,1355
,3312					
TenOrg	,0407	,1034	,3934	,6957	-,1669
,2482					
TenTeam	-,0661	,0935	-,7069	,4829	-,2539
,1217					
SeEffi	,0246	,1887	,1303	,8969	-,3543
,4035					
EmotLab	-,0398	,1601	-,2486	,8046	-,3613
,2816					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0094	,7977	1,0000	51,0000	,3760

OUTCOME VARIABLE:

WB

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	,7247	,5252	,2221	5,5298	10,0000	50,0000
	,0000					

Model	coeff	se	t	p	LLCI
ULCI					

constant	,9114	,8967	1,0164	,3143	-,8897
2,7124					
PHL	-,0082	,0151	-,5408	,5910	-,0385
,0221					
Auto	,7095	,1560	4,5484	,0000	,3962
1,0228					
Comp	-,0898	,1595	-,5629	,5760	-,4103
,2306					
Relat	-,0120	,1266	-,0951	,9246	-,2664
,2423					
Gender	-,2382	,2332	-1,0215	,3120	-,7067
,2302					
Age	,1260	,0979	1,2864	,2042	-,0707
,3227					
TenOrg	-,0766	,0884	-,8660	,3906	-,2541
,1010					
TenTeam	,0823	,0782	1,0518	,2979	-,0749
,2394					
SeEffi	,1793	,1704	1,0524	,2977	-,1629
,5215					
EmotLab	,1166	,1378	,8464	,4014	-,1601
,3933					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0082	,0151	-,5408	,5910	-,0385	,0221

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
2,0000	,0415	,0199	,0048	,0811
3,0000	,0495	,0137	,0194	,0741
4,0000	,0575	,0211	,0180	,1007

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	,0080	,0153	-,0217	,0401

INDIRECT EFFECT:

PHL -> Comp -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
2,0000	,0018	,0042	-,0066	,0114
3,0000	-,0007	,0021	-,0054	,0034

4,0000 -,0033 ,0066 -,0171 ,0101

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	-,0026	,0051	-,0136	,0080

INDIRECT EFFECT:

PHL -> Relat -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
2,0000	-,0005	,0116	-,0095	,0370
3,0000	-,0007	,0128	-,0183	,0316
4,0000	-,0010	,0162	-,0340	,0310

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	-,0002	,0059	-,0183	,0062

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
24

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7

Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : Latency

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 61

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7054	,4976	,2423	5,6131	9,0000	51,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6220	,8363	3,1351	,0028	,9430
4,3010					
PHL	,0615	,0162	3,7943	,0004	,0290
,0941					
Latency	-,0057	,0101	-,5663	,5737	-,0260
,0145					
Int_1	,0004	,0007	,6446	,5221	-,0009
,0018					
Gender	-,0450	,2434	-,1851	,8539	-,5336
,4435					
Age	,1693	,0988	1,7138	,0926	-,0290
,3677					
TenOrg	-,1541	,0900	-1,7130	,0928	-,3348
,0265					
TenTeam	,0981	,0816	1,2018	,2350	-,0658
,2619					
SeEffi	,2356	,1679	1,4031	,1666	-,1015
,5728					
EmotLab	-,3240	,1390	-2,3306	,0238	-,6032
-,0449					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0041	,4155	1,0000	51,0000	,5221

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4810	,2313	,2261	1,7054	9,0000	51,0000
	,1119					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4400	,8079	3,0204	,0039	,8182
4,0619					
PHL	-,0123	,0157	-,7832	,4371	-,0437
,0192					
Latency	-,0130	,0097	-1,3319	,1888	-,0326
,0066					
Int_1	,0012	,0006	1,8681	,0675	-,0001
,0025					
Gender	-,0628	,2351	-,2672	,7904	-,5347
,4091					
Age	,0076	,0954	,0799	,9366	-,1840
,1992					
TenOrg	-,0345	,0869	-,3969	,6931	-,2090
,1400					
TenTeam	,0516	,0788	,6551	,5153	-,1066
,2099					
SeEffi	,5790	,1622	3,5693	,0008	,2533
,9047					
EmotLab	-,0735	,1343	-,5474	,5865	-,3432
,1961					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0526	3,4899	1,0000	51,0000	,0675

Focal predict: PHL (X)

Mod var: Latency (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Latency	Effect	se	t	p	LLCI
ULCI						
	5,0000	-,0063	,0134	-,4697	,6406	-
,0331	,0206					
	15,0000	,0057	,0103	,5506	,5843	-
,0151	,0265					
	30,0000	,0237	,0124	1,9082	,0620	-
,0012	,0486					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6345	,4026	,3267	3,8183	9,0000	51,0000
,0010						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5746	,9712	2,6510	,0107	,6249
4,5243					
PHL	,0431	,0188	2,2865	,0264	,0053
,0809					
Latency	-,0157	,0117	-1,3377	,1869	-,0392
,0079					
Int_1	,0010	,0008	1,3361	,1874	-,0005
,0026					
Gender	,0687	,2826	,2430	,8090	-,4987
,6360					
Age	,0926	,1147	,8069	,4235	-,1378
,3229					
TenOrg	,0299	,1045	,2859	,7761	-,1799
,2396					
TenTeam	-,0415	,0947	-,4385	,6629	-,2318
,1487					
SeEffi	,0728	,1950	,3731	,7106	-,3187
,4643					
EmotLab	-,0070	,1615	-,0435	,9654	-,3312
,3171					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0209	1,7852	1,0000	51,0000	,1874

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7247	,5252	,2221	5,5298	10,0000	50,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	,9114	,8967	1,0164	,3143	-,8897
2,7124					
PHL	-,0082	,0151	-,5408	,5910	-,0385
,0221					
Auto	,7095	,1560	4,5484	,0000	,3962
1,0228					
Comp	-,0898	,1595	-,5629	,5760	-,4103
,2306					
Relat	-,0120	,1266	-,0951	,9246	-,2664
,2423					
Gender	-,2382	,2332	-1,0215	,3120	-,7067
,2302					
Age	,1260	,0979	1,2864	,2042	-,0707
,3227					
TenOrg	-,0766	,0884	-,8660	,3906	-,2541
,1010					
TenTeam	,0823	,0782	1,0518	,2979	-,0749
,2394					
SeEffi	,1793	,1704	1,0524	,2977	-,1629
,5215					
EmotLab	,1166	,1378	,8464	,4014	-,1601
,3933					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0082	,0151	-,5408	,5910	-,0385	,0221

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0452	,0155	,0150	,0756
15,0000	,0482	,0139	,0177	,0733
30,0000	,0528	,0156	,0189	,0794

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0003	,0006	-,0012	,0012

INDIRECT EFFECT:

PHL -> Comp -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0006	,0025	-,0039	,0068
15,0000	-,0005	,0020	-,0048	,0040
30,0000	-,0021	,0040	-,0097	,0066

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	-,0001	,0002	-,0005	,0003

INDIRECT EFFECT:

PHL -> Relat -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	-,0006	,0099	-,0178	,0230
15,0000	-,0007	,0115	-,0175	,0278
30,0000	-,0009	,0146	-,0190	,0379

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0000	,0003	-,0003	,0008

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
28

----- END MATRIX -----

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PHL	61	1,00	25,00	14,5325	6,69249
PHL01	61	,00	1,00	,5246	,50354
JobSat	61	2,00	5,00	4,2541	,65589
Burnout	61	1,00	5,00	2,7869	1,08189
WorkEng	61	1,67	4,83	3,6638	,62946
WB	61	1,56	4,83	3,7107	,62431
Auto	61	2,14	4,86	3,4892	,64028
Comp	61	2,83	5,00	4,1007	,50000
Relat	61	1,50	5,00	3,7710	,68179
QuantS	61	4,00	9,00	6,5738	1,04018
Latency	61	1,00	60,00	18,7049	15,40384
QualityS	61	1,00	4,00	2,9672	,65745
Gender	61	1,00	2,00	1,9180	,27659
Age	61	1,00	4,00	2,5218	,91241
TenOrg	61	1,00	5,00	2,5338	1,32932
TenTeam	61	1,00	5,00	2,0885	1,30117
SeEffi	61	2,80	4,40	3,5967	,41068
EmotLab	61	1,80	4,40	3,1934	,51636
Valid N (listwise)	61				

Group Statistics

	PHL01	N	Mean	Std. Deviation	Std. Error Mean
JobSat	,00	29	3,9828	,66121	,12278
	1,00	32	4,5000	,55358	,09786
Burnout	,00	29	2,8621	1,12517	,20894
	1,00	32	2,7188	1,05446	,18640
WorkEng	,00	29	3,3903	,60390	,11214
	1,00	32	3,9116	,55150	,09749
WB	,00	29	3,5034	,61788	,11474
	1,00	32	3,8984	,57705	,10201
Auto	,00	29	3,1866	,64207	,11923
	1,00	32	3,7634	,50772	,08975
Comp	,00	29	4,0745	,48922	,09085
	1,00	32	4,1244	,51621	,09125
Relat	,00	29	3,4428	,70273	,13049
	1,00	32	4,0684	,51139	,09040

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One- Sided p	Two- Sided p	Mean Differenc e	Std. Error Differenc e	Lower	Upper
JobSat	Equal variances assumed	,362	,550	-3,323	59	<,001	,002	-,51724	,15564	-,82867	-,20582
	Equal variances not assumed			-3,294	54,872	<,001	,002	-,51724	,15701	-,83191	-,20257
Burnout	Equal variances assumed	,096	,758	,514	59	,305	,610	,14332	,27910	-,41515	,70179
	Equal variances not assumed			,512	57,442	,305	,611	,14332	,28000	-,41729	,70392
WorkEng	Equal variances assumed	,053	,818	-3,524	59	<,001	<,001	-,52122	,14792	-,81721	-,22522
	Equal variances not assumed			-3,508	56,941	<,001	<,001	-,52122	,14860	-,81878	-,22365
WB	Equal variances assumed	,081	,777	-2,582	59	,006	,012	-,39499	,15300	-,70115	-,08883
	Equal variances not assumed			-2,573	57,378	,006	,013	-,39499	,15353	-,70238	-,08760
Auto	Equal variances assumed	1,307	,257	-3,910	59	<,001	<,001	-,57689	,14752	-,87208	-,28169
	Equal variances not assumed			-3,866	53,273	<,001	<,001	-,57689	,14924	-,87618	-,27759

Comp	Equal variances assumed	,068	,796	-,386	59	,350	,701	-,04989	,12911	-,30824	,20846
	Equal variances not assumed			-,387	58,873	,350	,700	-,04989	,12877	-,30756	,20778
Relat	Equal variances assumed	3,341	,073	-4,002	59	<,001	<,001	-,62568	,15632	-,93848	-,31287
	Equal variances not assumed			-3,941	50,764	<,001	<,001	-,62568	,15875	-,94442	-,30694

Correlations

		PHL	JobSat	Burnout	WorkEng	WB	Auto	Comp	Relat	QuantS	Latency	QualityS	Gender	Age	TenOrg	TenTeam	Self	EmotLab
PHL	Pearson Correlation	1	,510**	,011	,506**	,344*	,602*	,117	,598*	,068	-,088	-,081	-,161	-,139	,027	-,080	,062	,293*
	Sig. (2-tailed)		<,001	,935	<,001	,007	<,001	,369	<,001	,602	,499	,534	,216	,287	,837	,541	,633	,022
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
JobSat	Pearson Correlation	,510*	1	-,286*	,675**	,742*	,680*	,399*	,489*	,174	-,223	,194	-,251	,091	,011	,003	,189	,084
	Sig. (2-tailed)	<,001		,025	<,001	<,001	<,001	,001	<,001	,181	,085	,135	,051	,486	,930	,979	,145	,521
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61

Burnout	Pearson Correlation	,011	-,286*	1	-,405**	-,813*	-,338*	-,053	-,025	-,067	,066	-,197	,163	-,189	-,021	-,149	-,039	,015
	Sig. (2-tailed)	,935	,025		,001	<,001	,008	,685	,846	,607	,612	,127	,208	,145	,870	,253	,765	,906
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
WorkEng	Pearson Correlation	,506*	,675**	-,405**	1	,806*	,706*	,339*	,468*	,105	-,167	,248	-,017	,237	,155	,145	,202	-,012
	Sig. (2-tailed)	<,001	<,001	,001		<,001	<,001	,008	<,001	,421	,199	,054	,894	,066	,233	,265	,118	,928
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
WB	Pearson Correlation	,344*	,742**	-,813**	,806**	1	,670*	,284*	,344*	,134	-,173	,265*	-,189	,220	,068	,135	,157	,017
	Sig. (2-tailed)	,007	<,001	<,001	<,001		<,001	,027	,007	,303	,183	,039	,145	,089	,604	,301	,227	,898
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Auto	Pearson Correlation	,602*	,680**	-,338**	,706**	,670*	1	,438*	,575*	,272*	-,138	,225	-,146	,054	-,022	,008	,093	-,073
	Sig. (2-tailed)	<,001	<,001	,008	<,001	<,001		<,001	<,001	,034	,289	,081	,261	,678	,869	,954	,477	,577
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Comp	Pearson Correlation	,117	,399**	-,053	,339**	,284*	,438*	1	,377*	,267*	,023	,248	-,039	,028	,036	-,007	,388*	,045

	Sig. (2-tailed)	,369	,001	,685	,008	,027	<,001		,003	,038	,861	,053	,763	,829	,784	,960	,002	,729
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Relat	Pearson Correlation	,598*	,489**	-,025	,468**	,344*	,575*	,377*	1	,231	-,093	,075	-,072	,041	,103	-,023	,067	,160
	Sig. (2-tailed)	<,001	<,001	,846	<,001	,007	<,001	,003		,073	,475	,565	,581	,754	,430	,861	,608	,219
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
QuantS	Pearson Correlation	,068	,174	-,067	,105	,134	,272*	,267*	,231	1	-,152	,442**	,050	,105	,103	,035	,059	,007
	Sig. (2-tailed)	,602	,181	,607	,421	,303	,034	,038	,073		,244	<,001	,700	,418	,428	,792	,651	,957
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Latency	Pearson Correlation	-,088	-,223	,066	-,167	-,173	-,138	,023	-,093	-,152	1	-,401**	,072	-,037	,045	,012	-,125	,144
	Sig. (2-tailed)	,499	,085	,612	,199	,183	,289	,861	,475	,244		,001	,579	,778	,730	,927	,339	,268
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
QualityS	Pearson Correlation	-,081	,194	-,197	,248	,265*	,225	,248	,075	,442**	-,401**	1	-,107	,150	,030	-,012	,037	-,148
	Sig. (2-tailed)	,534	,135	,127	,054	,039	,081	,053	,565	<,001	,001		,413	,247	,821	,926	,779	,255
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61

Gender	Pearson Correlation	- ,161	-,251	,163	-,017	- ,189	- ,146	-,039	- ,072	,050	,072	-,107	1	,040	,212	,206	-,002	-,027
	Sig. (2-tailed)	,216	,051	,208	,894	,145	,261	,763	,581	,700	,579	,413		,758	,102	,112	,985	,835
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Age	Pearson Correlation	- ,139	,091	-,189	,237	,220	,054	,028	,041	,105	-,037	,150	,040	1	,666**	,576**	,027	-,026
	Sig. (2-tailed)	,287	,486	,145	,066	,089	,678	,829	,754	,418	,778	,247	,758		<,001	<,001	,839	,841
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
TenOrg	Pearson Correlation	,027	,011	-,021	,155	,068	- ,022	,036	,103	,103	,045	,030	,212	,666*	1	,770**	,049	,151
	Sig. (2-tailed)	,837	,930	,870	,233	,604	,869	,784	,430	,428	,730	,821	,102	<,001		<,001	,708	,245
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
TenTeam	Pearson Correlation	- ,080	,003	-,149	,145	,135	,008	-,007	- ,023	,035	,012	-,012	,206	,576*	,770**	1	-,086	,014
	Sig. (2-tailed)	,541	,979	,253	,265	,301	,954	,960	,861	,792	,927	,926	,112	<,001	<,001		,512	,916
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
SeEffi	Pearson Correlation	,062	,189	-,039	,202	,157	,093	,388*	,067	,059	-,125	,037	-,002	,027	,049	-,086	1	,242

	Sig. (2-tailed)	,633	,145	,765	,118	,227	,477	,002	,608	,651	,339	,779	,985	,839	,708	,512		,060
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
EmotLab	Pearson Correlation	,293*	,084	,015	-,012	,017	-,073	,045	,160	,007	,144	-,148	-,027	-,026	,151	,014	,242	1
	Sig. (2-tailed)	,022	,521	,906	,928	,898	,577	,729	,219	,957	,268	,255	,835	,841	,245	,916	,060	
	N	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Independent Samples Effect Sizes

			Point Estimate	95% Confidence Interval	
Standardizer a		Lower		Upper	
JobSat	Cohen's d	,60704	-,852	-1,374	-,323
	Hedges' correction	,61490	-,841	-1,357	-,319
	Glass's delta	,55358	-,934	-1,481	-,375
Burnout	Cohen's d	1,08859	,132	-,372	,634
	Hedges' correction	1,10268	,130	-,367	,626
	Glass's delta	1,05446	,136	-,369	,638
WorkEng	Cohen's d	,57696	-,903	-1,428	-,372
	Hedges' correction	,58443	-,892	-1,410	-,367
	Glass's delta	,55150	-,945	-1,493	-,384
WB	Cohen's d	,59678	-,662	-1,176	-,143
	Hedges' correction	,60450	-,653	-1,161	-,141
	Glass's delta	,57705	-,684	-1,210	-,149
Auto	Cohen's d	,57541	-1,003	-1,533	-,465
	Hedges' correction	,58285	-,990	-1,513	-,459
	Glass's delta	,50772	-1,136	-1,705	-,553
Comp	Cohen's d	,50359	-,099	-,601	,404
	Hedges' correction	,51010	-,098	-,594	,399
	Glass's delta	,51621	-,097	-,599	,407
Relat	Cohen's d	,60973	-1,026	-1,558	-,487
	Hedges' correction	,61762	-1,013	-1,538	-,481
	Glass's delta	,51139	-1,223	-1,803	-,629

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

Appendix 5: SPSS output – leaders

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 4.2
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

```
*****
*****
```

Model : 4
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

```
*****
*****
```

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6485	,4206	,2164	1,9704	7,0000	19,0000
,1136						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,4817	1,0869	1,3632	,1888	-,7934
3,7569					
PHL	,0330	,0210	1,5680	,1334	-,0110
,0770					
Gender	,1039	,2996	,3468	,7325	-,5231
,7309					
Age	-,0617	,1988	-,3103	,7597	-,4779
,3545					
TenOrg	-,0336	,1131	-,2968	,7699	-,2703
,2032					

TenTeam	,0906	,0961	,9426	,3577	-,1106
,2918					
SeEffi	,3813	,1867	2,0426	,0552	-,0094
,7720					
EmotLab	-,0148	,1835	-,0804	,9367	-,3989
,3694					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,4426	,1959	,2555	,6611	7,0000	19,0000
,7017						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,4461	1,1812	3,7642	,0013	1,9738
6,9185					
PHL	,0201	,0229	,8800	,3898	-,0277
,0680					
Gender	-,1677	,3255	-,5151	,6124	-,8490
,5137					
Age	-,2749	,2161	-1,2722	,2186	-,7272
,1774					
TenOrg	,0568	,1229	,4624	,6491	-,2004
,3141					
TenTeam	,0869	,1044	,8316	,4160	-,1318
,3055					
SeEffi	,0915	,2028	,4510	,6571	-,3331
,5161					
EmotLab	-,0759	,1994	-,3808	,7076	-,4934
,3415					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,8210	,6741	,1048	5,6137	7,0000	19,0000
,0013						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,4588	,7564	4,5728	,0002	1,8756
5,0420					
PHL	,0588	,0146	4,0166	,0007	,0282
,0894					
Gender	,0512	,2085	,2458	,8085	-,3851
,4876					
Age	-,0843	,1384	-,6089	,5498	-,3739
,2054					
TenOrg	,1037	,0787	1,3175	,2034	-,0611
,2684					
TenTeam	,0960	,0669	1,4347	,1676	-,0440
,2360					
SeEffi	,1183	,1299	,9108	,3738	-,1536
,3902					
EmotLab	-,3911	,1277	-3,0625	,0064	-,6584
-,1238					

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,7009		,4912	,1734	1,5447	10,0000	16,0000
,2113						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,0869	1,4780	2,0886	,0531	-,0466
6,2204					
PHL	,0314	,0262	1,1980	,2484	-,0241
,0869					
Auto	,1684	,2323	,7249	,4790	-,3240
,6608					
Comp	,1959	,2166	,9046	,3791	-,2633
,6552					
Relat	-,6587	,3703	-1,7787	,0943	-1,4439
,1264					
Gender	,0725	,2728	,2659	,7937	-,5059
,6510					
Age	-,1121	,1854	-,6045	,5540	-,5052
,2810					
TenOrg	,1700	,1085	1,5669	,1367	-,0600
,4001					
TenTeam	,0865	,0908	,9521	,3552	-,1061
,2790					

SeEffi	,3999	,1846	2,1671	,0457	,0087
,7912					
EmotLab	-,1082	,2139	-,5057	,6200	-,5618
,3454					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y					
Effect	se	t	p	LLCI	ULCI
,0314	,0262	1,1980	,2484	-,0241	,0869

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-,0292	,0486	-,1290	,0643
Auto	,0056	,0167	-,0275	,0322
Comp	,0039	,0415	-,0375	,0642
Relat	-,0387	,0552	-,1599	,0477

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.
The number of times this happened was:
203

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : Burnout
X : PHL

M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6485	,4206	,2164	1,9704	7,0000	19,0000
	,1136					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,4817	1,0869	1,3632	,1888	-,7934
3,7569					
PHL	,0330	,0210	1,5680	,1334	-,0110
,0770					
Gender	,1039	,2996	,3468	,7325	-,5231
,7309					
Age	-,0617	,1988	-,3103	,7597	-,4779
,3545					
TenOrg	-,0336	,1131	-,2968	,7699	-,2703
,2032					
TenTeam	,0906	,0961	,9426	,3577	-,1106
,2918					
SeEffi	,3813	,1867	2,0426	,0552	-,0094
,7720					
EmotLab	-,0148	,1835	-,0804	,9367	-,3989
,3694					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4426	,1959	,2555	,6611	7,0000	19,0000
	,7017					

Model	coeff	se	t	p	LLCI
ULCI					
constant	4,4461	1,1812	3,7642	,0013	1,9738
6,9185					
PHL	,0201	,0229	,8800	,3898	-,0277
,0680					
Gender	-,1677	,3255	-,5151	,6124	-,8490
,5137					
Age	-,2749	,2161	-1,2722	,2186	-,7272
,1774					
TenOrg	,0568	,1229	,4624	,6491	-,2004
,3141					
TenTeam	,0869	,1044	,8316	,4160	-,1318
,3055					
SeEffi	,0915	,2028	,4510	,6571	-,3331
,5161					
EmotLab	-,0759	,1994	-,3808	,7076	-,4934
,3415					

OUTCOME VARIABLE:

Relat

Model Summary	R	R-sq	MSE	F	df1	df2
p						
,8210		,6741	,1048	5,6137	7,0000	19,0000
,0013						

Model	coeff	se	t	p	LLCI
ULCI					
constant	3,4588	,7564	4,5728	,0002	1,8756
5,0420					
PHL	,0588	,0146	4,0166	,0007	,0282
,0894					
Gender	,0512	,2085	,2458	,8085	-,3851
,4876					
Age	-,0843	,1384	-,6089	,5498	-,3739
,2054					
TenOrg	,1037	,0787	1,3175	,2034	-,0611
,2684					
TenTeam	,0960	,0669	1,4347	,1676	-,0440
,2360					
SeEffi	,1183	,1299	,9108	,3738	-,1536
,3902					
EmotLab	-,3911	,1277	-3,0625	,0064	-,6584
-,1238					

OUTCOME VARIABLE:

Burnout

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,5430	,2949	,9043	,6690	10,0000	16,0000
	,7371					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,7386	3,3753	,8114	,4291	-4,4174
9,8946					
PHL	-,0223	,0598	-,3735	,7137	-,1491
,1045					
Auto	-,5082	,5304	-,9582	,3522	-1,6328
,6163					
Comp	-,4569	,4947	-,9236	,3694	-1,5056
,5919					
Relat	1,1969	,8457	1,4152	,1762	-,5961
2,9900					
Gender	,3853	,6231	,6183	,5451	-,9358
1,7063					
Age	-,2484	,4235	-,5866	,5657	-1,1462
,6494					
TenOrg	-,2205	,2478	-,8897	,3868	-,7459
,3049					
TenTeam	-,1257	,2074	-,6059	,5531	-,5654
,3141					
SeEffi	-,2847	,4215	-,6754	,5090	-1,1782
,6089					
EmotLab	,2958	,4886	,6055	,5534	-,7400
1,3317					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0223	,0598	-,3735	,7137	-,1491	,1045

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0444	,1135	-,2147	,2469
Auto	-,0168	,0362	-,0927	,0597
Comp	-,0092	,0611	-,1648	,0844

Relat ,0704 ,1150 -,1490 ,3269

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence
intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to
be replaced.

The number of times this happened was:
225

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : WorkEng
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample
Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p						

,6485 ,4206 ,2164 1,9704 7,0000 19,0000
,1136

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,4817	1,0869	1,3632	,1888	-,7934
3,7569					
PHL	,0330	,0210	1,5680	,1334	-,0110
,0770					
Gender	,1039	,2996	,3468	,7325	-,5231
,7309					
Age	-,0617	,1988	-,3103	,7597	-,4779
,3545					
TenOrg	-,0336	,1131	-,2968	,7699	-,2703
,2032					
TenTeam	,0906	,0961	,9426	,3577	-,1106
,2918					
SeEffi	,3813	,1867	2,0426	,0552	-,0094
,7720					
EmotLab	-,0148	,1835	-,0804	,9367	-,3989
,3694					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,4426		,1959	,2555	,6611	7,0000	19,0000
,7017						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,4461	1,1812	3,7642	,0013	1,9738
6,9185					
PHL	,0201	,0229	,8800	,3898	-,0277
,0680					
Gender	-,1677	,3255	-,5151	,6124	-,8490
,5137					
Age	-,2749	,2161	-1,2722	,2186	-,7272
,1774					
TenOrg	,0568	,1229	,4624	,6491	-,2004
,3141					
TenTeam	,0869	,1044	,8316	,4160	-,1318
,3055					
SeEffi	,0915	,2028	,4510	,6571	-,3331
,5161					

EmotLab -,0759 ,1994 -,3808 ,7076 -,4934
,3415

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,8210	,6741	,1048	5,6137	7,0000	19,0000
	,0013					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,4588	,7564	4,5728	,0002	1,8756
5,0420					
PHL	,0588	,0146	4,0166	,0007	,0282
,0894					
Gender	,0512	,2085	,2458	,8085	-,3851
,4876					
Age	-,0843	,1384	-,6089	,5498	-,3739
,2054					
TenOrg	,1037	,0787	1,3175	,2034	-,0611
,2684					
TenTeam	,0960	,0669	1,4347	,1676	-,0440
,2360					
SeEffi	,1183	,1299	,9108	,3738	-,1536
,3902					
EmotLab	-,3911	,1277	-3,0625	,0064	-,6584
-,1238					

OUTCOME VARIABLE:

WorkEng

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7804	,6091	,1451	2,4927	10,0000	16,0000
	,0501					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,2254	1,3521	,9063	,3782	-1,6412
4,0921					

PHL	,0295	,0240	1,2307	,2362	-,0213
,0803					
Auto	,0895	,2125	,4213	,6791	-,3610
,5400					
Comp	,1198	,1982	,6047	,5539	-,3003
,5399					
Relat	-,2101	,3388	-,6203	,5438	-,9284
,5081					
Gender	,1794	,2496	,7186	,4828	-,3498
,7086					
Age	-,0835	,1696	-,4923	,6292	-,4432
,2761					
TenOrg	,1037	,0993	1,0441	,3120	-,1068
,3141					
TenTeam	,0444	,0831	,5348	,6001	-,1317
,2206					
SeEffi	,4404	,1688	2,6083	,0190	,0824
,7983					
EmotLab	,0743	,1957	,3794	,7094	-,3407
,4892					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0295	,0240	1,2307	,2362	-,0213	,0803

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-,0070	,0371	-,0660	,0661
Auto	,0030	,0146	-,0334	,0235
Comp	,0024	,0230	-,0310	,0539
Relat	-,0124	,0347	-,0785	,0632

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
203

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : JobSat
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6485	,4206	,2164	1,9704	7,0000	19,0000
,1136						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,4817	1,0869	1,3632	,1888	-,7934
3,7569					
PHL	,0330	,0210	1,5680	,1334	-,0110
,0770					
Gender	,1039	,2996	,3468	,7325	-,5231
,7309					
Age	-,0617	,1988	-,3103	,7597	-,4779
,3545					
TenOrg	-,0336	,1131	-,2968	,7699	-,2703
,2032					

TenTeam	,0906	,0961	,9426	,3577	-,1106
,2918					
SeEffi	,3813	,1867	2,0426	,0552	-,0094
,7720					
EmotLab	-,0148	,1835	-,0804	,9367	-,3989
,3694					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,4426	,1959	,2555	,6611	7,0000	19,0000
,7017						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,4461	1,1812	3,7642	,0013	1,9738
6,9185					
PHL	,0201	,0229	,8800	,3898	-,0277
,0680					
Gender	-,1677	,3255	-,5151	,6124	-,8490
,5137					
Age	-,2749	,2161	-1,2722	,2186	-,7272
,1774					
TenOrg	,0568	,1229	,4624	,6491	-,2004
,3141					
TenTeam	,0869	,1044	,8316	,4160	-,1318
,3055					
SeEffi	,0915	,2028	,4510	,6571	-,3331
,5161					
EmotLab	-,0759	,1994	-,3808	,7076	-,4934
,3415					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,8210	,6741	,1048	5,6137	7,0000	19,0000
,0013						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,4588	,7564	4,5728	,0002	1,8756
5,0420					
PHL	,0588	,0146	4,0166	,0007	,0282
,0894					
Gender	,0512	,2085	,2458	,8085	-,3851
,4876					
Age	-,0843	,1384	-,6089	,5498	-,3739
,2054					
TenOrg	,1037	,0787	1,3175	,2034	-,0611
,2684					
TenTeam	,0960	,0669	1,4347	,1676	-,0440
,2360					
SeEffi	,1183	,1299	,9108	,3738	-,1536
,3902					
EmotLab	-,3911	,1277	-3,0625	,0064	-,6584
-,1238					

OUTCOME VARIABLE:

JobSat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,7847		,6158	,1361	2,5648	10,0000	16,0000
,0451						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,7315	1,3093	3,6139	,0023	1,9557
7,5073					
PHL	,0418	,0232	1,8000	,0907	-,0074
,0909					
Auto	-,0960	,2057	-,4664	,6472	-,5322
,3402					
Comp	,0104	,1919	,0543	,9573	-,3964
,4172					
Relat	-,5595	,3281	-1,7053	,1075	-1,2550
,1361					
Gender	,4180	,2417	1,7295	,1030	-,0944
,9304					
Age	-,5005	,1643	-3,0466	,0077	-,8487
-,1522					
TenOrg	,1865	,0961	1,9401	,0702	-,0173
,3903					
TenTeam	,0902	,0805	1,1212	,2787	-,0804
,2608					

SeEffi	,4776	,1635	2,9217	,0100	,1310
,8242					
EmotLab	-,0968	,1895	-,5108	,6165	-,4986
,3050					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0418	,0232	1,8000	,0907	-,0074	,0909

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-,0358	,0464	-,1446	,0101
Auto	-,0032	,0530	-,0219	,0273
Comp	,0002	,0437	-,0553	,0251
Relat	-,0329	,0372	-,1292	,0086

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.
The number of times this happened was:
215

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB
X : PHL

M1 : Auto
M2 : Comp
M3 : Relat
W : Quants

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7356	,5411	,1915	2,2275	9,0000	17,0000
	,0741					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	-4,9459	3,7008	-1,3365	,1990	-12,7546
2,8627					
PHL	,3441	,1964	1,7516	,0979	-,0704
,7585					
Quants	1,0037	,5552	1,8077	,0884	-,1679
2,1752					
Int_1	-,0488	,0315	-1,5482	,1400	-,1152
,0177					
Gender	,1563	,2894	,5401	,5961	-,4544
,7670					
Age	-,0092	,1894	-,0488	,9616	-,4089
,3904					
TenOrg	,0070	,1094	,0641	,9497	-,2239
,2379					
TenTeam	,0675	,0927	,7286	,4761	-,1280
,2630					
SeEffi	,4655	,1995	2,3334	,0322	,0446
,8864					
EmotLab	-,1991	,1935	-1,0286	,3181	-,6074
,2093					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p
---------	---	-----	-----	---

X*W ,0647 2,3970 1,0000 17,0000 ,1400

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4665	,2176	,2778	,5254	9,0000	17,0000
	,8365					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	6,5487	4,4574	1,4692	,1601	-2,8565
15,9538					
PHL	-,0742	,2366	-,3135	,7577	-,5734
,4250					
Quants	-,3284	,6688	-,4910	,6297	-1,7394
1,0827					
Int_1	,0145	,0379	,3832	,7063	-,0655
,0946					
Gender	-,1993	,3486	-,5716	,5751	-,9349
,5363					
Age	-,2979	,2281	-1,3062	,2089	-,7793
,1834					
TenOrg	,0382	,1318	,2895	,7757	-,2399
,3162					
TenTeam	,0989	,1116	,8861	,3879	-,1366
,3344					
SeEffi	,0756	,2403	,3148	,7567	-,4313
,5826					
EmotLab	-,0067	,2331	-,0289	,9773	-,4986
,4851					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0068	,1468	1,0000	17,0000	,7063

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,8335	,6948	,1097	4,3000	9,0000	17,0000
,0047						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	6,0041	2,8004	2,1440	,0468	,0953
11,9129					
PHL	-,0660	,1486	-,4442	,6625	-,3796
,2476					
Quants	-,3974	,4201	-,9459	,3574	-1,2839
,4891					
Int_1	,0196	,0238	,8231	,4218	-,0307
,0699					
Gender	,0336	,2190	,1535	,8798	-,4285
,4957					
Age	-,1037	,1433	-,7239	,4790	-,4061
,1986					
TenOrg	,0888	,0828	1,0725	,2985	-,0859
,2635					
TenTeam	,1041	,0701	1,4851	,1558	-,0438
,2521					
SeEffi	,0824	,1510	,5459	,5922	-,2361
,4009					
EmotLab	-,3201	,1464	-2,1856	,0431	-,6290
-,0111					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0122	,6775	1,0000	17,0000	,4218

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7009	,4912	,1734	1,5447	10,0000	16,0000
,2113						

Model

	coeff	se	t	p	LLCI
ULCI					

constant	3,0869	1,4780	2,0886	,0531	-,0466
6,2204					
PHL	,0314	,0262	1,1980	,2484	-,0241
,0869					
Auto	,1684	,2323	,7249	,4790	-,3240
,6608					
Comp	,1959	,2166	,9046	,3791	-,2633
,6552					
Relat	-,6587	,3703	-1,7787	,0943	-1,4439
,1264					
Gender	,0725	,2728	,2659	,7937	-,5059
,6510					
Age	-,1121	,1854	-,6045	,5540	-,5052
,2810					
TenOrg	,1700	,1085	1,5669	,1367	-,0600
,4001					
TenTeam	,0865	,0908	,9521	,3552	-,1061
,2790					
SeEffi	,3999	,1846	2,1671	,0457	,0087
,7912					
EmotLab	-,1082	,2139	-,5057	,6200	-,5618
,3454					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0314	,0262	1,1980	,2484	-,0241	,0869

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0169	,0469	-,0653	,0984
6,0000	,0087	,0251	-,0356	,0548
7,0000	,0005	,0206	-,0421	,0381

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	-,0082	,0261	-,0551	,0398

INDIRECT EFFECT:

PHL -> Comp -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,0000	-,0003	,0422	-,0785	,0937
6,0000	,0026	,0294	-,0459	,0701

7,0000 ,0054 ,0313 -,0575 ,0701

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0028	,0227	-,0439	,0526

INDIRECT EFFECT:

PHL -> Relat -> WB

	Quants	Effect	BootSE	BootLLCI	BootULCI
	5,0000	-,0211	,0628	-,1747	,0538
	6,0000	-,0340	,0511	-,1542	,0436
	7,0000	-,0469	,0572	-,1643	,0632

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	-,0129	,0315	-,0689	,0536

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
214

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB

X : PHL
 M1 : Auto
 M2 : Comp
 M3 : Relat
 W : QualityS

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6865	,4712	,2207	1,6834	9,0000	17,0000
	,1698					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,2348	4,5273	,4936	,6279	-7,3179
11,7875					
PHL	-,0176	,2145	-,0820	,9356	-,4703
,4351					
QualityS	-,1323	1,2271	-,1078	,9154	-2,7214
2,4569					
Int_1	,0185	,0685	,2706	,7900	-,1259
,1630					
Gender	,0923	,3649	,2529	,8033	-,6777
,8623					
Age	-,0058	,2111	-,0277	,9782	-,4512
,4395					
TenOrg	-,0777	,1328	-,5848	,5663	-,3579
,2026					
TenTeam	,0755	,1165	,6480	,5256	-,1703
,3212					
SeEffi	,2944	,2012	1,4633	,1616	-,1301
,7189					
EmotLab	-,0455	,1924	-,2363	,8160	-,4514
,3605					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0023	,0732	1,0000	17,0000	,7900

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,5872	,3448	,2327	,9940	9,0000	17,0000
	,4799					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	13,2834	4,6487	2,8575	,0109	3,4748
23,0921					
PHL	-,4071	,2203	-1,8478	,0821	-,8719
,0578					
QualityS	-2,4758	1,2600	-1,9650	,0660	-5,1344
,1827					
Int_1	,1365	,0703	1,9410	,0690	-,0119
,2848					
Gender	-,5796	,3747	-1,5468	,1403	-1,3703
,2110					
Age	-,1732	,2167	-,7989	,4354	-,6305
,2842					
TenOrg	-,0644	,1364	-,4725	,6426	-,3522
,2233					
TenTeam	,2130	,1196	1,7814	,0927	-,0393
,4653					
SeEffi	,0492	,2066	,2380	,8147	-,3867
,4850					
EmotLab	-,1705	,1975	-,8631	,4001	-,5873
,2463					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,1452	3,7674	1,0000	17,0000	,0690

Focal predict: PHL (X)

Mod var: QualityS (W)

Conditional effects of the focal predictor at values of the moderator(s):

QualityS	Effect	se	t	p	LLCI
ULCI					
3,0000	,0023	,0240	,0964	,9243	-
,0484	,0531				
3,0000	,0023	,0240	,0964	,9243	-
,0484	,0531				
4,0000	,1388	,0661	2,1005	,0509	-
,0006	,2782				

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,8311	,6907	,1111	4,2190	9,0000	17,0000	
,0052						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	5,7439	3,2125	1,7880	,0916	-1,0345
12,5223					
PHL	-,0473	,1522	-,3107	,7598	-,3685
,2739					
QualityS	-,6645	,8707	-,7631	,4558	-2,5017
1,1727					
Int_1	,0332	,0486	,6824	,5042	-,0694
,1357					
Gender	-,0626	,2590	-,2416	,8120	-,6089
,4838					
Age	-,0725	,1498	-,4841	,6345	-,3886
,2435					
TenOrg	,0828	,0942	,8782	,3921	-,1161
,2816					
TenTeam	,1366	,0826	1,6528	,1167	-,0378
,3109					
SeEffi	,1331	,1428	,9323	,3643	-,1681
,4343					
EmotLab	-,4086	,1365	-2,9929	,0082	-,6966
-,1205					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0085	,4657	1,0000	17,0000	,5042

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7009	,4912	,1734	1,5447	10,0000	16,0000
	,2113					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,0869	1,4780	2,0886	,0531	-,0466
6,2204					
PHL	,0314	,0262	1,1980	,2484	-,0241
,0869					
Auto	,1684	,2323	,7249	,4790	-,3240
,6608					
Comp	,1959	,2166	,9046	,3791	-,2633
,6552					
Relat	-,6587	,3703	-1,7787	,0943	-1,4439
,1264					
Gender	,0725	,2728	,2659	,7937	-,5059
,6510					
Age	-,1121	,1854	-,6045	,5540	-,5052
,2810					
TenOrg	,1700	,1085	1,5669	,1367	-,0600
,4001					
TenTeam	,0865	,0908	,9521	,3552	-,1061
,2790					
SeEffi	,3999	,1846	2,1671	,0457	,0087
,7912					
EmotLab	-,1082	,2139	-,5057	,6200	-,5618
,3454					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0314	,0262	1,1980	,2484	-,0241	,0869

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
----------	--------	--------	----------	----------

3,0000	,0064	,0207	-,0321	,0511
3,0000	,0064	,0207	-,0321	,0511
4,0000	,0095	,0477	-,0972	,0731

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	,0031	,0456	-,1014	,0578

INDIRECT EFFECT:

PHL -> Comp -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
3,0000	,0005	,0258	-,0392	,0579
3,0000	,0005	,0258	-,0392	,0579
4,0000	,0272	,0664	-,1202	,1366

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	,0267	,0613	-,1095	,1254

INDIRECT EFFECT:

PHL -> Relat -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
3,0000	-,0344	,0510	-,1734	,0469
3,0000	-,0344	,0510	-,1734	,0469
4,0000	-,0562	,0821	-,2131	,0969

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	-,0218	,0648	-,1197	,1200

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
217

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : Latency

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 27

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6950	,4830	,2158	1,7649	9,0000	17,0000
,1497						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,5216	1,4501	1,0493	,3087	-1,5381
4,5813					
PHL	,0428	,0398	1,0733	,2981	-,0413
,1268					
Latency	,0027	,0578	,0464	,9635	-,1192
,1245					
Int_1	-,0009	,0030	-,3049	,7642	-,0072
,0054					
Gender	,1546	,3043	,5082	,6179	-,4875
,7968					
Age	-,0078	,2136	-,0367	,9711	-,4586
,4429					

TenOrg	-,0735	,1260	-,5837	,5671	-,3393
,1923					
TenTeam	,1001	,0977	1,0245	,3200	-,1061
,3063					
SeEffi	,3049	,1958	1,5575	,1378	-,1082
,7179					
EmotLab	,0236	,1866	,1265	,9008	-,3700
,4172					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0028	,0929	1,0000	17,0000	,7642

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,5317	,2827	,2547	,7443	9,0000	17,0000
,6657						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	5,8777	1,5756	3,7304	,0017	2,5532
9,2023					
PHL	-,0254	,0433	-,5858	,5657	-,1167
,0660					
Latency	-,0842	,0628	-1,3416	,1974	-,2166
,0482					
Int_1	,0040	,0032	1,2277	,2363	-,0028
,0108					
Gender	-,2137	,3307	-,6461	,5268	-,9114
,4840					
Age	-,1538	,2321	-,6625	,5165	-,6436
,3360					
TenOrg	-,0285	,1369	-,2079	,8378	-,3172
,2603					
TenTeam	,0651	,1062	,6128	,5481	-,1589
,2891					
SeEffi	,0246	,2127	,1158	,9091	-,4242
,4735					
EmotLab	-,0956	,2027	-,4714	,6433	-,5233
,3322					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0636	1,5073	1,0000	17,0000	,2363

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,8240	,6790	,1153	3,9962	9,0000	17,0000
	,0068					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,7909	1,0601	3,5759	,0023	1,5541
6,0278					
PHL	,0463	,0291	1,5887	,1306	-,0152
,1077					
Latency	-,0204	,0422	-,4838	,6347	-,1095
,0687					
Int_1	,0011	,0022	,5065	,6190	-,0035
,0057					
Gender	,0313	,2225	,1408	,8897	-,4381
,5008					
Age	-,0651	,1562	-,4170	,6819	-,3947
,2644					
TenOrg	,0906	,0921	,9836	,3391	-,1037
,2849					
TenTeam	,0891	,0714	1,2475	,2291	-,0616
,2398					
SeEffi	,1160	,1431	,8108	,4287	-,1859
,4180					
EmotLab	-,4026	,1364	-2,9515	,0089	-,6903
-,1148					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0048	,2565	1,0000	17,0000	,6190

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,7009	,4912	,1734	1,5447	10,0000	16,0000
	,2113					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,0869	1,4780	2,0886	,0531	-,0466
6,2204					
PHL	,0314	,0262	1,1980	,2484	-,0241
,0869					
Auto	,1684	,2323	,7249	,4790	-,3240
,6608					
Comp	,1959	,2166	,9046	,3791	-,2633
,6552					
Relat	-,6587	,3703	-1,7787	,0943	-1,4439
,1264					
Gender	,0725	,2728	,2659	,7937	-,5059
,6510					
Age	-,1121	,1854	-,6045	,5540	-,5052
,2810					
TenOrg	,1700	,1085	1,5669	,1367	-,0600
,4001					
TenTeam	,0865	,0908	,9521	,3552	-,1061
,2790					
SeEffi	,3999	,1846	2,1671	,0457	,0087
,7912					
EmotLab	-,1082	,2139	-,5057	,6200	-,5618
,3454					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0314	,0262	1,1980	,2484	-,0241	,0869

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0064	,0209	-,0342	,0415
15,0000	,0049	,0185	-,0311	,0389

30,0000	,0026	,0377	-,0701	,0736
---------	-------	-------	--------	-------

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	-,0002	,0018	-,0037	,0033

INDIRECT EFFECT:

PHL -> Comp -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	-,0011	,0294	-,0538	,0690
15,0000	,0067	,0262	-,0415	,0626
30,0000	,0183	,0504	-,0758	,1179

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0008	,0024	-,0038	,0055

INDIRECT EFFECT:

PHL -> Relat -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	-,0341	,0542	-,1749	,0504
15,0000	-,0414	,0547	-,1710	,0504
30,0000	-,0522	,0836	-,2663	,0636

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	-,0007	,0032	-,0089	,0040

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
216

----- END MATRIX -----

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PHL	27	,57	25,00	17,2233	5,09510
PHL01	27	,00	1,00	,5185	,50918
JobSat	27	3,50	5,00	4,5556	,46685
Burnout	27	1,00	4,00	2,4074	,88835
WorkEng	27	3,17	5,00	4,1541	,47795
WB	27	3,28	5,00	4,1011	,45795
Auto	27	2,43	4,57	3,5711	,52239
Comp	27	3,33	5,00	4,1607	,48186
Relat	27	2,83	4,67	3,9874	,48469
QuantS	27	5,00	8,00	6,2963	,91209
Latency	27	2,00	30,00	15,6296	9,89618
QualityS	27	1,00	4,00	3,1481	,66238
Gender	27	1,00	2,00	1,8889	,32026
Age	27	2,00	4,00	2,8148	,62247
TenOrg	27	1,00	5,00	3,0370	1,15962
TenTeam	27	1,00	5,00	2,2593	1,12976
SeEffi	27	2,80	4,80	3,7926	,55879
EmotLab	27	2,40	4,40	3,3852	,54611
Valid (listwise)	N 27				

Group Statistics

	PHL01	N	Mean	Std. Deviation	Std. Error Mean
JobSat	,00	13	4,4615	,47704	,13231
	1,00	14	4,6429	,45694	,12212
Burnout	,00	13	2,4615	,87706	,24325
	1,00	14	2,3571	,92878	,24823
WorkEng	,00	13	3,9223	,33836	,09384
	1,00	14	4,3693	,49759	,13299
WB	,00	13	3,9746	,38047	,10552
	1,00	14	4,2186	,50493	,13495
Auto	,00	13	3,3508	,48960	,13579
	1,00	14	3,7757	,48051	,12842
Comp	,00	13	4,0508	,43779	,12142
	1,00	14	4,2629	,51395	,13736
Relat	,00	13	3,7438	,46967	,13026
	1,00	14	4,2136	,38965	,10414

Independent Samples Test

			Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
			F	Sig.	t	df	Significance One- Sided p	Two- Sided p	Mean Difference	Std. Error Difference	Lower	Upper
JobSat	Equal variances assumed		,265	,611	-1,009	25	,161	,323	-,18132	,17975	-,55153	,18889
	Equal variances not assumed				-1,007	24,645	,162	,324	-,18132	,18005	-,55241	,18978
Burnout	Equal variances assumed		,137	,715	,300	25	,383	,767	,10440	,34831	-,61297	,82176
	Equal variances not assumed				,300	24,990	,383	,766	,10440	,34755	-,61140	,82020
Working	Equal variances assumed		1,856	,185	-2,708	25	,006	,012	-,44698	,16508	-,78697	-,10698
	Equal variances not assumed				-2,746	22,994	,006	,012	-,44698	,16276	-,78368	-,11027
WB	Equal variances assumed		,618	,439	-1,409	25	,086	,171	-,24396	,17314	-,60054	,11262
	Equal variances not assumed				-1,424	24,027	,084	,167	-,24396	,17131	-,59750	,10958
Auto	Equal variances assumed		,070	,793	-2,275	25	,016	,032	-,42495	,18676	-,80959	-,04030

	Equal variances not assumed			-2,274	24,773	,016	,032	-,42495	,18690	-,81005	-,03984
Comp	Equal variances assumed	,573	,456	-1,150	25	,131	,261	-,21209	,18446	-,59199	,16781
	Equal variances not assumed			-1,157	24,830	,129	,258	-,21209	,18333	-,58980	,16562
Relat	Equal variances assumed	,033	,857	-2,837	25	,004	,009	-,46973	,16559	-,81077	-,12868
	Equal variances not assumed			-2,817	23,413	,005	,010	-,46973	,16677	-,81439	-,12506

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
JobSat	Cohen's d	,46669	-,389	-1,147	,378
	Hedges' correction	,48130	-,377	-1,112	,366
	Glass's delta	,45694	-,397	-1,159	,380
Burnout	Cohen's d	,90432	,115	-,641	,870
	Hedges' correction	,93263	,112	-,622	,843
	Glass's delta	,92878	,112	-,646	,866
WorkEng	Cohen's d	,42860	-1,043	-1,842	-,226
	Hedges' correction	,44202	-1,011	-1,786	-,219
	Glass's delta	,49759	-,898	-1,713	-,055
WB	Cohen's d	,44951	-,543	-1,307	,232
	Hedges' correction	,46358	-,526	-1,267	,225
	Glass's delta	,50493	-,483	-1,251	,303
Auto	Cohen's d	,48489	-,876	-1,661	-,076
	Hedges' correction	,50007	-,850	-1,611	-,073
	Glass's delta	,48051	-,884	-1,697	-,044
Comp	Cohen's d	,47891	-,443	-1,203	,326
	Hedges' correction	,49390	-,429	-1,167	,316
	Glass's delta	,51395	-,413	-1,176	,366
Relat	Cohen's d	,42992	-1,093	-1,896	-,270
	Hedges' correction	,44338	-1,059	-1,838	-,262
	Glass's delta	,38965	-1,206	-2,072	-,305

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

		Correlations																
		PHL	JobS at	Burno ut	Work Eng	WB	Auto	Comp	Relat	Quan tS	Laten cy	Qualit yS	Gend er	Age	TenO rg	TenT eam	SeEffi	Emot Lab
PHL	Pearson Correlation	1	,318	-,026	,546**	,314	,525**	,267	,596**	-,108	-,132	-,066	-,004	,010	,028	,144	,448*	,275
	Sig. (2-tailed)		,106	,899	,003	,111	,005	,179	,001	,590	,510	,745	,985	,961	,889	,472	,019	,165
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
JobS at	Pearson Correlation	,318	1	-,196	,579**	,668**	,156	,060	,073	-,130	-,266	-,090	,171	-,294	,032	,081	,459*	,094
	Sig. (2-tailed)	,106		,328	,002	<,001	,438	,768	,718	,517	,180	,656	,392	,136	,876	,688	,016	,641
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Burno ut	Pearson Correlation	-,026	-,196	1	-,274	- ,809**	-,166	-,099	,040	-,107	,342	-,303	,165	-,276	-,277	-,186	-,226	-,161
	Sig. (2-tailed)	,899	,328		,167	<,001	,408	,624	,843	,594	,081	,125	,410	,164	,163	,353	,257	,421
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Work Eng	Pearson Correlation	,546**	,579**	-,274	1	,720**	,494**	,255	,368	,067	-,322	,228	,033	,100	,220	,209	,662**	,299
	Sig. (2-tailed)	,003	,002	,167		<,001	,009	,200	,059	,741	,101	,253	,869	,621	,269	,296	<,001	,130
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
WB	Pearson Correlation	,314	,668**	- ,809**	,720**	1	,332	,172	,126	,047	-,423*	,243	-,036	,111	,264	,219	,531**	,239

	Sig. (2-tailed)	,111	<,001	<,001	<,001		,091	,391	,532	,816	,028	,222	,859	,580	,183	,273	,004	,230
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Auto	Pearson Correlation	,525**	,156	-,166	,494**	,332	1	,371	,587**	,218	-,381	,286	,033	-,032	,009	,177	,528**	,134
	Sig. (2-tailed)	,005	,438	,408	,009	,091		,057	,001	,275	,050	,148	,870	,872	,963	,376	,005	,504
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Comp	Pearson Correlation	,267	,060	-,099	,255	,172	,371	1	,508**	-,070	-,271	,023	-,087	-,216	,001	,147	,187	-,033
	Sig. (2-tailed)	,179	,768	,624	,200	,391	,057		,007	,730	,172	,911	,667	,279	,995	,466	,351	,869
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Relat	Pearson Correlation	,596**	,073	,040	,368	,126	,587**	,508**	1	-,310	-,217	-,013	,157	,058	,299	,358	,331	-,244
	Sig. (2-tailed)	,001	,718	,843	,059	,532	,001	,007		,116	,277	,948	,435	,773	,129	,067	,092	,221
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Quant	Pearson Correlation	-,108	-,130	-,107	,067	,047	,218	-,070	-,310	1	-,068	,498**	-,278	-,238	-,302	-,040	,110	,256
S	Sig. (2-tailed)	,590	,517	,594	,741	,816	,275	,730	,116		,735	,008	,160	,231	,126	,843	,585	,197
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Laten	Pearson Correlation	-,132	-,266	,342	-,322	-,423*	-,381	-,271	-,217	-,068	1	-,443*	,084	,063	-,207	-,036	-,320	,086
cy	Sig. (2-tailed)	,510	,180	,081	,101	,028	,050	,172	,277	,735		,021	,678	,754	,301	,859	,103	,671

	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Qualit yS	Pearson Correlation	-,066	-,090	-,303	,228	,243	,286	,023	-,013	,498**	-,443*	1	-,101	,069	,243	,255	,232	,070
	Sig. (2- tailed)	,745	,656	,125	,253	,222	,148	,911	,948	,008	,021		,617	,732	,222	,199	,245	,728
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Gend er	Pearson Correlation	-,004	,171	,165	,033	-,036	,033	-,087	,157	-,278	,084	-,101	1	,086	,115	,189	-,134	-,186
	Sig. (2- tailed)	,985	,392	,410	,869	,859	,870	,667	,435	,160	,678	,617		,671	,568	,345	,506	,354
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Age	Pearson Correlation	,010	-,294	-,276	,100	,111	-,032	-,216	,058	-,238	,063	,069	,086	1	,649**	,344	,040	,195
	Sig. (2- tailed)	,961	,136	,164	,621	,580	,872	,279	,773	,231	,754	,732	,671		<,001	,079	,842	,329
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
TenOr g	Pearson Correlation	,028	,032	-,277	,220	,264	,009	,001	,299	-,302	-,207	,243	,115	,649**	1	,491**	,048	,037
	Sig. (2- tailed)	,889	,876	,163	,269	,183	,963	,995	,129	,126	,301	,222	,568	<,001		,009	,812	,853
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
TenTe am	Pearson Correlation	,144	,081	-,186	,209	,219	,177	,147	,358	-,040	-,036	,255	,189	,344	,491**	1	-,033	,094
	Sig. (2- tailed)	,472	,688	,353	,296	,273	,376	,466	,067	,843	,859	,199	,345	,079	,009		,869	,642
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

SeEffi	Pearson Correlation	,448*	,459*	-,226	,662**	,531**	,528**	,187	,331	,110	-,320	,232	-,134	,040	,048	-,033	1	,176
	Sig. (2-tailed)	,019	,016	,257	<,001	,004	,005	,351	,092	,585	,103	,245	,506	,842	,812	,869		,380
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
EmotLab	Pearson Correlation	,275	,094	-,161	,299	,239	,134	-,033	-,244	,256	,086	,070	-,186	,195	,037	,094	,176	1
	Sig. (2-tailed)	,165	,641	,421	,130	,230	,504	,869	,221	,197	,671	,728	,354	,329	,853	,642	,380	
	N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix 6: SPSS output – followers and leaders

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 4.2
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

```
*****
*****
```

Model : 4
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 88

```
*****
*****
```

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6663	,4439	,2212	9,1226	7,0000	80,0000

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4872	,6171	4,0304	,0001	1,2591
3,7153					
PHL	,0621	,0086	7,2157	,0000	,0450
,0792					
Gender	-,0473	,1816	-,2602	,7954	-,4087
,3141					
Age	,1324	,0829	1,5967	,1143	-,0326
,2975					
TenOrg	-,1242	,0648	-1,9166	,0589	-,2532
,0048					

TenTeam	,0849	,0581	1,4624	,1475	-,0306
,2005					
SeEffi	,2252	,1138	1,9789	,0513	-,0013
,4516					
EmotLab	-,2625	,1030	-2,5492	,0127	-,4674
-,0576					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,3528	,1245	,2310	1,6246	7,0000	80,0000
,1404						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,1969	,6306	5,0694	,0000	1,9419
4,4519					
PHL	,0086	,0088	,9775	,3313	-,0089
,0261					
Gender	-,0839	,1856	-,4518	,6526	-,4532
,2855					
Age	-,0458	,0848	-,5407	,5902	-,2145
,1228					
TenOrg	-,0009	,0662	-,0135	,9893	-,1327
,1309					
TenTeam	,0446	,0593	,7518	,4544	-,0735
,1627					
SeEffi	,3384	,1163	2,9104	,0047	,1070
,5698					
EmotLab	-,0802	,1052	-,7617	,4485	-,2896
,1293					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6406	,4104	,2570	7,9542	7,0000	80,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,7753	,6653	4,1718	,0001	1,4514
4,0993					
PHL	,0641	,0093	6,9069	,0000	,0456
,0826					
Gender	,0729	,1958	,3723	,7106	-,3167
,4625					
Age	,0394	,0894	,4403	,6609	-,1386
,2173					
TenOrg	,0652	,0699	,9332	,3535	-,0738
,2042					
TenTeam	-,0207	,0626	-,3306	,7418	-,1453
,1039					
SeEffi	,0720	,1227	,5869	,5589	-,1721
,3161					
EmotLab	-,1717	,1110	-1,5468	,1259	-,3926
,0492					

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,6607		,4366	,2319	5,9662	10,0000	77,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,1951	,7549	1,5831	,1175	-,3081
2,6983					
PHL	,0045	,0128	,3501	,7272	-,0210
,0300					
Auto	,5350	,1274	4,2003	,0001	,2814
,7886					
Comp	-,0101	,1284	-,0788	,9374	-,2658
,2456					
Relat	-,0462	,1188	-,3890	,6984	-,2828
,1904					
Gender	-,2153	,1867	-1,1532	,2524	-,5870
,1564					
Age	,1270	,0872	1,4568	,1493	-,0466
,3005					
TenOrg	-,0072	,0690	-,1048	,9168	-,1447
,1302					
TenTeam	,0407	,0606	,6710	,5042	-,0800
,1614					

SeEffi	,1962	,1236	1,5877	,1164	-,0499
,4423					
EmotLab	,0614	,1102	,5575	,5788	-,1579
,2808					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0045	,0128	,3501	,7272	-,0210	,0300

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0302	,0104	,0105	,0514
Auto	,0332	,0102	,0131	,0532
Comp	-,0001	,0016	-,0038	,0033
Relat	-,0030	,0111	-,0199	,0234

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:

2

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : Burnout
X : PHL

M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 88

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6663	,4439	,2212	9,1226	7,0000	80,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4872	,6171	4,0304	,0001	1,2591
3,7153					
PHL	,0621	,0086	7,2157	,0000	,0450
,0792					
Gender	-,0473	,1816	-,2602	,7954	-,4087
,3141					
Age	,1324	,0829	1,5967	,1143	-,0326
,2975					
TenOrg	-,1242	,0648	-1,9166	,0589	-,2532
,0048					
TenTeam	,0849	,0581	1,4624	,1475	-,0306
,2005					
SeEffi	,2252	,1138	1,9789	,0513	-,0013
,4516					
EmotLab	-,2625	,1030	-2,5492	,0127	-,4674
-,0576					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,3528	,1245	,2310	1,6246	7,0000	80,0000
	,1404					

Model	coeff	se	t	p	LLCI
ULCI					
constant	3,1969	,6306	5,0694	,0000	1,9419
4,4519					
PHL	,0086	,0088	,9775	,3313	-,0089
,0261					
Gender	-,0839	,1856	-,4518	,6526	-,4532
,2855					
Age	-,0458	,0848	-,5407	,5902	-,2145
,1228					
TenOrg	-,0009	,0662	-,0135	,9893	-,1327
,1309					
TenTeam	,0446	,0593	,7518	,4544	-,0735
,1627					
SeEffi	,3384	,1163	2,9104	,0047	,1070
,5698					
EmotLab	-,0802	,1052	-,7617	,4485	-,2896
,1293					

OUTCOME VARIABLE:

Relat

Model Summary	R	R-sq	MSE	F	df1	df2
p						
,0000	,6406	,4104	,2570	7,9542	7,0000	80,0000

Model	coeff	se	t	p	LLCI
ULCI					
constant	2,7753	,6653	4,1718	,0001	1,4514
4,0993					
PHL	,0641	,0093	6,9069	,0000	,0456
,0826					
Gender	,0729	,1958	,3723	,7106	-,3167
,4625					
Age	,0394	,0894	,4403	,6609	-,1386
,2173					
TenOrg	,0652	,0699	,9332	,3535	-,0738
,2042					
TenTeam	-,0207	,0626	-,3306	,7418	-,1453
,1039					
SeEffi	,0720	,1227	,5869	,5589	-,1721
,3161					
EmotLab	-,1717	,1110	-1,5468	,1259	-,3926
,0492					

OUTCOME VARIABLE:

Burnout

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,4761	,2266	,9385	2,2564	10,0000	77,0000
	,0227					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	4,3318	1,5187	2,8523	,0056	1,3077
7,3560					
PHL	,0385	,0257	1,4970	,1385	-,0127
,0898					
Auto	-,8542	,2562	-3,3337	,0013	-1,3644
-,3440					
Comp	,1946	,2583	,7531	,4537	-,3199
,7090					
Relat	,1722	,2390	,7204	,4734	-,3038
,6482					
Gender	,5990	,3755	1,5952	,1148	-,1487
1,3468					
Age	-,1750	,1753	-,9980	,3214	-,5241
,1742					
TenOrg	,0204	,1389	,1471	,8834	-,2561
,2969					
TenTeam	-,1003	,1219	-,8222	,4135	-,3431
,1426					
SeEffi	-,1533	,2486	-,6165	,5394	-,6484
,3418					
EmotLab	-,2091	,2216	-,9435	,3484	-,6503
,2322					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0385	,0257	1,4970	,1385	-,0127	,0898

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-,0403	,0182	-,0765	-,0045
Auto	-,0531	,0171	-,0872	-,0202
Comp	,0017	,0036	-,0043	,0105

Relat ,0110 ,0179 -,0312 ,0407

***** ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence
intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to
be replaced.

The number of times this happened was:

3

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : WorkEng
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample
Size: 88

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p						

,6663 ,4439 ,2212 9,1226 7,0000 80,0000
,0000

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4872	,6171	4,0304	,0001	1,2591
3,7153					
PHL	,0621	,0086	7,2157	,0000	,0450
,0792					
Gender	-,0473	,1816	-,2602	,7954	-,4087
,3141					
Age	,1324	,0829	1,5967	,1143	-,0326
,2975					
TenOrg	-,1242	,0648	-1,9166	,0589	-,2532
,0048					
TenTeam	,0849	,0581	1,4624	,1475	-,0306
,2005					
SeEffi	,2252	,1138	1,9789	,0513	-,0013
,4516					
EmotLab	-,2625	,1030	-2,5492	,0127	-,4674
-,0576					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,3528		,1245	,2310	1,6246	7,0000	80,0000
,1404						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,1969	,6306	5,0694	,0000	1,9419
4,4519					
PHL	,0086	,0088	,9775	,3313	-,0089
,0261					
Gender	-,0839	,1856	-,4518	,6526	-,4532
,2855					
Age	-,0458	,0848	-,5407	,5902	-,2145
,1228					
TenOrg	-,0009	,0662	-,0135	,9893	-,1327
,1309					
TenTeam	,0446	,0593	,7518	,4544	-,0735
,1627					
SeEffi	,3384	,1163	2,9104	,0047	,1070
,5698					

EmotLab -,0802 ,1052 -,7617 ,4485 -,2896
,1293

OUTCOME VARIABLE:
Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6406	,4104	,2570	7,9542	7,0000	80,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,7753	,6653	4,1718	,0001	1,4514
4,0993					
PHL	,0641	,0093	6,9069	,0000	,0456
,0826					
Gender	,0729	,1958	,3723	,7106	-,3167
,4625					
Age	,0394	,0894	,4403	,6609	-,1386
,2173					
TenOrg	,0652	,0699	,9332	,3535	-,0738
,2042					
TenTeam	-,0207	,0626	-,3306	,7418	-,1453
,1039					
SeEffi	,0720	,1227	,5869	,5589	-,1721
,3161					
EmotLab	-,1717	,1110	-1,5468	,1259	-,3926
,0492					

OUTCOME VARIABLE:
WorkEng

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7473	,5584	,1962	9,7362	10,0000	77,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	,1310	,6944	,1887	,8508	-1,2517
1,5138					

PHL	,0292	,0118	2,4855	,0151	,0058
,0527					
Auto	,4071	,1172	3,4749	,0008	,1738
,6404					
Comp	,0579	,1181	,4903	,6253	-,1773
,2931					
Relat	-,0050	,1093	-,0458	,9636	-,2226
,2126					
Gender	,1067	,1717	,6212	,5363	-,2353
,4486					
Age	,1643	,0802	2,0490	,0439	,0046
,3239					
TenOrg	,0055	,0635	,0871	,9308	-,1209
,1320					
TenTeam	,0162	,0558	,2907	,7721	-,0948
,1272					
SeEffi	,2748	,1137	2,4175	,0180	,0485
,5012					
EmotLab	-,0318	,1013	-,3134	,7548	-,2335
,1700					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0292	,0118	2,4855	,0151	,0058	,0527

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0255	,0102	,0051	,0459
Auto	,0253	,0096	,0056	,0437
Comp	,0005	,0016	-,0023	,0044
Relat	-,0003	,0094	-,0156	,0211

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:

1

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 4
Y : JobSat
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample
Size: 88

OUTCOME VARIABLE:
Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6663	,4439	,2212	9,1226	7,0000	80,0000

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4872	,6171	4,0304	,0001	1,2591
3,7153					
PHL	,0621	,0086	7,2157	,0000	,0450
,0792					
Gender	-,0473	,1816	-,2602	,7954	-,4087
,3141					
Age	,1324	,0829	1,5967	,1143	-,0326
,2975					
TenOrg	-,1242	,0648	-1,9166	,0589	-,2532
,0048					

TenTeam	,0849	,0581	1,4624	,1475	-,0306
,2005					
SeEffi	,2252	,1138	1,9789	,0513	-,0013
,4516					
EmotLab	-,2625	,1030	-2,5492	,0127	-,4674
-,0576					

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,3528	,1245	,2310	1,6246	7,0000	80,0000
,1404						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,1969	,6306	5,0694	,0000	1,9419
4,4519					
PHL	,0086	,0088	,9775	,3313	-,0089
,0261					
Gender	-,0839	,1856	-,4518	,6526	-,4532
,2855					
Age	-,0458	,0848	-,5407	,5902	-,2145
,1228					
TenOrg	-,0009	,0662	-,0135	,9893	-,1327
,1309					
TenTeam	,0446	,0593	,7518	,4544	-,0735
,1627					
SeEffi	,3384	,1163	2,9104	,0047	,1070
,5698					
EmotLab	-,0802	,1052	-,7617	,4485	-,2896
,1293					

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6406	,4104	,2570	7,9542	7,0000	80,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,7753	,6653	4,1718	,0001	1,4514
4,0993					
PHL	,0641	,0093	6,9069	,0000	,0456
,0826					
Gender	,0729	,1958	,3723	,7106	-,3167
,4625					
Age	,0394	,0894	,4403	,6609	-,1386
,2173					
TenOrg	,0652	,0699	,9332	,3535	-,0738
,2042					
TenTeam	-,0207	,0626	-,3306	,7418	-,1453
,1039					
SeEffi	,0720	,1227	,5869	,5589	-,1721
,3161					
EmotLab	-,1717	,1110	-1,5468	,1259	-,3926
,0492					

OUTCOME VARIABLE:

JobSat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,6346		,4027	,2574	5,1911	10,0000	77,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,7682	,7953	2,2233	,0291	,1845
3,3519					
PHL	,0223	,0135	1,6568	,1016	-,0045
,0492					
Auto	,3487	,1342	2,5988	,0112	,0815
,6159					
Comp	,1064	,1353	,7861	,4342	-,1630
,3757					
Relat	,0373	,1252	,2979	,7666	-,2120
,2866					
Gender	-,1529	,1967	-,7775	,4392	-,5445
,2387					
Age	,0417	,0918	,4543	,6509	-,1411
,2245					
TenOrg	-,0063	,0727	-,0863	,9314	-,1511
,1385					
TenTeam	,0066	,0639	,1037	,9177	-,1205
,1338					

SeEffi	,1602	,1302	1,2302	,2224	-,0991
,4195					
EmotLab	,0088	,1160	,0762	,9395	-,2222
,2399					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0223	,0135	1,6568	,1016	-,0045	,0492

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	,0250	,0108	,0044	,0472
Auto	,0217	,0111	-,0006	,0421
Comp	,0009	,0018	-,0023	,0054
Relat	,0024	,0123	-,0157	,0301

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : Quants

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 88

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7088	,5024	,2030	8,7509	9,0000	78,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,5943	1,1820	1,3489	,1813	-,7588
3,9475					
PHL	,0631	,0583	1,0810	,2830	-,0531
,1792					
Quants	,1474	,1438	1,0249	,3086	-,1389
,4337					
Int_1	-,0001	,0088	-,0091	,9928	-,0177
,0175					
Gender	-,0291	,1774	-,1638	,8703	-,3823
,3242					
Age	,1257	,0800	1,5718	,1200	-,0335
,2849					
TenOrg	-,1138	,0622	-1,8292	,0712	-,2378
,0101					
TenTeam	,0781	,0557	1,4033	,1645	-,0327
,1890					
SeEffi	,2112	,1092	1,9350	,0566	-,0061
,4286					
EmotLab	-,2778	,0992	-2,8017	,0064	-,4753
-,0804					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0001	1,0000	78,0000	,9928

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,3854	,1486	,2304	1,5121	9,0000	78,0000
,1584						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,6790	1,2592	2,1275	,0365	,1721
5,1859					
PHL	,0121	,0622	,1952	,8457	-,1116
,1359					
Quants	,0841	,1532	,5489	,5847	-,2209
,3892					
Int_1	-,0005	,0094	-,0538	,9572	-,0193
,0183					
Gender	-,0725	,1890	-,3838	,7022	-,4489
,3038					
Age	-,0498	,0852	-,5846	,5605	-,2194
,1198					
TenOrg	,0047	,0663	,0704	,9441	-,1273
,1367					
TenTeam	,0411	,0593	,6936	,4900	-,0770
,1593					
SeEffi	,3313	,1163	2,8489	,0056	,0998
,5629					
EmotLab	-,0877	,1056	-,8301	,4090	-,2980
,1226					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0029	1,0000	78,0000	,9572

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6486	,4206	,2590	6,2926	9,0000	78,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,4365	1,3352	1,8248	,0719	-,2217
5,0948					
PHL	,0614	,0659	,9318	,3543	-,0698
,1926					
Quants	,0573	,1625	,3530	,7251	-,2661
,3808					
Int_1	,0004	,0100	,0439	,9651	-,0195
,0203					
Gender	,0790	,2005	,3942	,6945	-,3201
,4781					
Age	,0369	,0903	,4083	,6842	-,1430
,2167					
TenOrg	,0696	,0703	,9895	,3255	-,0704
,2096					
TenTeam	-,0237	,0629	-,3773	,7070	-,1490
,1015					
SeEffi	,0657	,1233	,5325	,5959	-,1799
,3112					
EmotLab	-,1789	,1120	-1,5969	,1143	-,4019
,0441					

Product terms key:

Int_1 : PHL x Quants

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0019	1,0000	78,0000	,9651

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
,6607		,4366	,2319	5,9662	10,0000	77,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,1951	,7549	1,5831	,1175	-,3081
2,6983					
PHL	,0045	,0128	,3501	,7272	-,0210
,0300					
Auto	,5350	,1274	4,2003	,0001	,2814
,7886					

Comp	-,0101	,1284	-,0788	,9374	-,2658
,2456					
Relat	-,0462	,1188	-,3890	,6984	-,2828
,1904					
Gender	-,2153	,1867	-1,1532	,2524	-,5870
,1564					
Age	,1270	,0872	1,4568	,1493	-,0466
,3005					
TenOrg	-,0072	,0690	-,1048	,9168	-,1447
,1302					
TenTeam	,0407	,0606	,6710	,5042	-,0800
,1614					
SeEffi	,1962	,1236	1,5877	,1164	-,0499
,4423					
EmotLab	,0614	,1102	,5575	,5788	-,1579
,2808					

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0045	,0128	,3501	,7272	-,0210	,0300

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,2400	,0335	,0121	,0118	,0593
6,0000	,0335	,0106	,0127	,0550
8,0000	,0334	,0124	,0094	,0579

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0000	,0049	-,0109	,0090

INDIRECT EFFECT:

PHL -> Comp -> WB

Quants	Effect	BootSE	BootLLCI	BootULCI
5,2400	-,0001	,0025	-,0052	,0055
6,0000	-,0001	,0019	-,0042	,0040
8,0000	-,0001	,0024	-,0062	,0045

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0000	,0013	-,0032	,0024

INDIRECT EFFECT:

PHL	->	Relat	->	WB
Quants	Effect	BootSE	BootLLCI	BootULCI
5,2400	-,0029	,0111	-,0175	,0269
6,0000	-,0030	,0109	-,0180	,0245
8,0000	-,0030	,0114	-,0249	,0208

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Quants	,0000	,0019	-,0061	,0021

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : QualityS

Covariates:

Gender	Age	TenOrg	TenTeam	SeEffi	EmotLab
--------	-----	--------	---------	--------	---------

Sample
Size: 88

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,7097	,5037	,2025	8,7947	9,0000	78,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,3311	,9720	2,3984	,0189	,3961
4,2661					
PHL	,0315	,0454	,6956	,4888	-,0587
,1218					
QualityS	,0769	,2196	,3500	,7273	-,3603
,5140					
Int_1	,0105	,0146	,7185	,4746	-,0186
,0395					
Gender	,0060	,1766	,0340	,9730	-,3456
,3576					
Age	,1255	,0807	1,5552	,1239	-,0352
,2862					
TenOrg	-,1388	,0627	-2,2117	,0299	-,2637
-,0139					
TenTeam	,0825	,0556	1,4846	,1417	-,0281
,1932					
SeEffi	,1727	,1103	1,5665	,1213	-,0468
,3922					
EmotLab	-,2437	,0998	-2,4430	,0168	-,4423
-,0451					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0033	,5162	1,0000	78,0000	,4746

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p						

,3955 ,1564 ,2283 1,6066 9,0000 78,0000
,1279

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,5814	1,0320	3,4703	,0009	1,5268
5,6360					
PHL	-,0352	,0482	-,7305	,4673	-,1310
,0607					
QualityS	-,0906	,2331	-,3885	,6987	-,5547
,3736					
Int_1	,0146	,0155	,9404	,3499	-,0163
,0454					
Gender	-,0701	,1875	-,3740	,7094	-,4434
,3032					
Age	-,0407	,0857	-,4748	,6362	-,2113
,1299					
TenOrg	-,0142	,0666	-,2127	,8321	-,1468
,1185					
TenTeam	,0421	,0590	,7132	,4778	-,0754
,1596					
SeEffi	,3067	,1171	2,6200	,0106	,0737
,5398					
EmotLab	-,0785	,1059	-,7407	,4611	-,2894
,1324					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0096	,8844	1,0000	78,0000	,3499

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6471	,4187	,2599	6,2424	9,0000	78,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,0286	1,1012	2,7502	,0074	,8362
5,2210					

PHL	,0353	,0514	,6874	,4939	-,0670
,1376					
QualityS	-,0597	,2488	-,2400	,8110	-,5550
,4356					
Int_1	,0096	,0165	,5793	,5641	-,0233
,0425					
Gender	,0819	,2001	,4091	,6836	-,3165
,4802					
Age	,0427	,0915	,4673	,6416	-,1393
,2248					
TenOrg	,0565	,0711	,7944	,4294	-,0850
,1980					
TenTeam	-,0223	,0630	-,3547	,7238	-,1477
,1031					
SeEffi	,0512	,1249	,4098	,6830	-,1975
,2999					
EmotLab	-,1706	,1130	-1,5095	,1352	-,3957
,0544					

Product terms key:

Int_1 : PHL x QualityS

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0025	,3356	1,0000	78,0000	,5641

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6607	,4366	,2319	5,9662	10,0000	77,0000

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,1951	,7549	1,5831	,1175	-,3081
2,6983					
PHL	,0045	,0128	,3501	,7272	-,0210
,0300					
Auto	,5350	,1274	4,2003	,0001	,2814
,7886					
Comp	-,0101	,1284	-,0788	,9374	-,2658
,2456					
Relat	-,0462	,1188	-,3890	,6984	-,2828
,1904					

Gender ,1564	-,2153	,1867	-1,1532	,2524	-,5870
Age ,3005	,1270	,0872	1,4568	,1493	-,0466
TenOrg ,1302	-,0072	,0690	-,1048	,9168	-,1447
TenTeam ,1614	,0407	,0606	,6710	,5042	-,0800
SeEffi ,4423	,1962	,1236	1,5877	,1164	-,0499
EmotLab ,2808	,0614	,1102	,5575	,5788	-,1579

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0045	,0128	,3501	,7272	-,0210	,0300

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
2,2400	,0294	,0122	,0082	,0553
3,0000	,0337	,0103	,0132	,0531
4,0000	,0393	,0143	,0129	,0683

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	,0056	,0094	-,0139	,0238

INDIRECT EFFECT:

PHL -> Comp -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
2,2400	,0000	,0018	-,0039	,0042
3,0000	-,0001	,0016	-,0037	,0031
4,0000	-,0002	,0038	-,0090	,0075

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	-,0001	,0028	-,0065	,0055

INDIRECT EFFECT:

PHL -> Relat -> WB

QualityS	Effect	BootSE	BootLLCI	BootULCI
----------	--------	--------	----------	----------

2,2400	-,0026	,0104	-,0145	,0264
3,0000	-,0030	,0110	-,0194	,0231
4,0000	-,0034	,0129	-,0305	,0208

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
QualityS	-,0004	,0041	-,0132	,0032

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: Due to estimation problems, some bootstrap samples had to be replaced.

The number of times this happened was:
3

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 7
Y : WB
X : PHL
M1 : Auto
M2 : Comp
M3 : Relat
W : Latency

Covariates:

Gender Age TenOrg TenTeam SeEffi EmotLab

Sample

Size: 88

OUTCOME VARIABLE:

Auto

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6701	,4490	,2248	7,0632	9,0000	78,0000
	,0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	2,5665	,6293	4,0786	,0001	1,3137
3,8192					
PHL	,0558	,0136	4,1054	,0001	,0287
,0828					
Latency	-,0070	,0092	-,7653	,4464	-,0253
,0113					
Int_1	,0003	,0006	,5418	,5895	-,0008
,0015					
Gender	-,0402	,1836	-,2188	,8274	-,4056
,3253					
Age	,1285	,0837	1,5349	,1289	-,0382
,2953					
TenOrg	-,1268	,0655	-1,9361	,0565	-,2572
,0036					
TenTeam	,0886	,0591	1,5004	,1376	-,0290
,2062					
SeEffi	,2247	,1200	1,8722	,0649	-,0142
,4636					
EmotLab	-,2447	,1061	-2,3057	,0238	-,4560
-,0334					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0021	,2936	1,0000	78,0000	,5895

OUTCOME VARIABLE:

Comp

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,3929	,1544	,2288	1,5825	9,0000	78,0000
,1352						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	3,2382	,6349	5,1005	,0000	1,9743
4,5022					
PHL	-,0079	,0137	-,5798	,5637	-,0352
,0193					
Latency	-,0122	,0093	-1,3151	,1923	-,0307
,0063					
Int_1	,0009	,0006	1,6175	,1098	-,0002
,0021					
Gender	-,0940	,1852	-,5073	,6133	-,4627
,2748					
Age	-,0519	,0845	-,6146	,5406	-,2201
,1163					
TenOrg	-,0086	,0661	-,1302	,8968	-,1402
,1230					
TenTeam	,0577	,0596	,9684	,3358	-,0609
,1763					
SeEffi	,3911	,1211	3,2302	,0018	,1501
,6322					
EmotLab	-,0754	,1071	-,7041	,4835	-,2886
,1378					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0284	2,6163	1,0000	78,0000	,1098

OUTCOME VARIABLE:

Relat

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6544	,4282	,2557	6,4900	9,0000	78,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					

constant	2,8782	,6711	4,2886	,0001	1,5421
4,2143					
PHL	,0468	,0145	3,2320	,0018	,0180
,0757					
Latency	-,0149	,0098	-1,5248	,1314	-,0345
,0046					
Int_1	,0009	,0006	1,5229	,1318	-,0003
,0022					
Gender	,0727	,1958	,3711	,7116	-,3171
,4624					
Age	,0315	,0893	,3531	,7250	-,1463
,2094					
TenOrg	,0575	,0699	,8228	,4131	-,0816
,1965					
TenTeam	-,0083	,0630	-,1313	,8959	-,1337
,1171					
SeEffi	,1075	,1280	,8401	,4034	-,1473
,3624					
EmotLab	-,1517	,1132	-1,3402	,1841	-,3770
,0736					

Product terms key:

Int_1 : PHL x Latency

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0170	2,3191	1,0000	78,0000	,1318

OUTCOME VARIABLE:

WB

Model Summary

	R	R-sq	MSE	F	df1	df2
p	,6607	,4366	,2319	5,9662	10,0000	77,0000
,0000						

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1,1951	,7549	1,5831	,1175	-,3081
2,6983					
PHL	,0045	,0128	,3501	,7272	-,0210
,0300					
Auto	,5350	,1274	4,2003	,0001	,2814
,7886					
Comp	-,0101	,1284	-,0788	,9374	-,2658
,2456					

Relat ,1904	-,0462	,1188	-,3890	,6984	-,2828
Gender ,1564	-,2153	,1867	-1,1532	,2524	-,5870
Age ,3005	,1270	,0872	1,4568	,1493	-,0466
TenOrg ,1302	-,0072	,0690	-,1048	,9168	-,1447
TenTeam ,1614	,0407	,0606	,6710	,5042	-,0800
SeEffi ,4423	,1962	,1236	1,5877	,1164	-,0499
EmotLab ,2808	,0614	,1102	,5575	,5788	-,1579

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0045	,0128	,3501	,7272	-,0210	,0300

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

PHL -> Auto -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0307	,0112	,0110	,0541
15,0000	,0324	,0105	,0124	,0533
30,0000	,0349	,0113	,0136	,0580

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0002	,0003	-,0006	,0008

INDIRECT EFFECT:

PHL -> Comp -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	,0000	,0016	-,0034	,0038
15,0000	-,0001	,0015	-,0033	,0029
30,0000	-,0002	,0031	-,0069	,0057

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0000	,0001	-,0003	,0003

INDIRECT EFFECT:

PHL -> Relat -> WB

Latency	Effect	BootSE	BootLLCI	BootULCI
5,0000	-,0024	,0092	-,0197	,0170
15,0000	-,0028	,0104	-,0193	,0215
30,0000	-,0035	,0126	-,0204	,0288

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Latency	,0000	,0002	-,0003	,0006

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PHL	88	,57	25,00	15,3581	6,34075
PHL01	88	,00	1,00	,5682	,49817
JobSat1	88	2,00	5,00	4,2841	,71033
JobSat2	88	2,00	5,00	4,4091	,63674
JobSat	88	2,00	5,00	4,3466	,61755
Burnout	88	1,00	5,00	2,6705	1,03637
BurnWB	88	1,00	5,00	3,3295	1,03637
WorkEng1	88	2,00	5,00	3,8977	,84472
WorkEng2	88	1,00	5,00	3,6932	,82152
WorkEng3	88	3,00	5,00	4,2727	,62011
WorkEng4	88	1,00	5,00	3,7500	,87428
WorkEng5	88	1,00	5,00	3,6023	,86489
WorkEng6	88	1,00	5,00	3,6705	,88046
WorkEng	88	1,67	5,00	3,8142	,62709
WB	88	1,56	5,00	3,8305	,60355
Auto	88	2,14	4,86	3,5143	,60475
Comp	88	2,83	5,00	4,1191	,49253
Relat	88	1,50	5,00	3,8374	,63313
QuantS	88	4,00	9,00	6,4886	1,00567

Latency		88	1,00	60,00	17,7614	13,96218
QualityS		88	1,00	4,00	3,0227	,66050
Gender		88	1,00	2,00	1,9091	,28913
Age		88	1,00	4,00	2,6117	,84167
TenOrg		88	1,00	5,00	2,6882	1,29424
TenTeam		88	1,00	5,00	2,1409	1,24712
SeEffi		88	2,80	4,80	3,6568	,46678
EmotLab		88	1,80	4,40	3,2523	,53001
Valid (listwise)	N	88				

Group Statistics

	PHL01	N	Mean	Std. Deviation	Std. Error Mean
JobSat	,00	38	4,0789	,63167	,10247
	1,00	50	4,5500	,52732	,07457
Burnout	,00	38	2,7105	1,06309	,17246
	1,00	50	2,6400	1,02539	,14501
WorkEng	,00	38	3,4908	,58958	,09564
	1,00	50	4,0600	,54125	,07654
WB	,00	38	3,6195	,60638	,09837
	1,00	50	3,9908	,55531	,07853
Auto	,00	38	3,1837	,58338	,09464
	1,00	50	3,7656	,49310	,06974
Comp	,00	38	4,0084	,51295	,08321
	1,00	50	4,2032	,46402	,06562
Relat	,00	38	3,4434	,63316	,10271
	1,00	50	4,1368	,44404	,06280

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
JobSatt	Equal variances assumed	,080	,778	-3,810	86	<,001	<,001	-,47105	,12365	-,71685	-,22525
	Equal variances not assumed			-3,717	71,440	<,001	<,001	-,47105	,12673	-,72372	-,21838
Burnout	Equal variances assumed	,012	,913	,315	86	,377	,754	,07053	,22420	-,37517	,51623
	Equal variances not assumed			,313	78,272	,378	,755	,07053	,22532	-,37803	,51908
Work Eng	Equal variances assumed	,006	,937	-4,702	86	<,001	<,001	-,56921	,12107	-,80989	-,32854
	Equal variances not assumed			-4,647	76,026	<,001	<,001	-,56921	,12250	-,81319	-,32523
WB	Equal variances assumed	,001	,977	-2,986	86	,002	,004	-,37133	,12436	-,61854	-,12411
	Equal variances not assumed			-2,950	75,910	,002	,004	-,37133	,12587	-,62203	-,12063

Auto	Equal variances assumed	,759	,386	-5,065	86	<,001	<,001	-,58192	,11488	-,81030	-,35353
	Equal variances not assumed			-4,950	72,049	<,001	<,001	-,58192	,11756	-,81626	-,34758
Comp	Equal variances assumed	,164	,687	-1,864	86	,033	,066	-,19478	,10452	-,40256	,01300
	Equal variances not assumed			-1,838	75,332	,035	,070	-,19478	,10597	-,40587	,01632
Relat	Equal variances assumed	5,119	,026	-6,037	86	<,001	<,001	-,69338	,11485	-,92170	-,46506
	Equal variances not assumed			-5,760	63,166	<,001	<,001	-,69338	,12039	-,93394	-,45282

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
JobSat	Cohen's d	,57454	-,820	-1,257	-,378
	Hedges' correction	,57961	-,813	-1,246	-,375
	Glass's delta	,52732	-,893	-1,347	-,432
Burnout	Cohen's d	1,04178	,068	-,354	,489
	Hedges' correction	1,05097	,067	-,351	,485
	Glass's delta	1,02539	,069	-,354	,490
WorkEng	Cohen's d	,56256	-1,012	-1,457	-,561
	Hedges' correction	,56752	-1,003	-1,444	-,556
	Glass's delta	,54125	-1,052	-1,517	-,577
WB	Cohen's d	,57784	-,643	-1,073	-,208
	Hedges' correction	,58294	-,637	-1,064	-,206
	Glass's delta	,55531	-,669	-1,108	-,224
Auto	Cohen's d	,53382	-1,090	-1,539	-,635
	Hedges' correction	,53853	-1,081	-1,526	-,630
	Glass's delta	,49310	-1,180	-1,657	-,694
Comp	Cohen's d	,48567	-,401	-,826	,026
	Hedges' correction	,48996	-,398	-,819	,026
	Glass's delta	,46402	-,420	-,848	,012
Relat	Cohen's d	,53368	-1,299	-1,760	-,832
	Hedges' correction	,53839	-1,288	-1,745	-,825
	Glass's delta	,44404	-1,562	-2,079	-1,034

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control (i.e., the second) group.