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Sustaining Employee Well-Being: The Role of Health-Related and Age-Related Organizational Support for Older Employees

-A cross-sectional study on the influence of organizational support on the well-being of older employees in the Dutch education sector-

Master Thesis

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Acknowledgements

Dear reader,

Hereby I present to you my master's thesis for the master's program Strategic Human Resource Management. The research into the influence of health- and age-related organizational support on the well-being of older employees in the education sector was conducted between January and June 2025. I feel relieved to now officially write the final sentences of my last academic assignment and I am glad that I have completed my thesis on this essential topic, despite the challenging moments. I would like to thank my supervisor, Dr. Sofija Pajic, for her input and guidance over the past six months. I would also like to thank everyone who completed my survey, without your participation it would not have been possible to conduct my research! I hope you enjoy reading my thesis.

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Abstract

The purpose of this research was to examine the effects of various types of organizational support on the well-being of older employees in the Dutch education sector. In contrast to previous research, which primarily concentrated on younger and mid-career employees and organizations in general, this study contributes to the management literature by focusing on older employees and the Dutch education sector.

A cross-sectional study with 221 participants provided quantitative data that was used to test the proposed hypotheses. The results confirmed that health-related support positively influences both subjective physical and psychological well-being. This emphasizes the need for health-related support in an aging sector. Furthermore, the findings for age-related support were less convincing. Age-related support was found to have a positive effect on subjective physical well-being, but not on objective physical or psychological well-being. The need for more research into this concept of well-being is highlighted by this study. As more and more older employees will retire and the sector is faced with high work demands, this study concludes that specific organizational support is necessary to support older employees' long-term employability. Even though this study has certain methodological issues, including non-random sampling, and suggests that future research should use different sampling methods and measurement techniques, the findings are still very valuable for organizational practice and literature.

Key words: older employees, organizational support, health-related support, age-related support, well-being, education sector

Content

1 Introduction

In respond to shifting demographics, organizations are increasingly challenged to support an aging workforce. By 2050, workers aged 50 of older are projected to represent 30% of the global workforce (Grimm & Holzhausen, 2023; Pedro et al., 2020). This trend is fueled by increased life expectancy, delayed retirement, and growing numbers of working pensioners (Van der Noordt et al., 2020). All over the world organizations face the challenge of keeping older employees motivated, happy, healthy, and productive throughout their careers (Findsen, 2015; De Vos et al., 2020; Skakon et al., 2010; Griffiths, 1999).

In the literature, research on older adults' physical and psychological health is called "healthy aging" or "sustainable aging" (Zacher, 2014). Moreover, happy employees are also productive employees (Joo & Lee, 2017; Zelenski et al., 2008), who have a better quality of life, a lower risk of disease, and increased work productivity compared to employees with less well-being (Adams, 2019). Happy individuals are more active, energetic, and interested in their work compared to unhappy employees (Joo & Lee, 2017).

When we speak about a happy and healthy employee, well-being is often conceptualized as compromising physical (objective) and psychological (subjective) dimensions (Zacher, 2014; Zacher & Schmitt, 2016). According to Grant et al. (2007, p. 53) physical well-being can be defined as "bodily health and functioning", while psychological well-being entails "subjective experience and functioning". Furthermore, low psychological well-being can be detrimental to physical well-being (Grant et al., 2007). Employee well-being consists of various factors, such as job satisfaction, mental health, emotional state, and work-life balance (Warr, 2013). High levels of well-being are linked to greater motivation, engagement, and performance, whereas low levels are associated with burnout, absenteeism, and poor performance (Schaufeli & Bakker, 2004). Organizational support and supportive leadership play a critical role in maintaining employee well-being (Xiu et al., 2019).

The literature distinguishes organizational support into health- and age-related support. Health-related support has traditionally been viewed as part of employee benefits, aimed at reducing absenteeism and healthcare costs (Xiu et al., 2019; Eisenberger et al., 1986). The literature considers four types of health-related support: alignment practices, awareness practices, worksite health support practices, and leadership support practices (Xiu et al., 2019; Della et al., 2008). Alignment practices refers to setting objectives for employee health improvement (Xiu et al., 2019). Awareness practices include informing staff members about how employee health affects overall business performance (Xiu et al., 2019). Worksite health

support practices include offering incentives for employees to practice healthy lifestyles (Xiu et al., 2019). Finally, leadership being committed to employee health promotion is an example of a leadership support practice (Xiu et al., 2019; Della et al., 2008). In general, it is shown that employees who perceive organizational health-related support have better employee well-being (Keenan & Mostert, 2013).

Furthermore, health-related support is also positively related to employee satisfaction, performance, and reduced turnover intention (Beck et al., 2016; Xiu et al., 2019). There may be a positive relationship between these types of support with happy and productive employees. This health-related support is particularly for older employees essential to keep them happy and healthy (Kooij et al., 2010). Specifically, the literature argues that the effectiveness of organizational support varies depending on age, as older employees may have different needs and preferences compared to younger employees (Meyers et al., 2020; Zacher & Schmitt, 2016; Griffiths, 1999). Therefore, age-related organizational support is crucial to ensure the well-being of older employees. This age-related support focuses on developing and implementing workplace strategies to support and improve the health and productivity of older employees (Pedro et al., 2020). For example flexible work arrangements or career development opportunities that are specific to the needs of older employees (Pedro et al., 2020).

This study focuses on the education sector, including primary, secondary, and higher education. This sector is currently under enormous pressure due to an aging workforce, a shortage of teachers, a large outflow due to retirements, and high levels of work stress and burnout (UWV, 2023; Centerdata, 2024). In addition, there is insufficient inflow into teacher training courses and some of the starting teachers leave the education sector quickly, partly due to burnout-related complaints, which relatively many people in education experience (UWV, 2023). Employees at all levels of education, not only teachers but also support staff, are increasingly confronted with high workloads, emotional demands, and bureaucratic constraints (Bakker et al., 2007).

The goal of this study is to examine how health- and age-related organizational support affect the physical and psychological well-being of older employees in education. To guide the research, the following question is posed:

To what extent do health-related and age-related organizational support influence the health and well-being of older employees in the education sector?

This research addresses several knowledge gaps. First, while interest in employee well-being is growing, empirical studies remain limited, particularly regarding age-related support (Joo &

Lee, 2017). Especially in management research, physical well-being is becoming more and more popular and relevant as a topic of investigation and is often associated with the outcome of work-related stress (Inceoglu et al., 2018). Meanwhile, psychological well-being is also relevant because it is found to be associated with employee performance and to be more malleable through direct supervisor leadership (Skakon et al., 2010).

Second, there is a significant gap in research specifically for HR practices for older employees. Existing research predominantly focuses on younger and mid-career employees (Van der Heijden et al., 2022). Accordingly, many HR practices are designed for a generic employee population, without sufficient attention to the specific needs of older employees. Lastly, research into age-related support is limited, such as workload adjustments, flexibility, and career development for older employees (Pedro et al., 2020). Similarly, age-related differences have not been taken into consideration in research aimed at improving workplace well-being for employees (Lawrence et al., 2011). By mapping this age-related support, this study will also provide practical contributions. By using the insights of this study, organizations can respond more specifically to the needs of older employees. This study addresses this gap by focusing on older employees in the educational sector.

The focus on the educational sector is timely and needed as the existing research predominantly focuses on organizations in general. In the coming years, a lot of employees will retire, particularly teachers, but the influx of young professionals is limited (UWV, 2023). This challenge affects not only teaching staff but also support staff in the education sector. The education sector is characterized by rising job demands—such as difficult classroom behavior, long hours, and increasing administrative burdens—which contribute to burnout and attrition (Ingersoll et al., 2016; Skaalvik & Skaalvik, 2011). Employees in the education sector, including those in primary, secondary, and higher education, often encounter bureaucracy, such as a lack of autonomy and participation in decision-making (Bakker et al., 2007). As a result, the education sector often receives negative press (Grymonprez, 2018), which limits the influx of younger employees. Therefore, it is crucial for schools and their HR departments to understand how to support older employees to make their career sustainable, so that the outflow remains limited.

This study has several chapters. In Chapter 2 the theoretical framework will be discussed, followed by the methodology in Chapter 3. Chapter 4 contains the results and analyses of the research, with conclusions drawn and an answer formulated to the research question in Chapter 5. Finally, Chapter 6 describes the limitations of the study and makes recommendations for future research.

2 Theoretical Framework

2.1 Physical and psychological forms of well-being among older employees

Occupational well-being includes two core dimensions: physical and psychological well-being (Grant et al., 2007; Inceoglu et al., 2018; Zacher & Schmitt, 2016).

Physical well-being refers to the functional health and condition of the body, including the ability to engage in physical and social activities without limitations caused by illness, discomfort, or biological constraints (Grant et al., 2007; Capio et al., 2014). It is affected by physiological indicators such as cardiovascular health, weight status, and workplace injury risk (Doll et al., 2000). Work-related factors may also contribute to physical strain, particularly in physically demanding jobs or high-stress environments. Importantly, physical and psychological well-being are interrelated. Declines in physical health may contribute to negative psychological states, such as depression and anxiety (Penedo & Dahn, 2005).

Psychological well-being, in turn, reflects individuals' subjective experiences and functioning at work, including emotional states, cognitive evaluations, and motivational outcomes (Grant et al., 2007; Warr, 2013). This study does not asses the different types of psychological well-being, but focuses on psychological well-being in general, but to understand the complexity of psychological well-being at work and understand the chosen focus of the current study, this study will first shortly explain the background and context of what psychological well-being consists of.

First, negative forms of psychological well-being refer to psychological complaints and negative mental states that can arise from work-related factors, such as job burnout, job stress of negative emotions (Inceoglu et al., 2018). Second, positive forms of psychological well-being refer to mental health, positive feelings, and work-related motivation, such as job motivation, job satisfaction, and work engagement (Inceoglu et al., 2018). In addition to the difference between positive and negative well-being, research also distinguishes between hedonic (pleasure and satisfaction) and eudaimonic (purpose and growth) perspectives on well-being (Ryan & Deci, 2001; Warr; 2013).

This study distinguished only between physical and psychological well-being. Furthermore, psychological well-being is used as a general concept, without distinguishing between hedonic and eudaimonic well-being. Although both forms would make valuable theoretical contributions and provide a good background for understanding the concept of well-being, within the domain of psychological well-being, this study focuses on the overall psychological well-being of employees. Thus, psychological well-being in this study

encompasses mental health, emotional state, job satisfaction, and work engagement. This approach is consistent with the study's applied focus on older employees' workplace experiences and avoids overcomplicating measurement with overlapping constructs. Rather, these frameworks offer context for older employees in education experience their general physical and psychological well-being at work.

2.2 The role of organizational support in well-being of older employees

Organizations are necessary in fostering employee well-being through appropriate organizational support or supportive leadership (Xiu et al., 2019; Keenan & Mostert, 2013). Organizational factors include autonomy and social support. The Job Demands-Resources (JD-R) model is a popular framework and can be used to understand the relationship between organizational support and employee well-being (Demerouti et al., 2001). This framework was originally used to explain burnout, but its core logic can be used to explain how job demands influence employee well-being (Schaufeli & Taris, 2013). Hence, the conceptual model and hypotheses of the current study will be built around the propositions of the JD-R model. According to Demerouti et al. (2001) the JD-R model proposes two main groups of factors operating within organizational context and affecting well-being: job demands and job resources. First, job demands refer to "the physical, social or organizational aspects of a job that require sustained physical or mental effort, such as workload or role ambiguity" (Demerouti et al., 2001, p. 501). For specific older employees in education, the demands of the job may include increasing cognitive and emotional demands due to large classes, high workloads, administrative burdens, and increasing behavioral problems among children in class (Skaalvik & Skaalvik, 2011; Ingersoll et al., 2016). In addition, physical demands such as prolonged standing or vocal strain may become more demanding when becoming older. Thus, job-related demands, such as physical requirements or a physical workload, should decrease as workers age (Ilmarinen, 2001). Contrarily, job resources refer to "physical, psychological, social, or organizational aspects of a job that help to achieve work goals, reduce job demands at the associated psychological and physiological costs, and stimulate personal growth and development" (Demerouti et al., 2001, p. 501). For specific older employees in education, relevant job resources may include increased autonomy, decision-making involvement, and task variety. These resources increase satisfaction, motivation and performance (Kooij et al., 2010; Bal et al., 2011; Ilmarinen, 2001). In particular, autonomy and participation in decision-making can lower burnout for older teachers (Klusmann et al., 2008). Additionally, task variety can reduce cognitive strain and monotony, which is crucial as people age (Zacher & Frese, 2009).

Job demands are often related to negative outcomes, such as job stress and burnout, but challenging these demands can foster positive outcomes such as personal growth and increased motivation (Bakker & Demerouti, 2017; Vujčić et al., 2017). When employees successfully cope with complex tasks they may experience increased job satisfaction and work engagement (Bakker & Sanz-Vergel, 2013). However, these job demands should be balanced with job resources to prevent work stress (Schaufeli & Taris, 2013). Employees who have enough job resources, like autonomy, participation in decision-making, and task variety, can better cope with job demands, which leads to positive outcomes such as more intrinsic motivation, job satisfaction, work engagement, and better well-being (Xiu et al., 2019; Schaufeli & Taris, 2013; Schaufeli et al., 2009). Furthermore, high job resources can reduce job turnover intention and absenteeism and increase job productivity and commitment (Vujčić et al., 2017; Xanthopoulou et al., 2007). Applying this to the context of older employees in education it would mean that balancing these job resources with the high emotional and cognitive demands of teaching, they enhance, specifically for older teachers, engagement and reduce burnout (Klusmann et al., 2008).

In this study, the emphasis is explicitly on the "resource side" of the JD-R model, because organizational support can directly function as relevant resource for older employees. Older employees can benefit significantly from job resources tailored to their needs, as they already face highlighted demands, but resources provided by the organization can help them to cope with the job demands and protect and maintain their well-being. In the education sector, older employees face specific stressors in particular. For example, high work pressure, especially in primary education, which can lead to work stress and burnout complaints (Draaisma et al., 2021). In addition, many schools lack a formal policy for older employees, meaning that little attention is paid to their specific needs, such as those of older teachers.

2.3 The role of health-related support in physical and psychological well-being of older employees

When assessing the role of organizational support in maintaining well-being among older employees in education, the current study aims to zoom into specific set of practices that are explicitly targeting older employees and their health and well-being outcomes: health-related support. As explained before, the literature considers four types of health-related support: alignment practices, awareness practices, worksite health support practices, and leadership support practices (Xiu et al., 2019; Della et al., 2008). Traditionally, the primary focus of organizational health-related support was on offering health-related benefits to

employees, like health insurance (Xiu et al., 2019). Nowadays, organizations increasingly implement worksite health support strategies, often called "wellness programs", such as promoting healthy behaviors, lifestyle habits, fitness classes or nutrition, or improving work conditions (Shiri et al., 2023; Moroni et al., 2022). These programs contribute positively to both physical and psychological health outcomes for older employees. Regular exercise is required to maintain cardiorespiratory capacity at a sufficient level with age (Ilmarinen, 2001). Moreover, providing access to psychological health services, as a job resource, organizations can prevent psychological health problems (Bourbonnais et al., 2006).

The propositions of the JD-R model can further be applied to offer a framework that explains how organizational health-related support influences physical and psychological well-being. Specifically, organizational health-related support as a job resource can enhance employee motivation and overall well-being (Bakker & Demerouti, 2017). Health-related support can be categorized as a "job resource" because it represents physical, psychological, or organizational aspects of the job that help to achieve work goals, reduce job demands, and improve physical or psychological well-being. From the perspective of physical well-being, health-related support improves physical health outcomes, such as weight loss, physical activity, and lifestyle habits (Moroni et al., 2022). Additional, health-related support results in reduced health care costs and health care utilization (Dement et al., 2015).

Besides physical well-being, these practices are also expected to contribute to employees' psychological well-being. Moroni et al. (2022) found specific evidence for teachers in universities that health-related support improves psychological health outcomes, such as mental health. Exercise and mindfulness-based practices may improve well-being and reduce sickness absence (Shiri et al., 2023).

Although other models such as the Job Demand-Control-Support (JDCS) model and the Effort-Reward Imbalance (ERI) model also offer valuable insights into work stress and well-being (Bourbonnais et al., 2006; Siegrist, 2016), this study builds primarily on the JD-R model due to its broad applicability across different job contexts and its explicit integration of resources such as organizational support. Based on these theoretical insights and the existing empirical findings, the following hypotheses are developed:

Hypothesis 1a: *Health-related organizational support is positively related to subjective physical well-being among older employees.*

Hypothesis 1b: *Health-related organizational support is positively related to objective physical well-being among older employees.*

Hypothesis 1c: *Health-related organizational support is positively related to psychological well-being among older employees.*

2.4 The role of age-related support in physical and psychological well-being of older employees

This study also examines age-related support as a second important organizational mechanism that can influence well-being and that can be conceptualized as resource within the JD-R model. Age-related support refers to organizational practices and policies specifically aimed at supporting the needs and capabilities of older employees as they age in the workplace (Pedro et al., 2020). While health-related support is aimed at improving general physical and psychological well-being of employees, age-related support is specifically designed to address the changing needs of older employees. Namely, work characteristics and job design can affect older employees' well-being differently due to their misalignment with their work-related changing needs or abilities, so organizations should tailor age-related support to meet the needs of an aging workforce (Griffiths, 1999; Zacher & Schmitt, 2016). Specifically, studies show that cognitive capacities, work experiences, and job motivation change as you become older in life, which influences overall well-being (Kanfer & Ackerman, 2004; Kooij et al., 2013).

When applying the propositions of the JD-R model to explain the role of age-related support can help to improve employee well-being (Bakker & Demerouti, 2017). Age-related support can be conceptualized as another form of job resources provided by the organization that can help older employees to better cope with job demands by reducing both physical and psychological load and increasing autonomy. For example, flexible work arrangements or reduced workloads allow older employees to adjust the work pace to their own needs. These adjustments reduce stress and prevent overload, which in turn leads to higher levels of job satisfaction, work engagement, and psychological well-being (Bakker & Demerouti, 2017; Ilmarinen, 2001). There are various kinds of age-related support: maintaining the current level of functioning (i.e. flexible arrangements), working at lower levels (i.e. reducing physical requirements), or helping employees use their potential (i.e. career development opportunities) (Turek et al., 2020). Flexible work arrangements are most commonly used and redesign physical aspects of a job, which supports the health, well-being, and productivity of older employees (Turek et al., 2020). Flexible work arrangements, such as work from home options, flexible work schedules, or early retirement plans for older employees, allow for flexibility in where and when work is done (Allen et al., 2012; Bal et al., 2014). Second, older employees experience less physical strain when job demands are reduced, which enhances work

engagement (Kooij et al., 2010). Third, helping older employees in realizing their potential ensures that they will proceed to be competent and confident throughout their careers (Turek et al., 2020; Schreurs et al., 2011). In this study, age-related support is operationalized through employees' perceptions of the intensity with which their organization promotes an age-friendly culture (i.e. flexible working arrangements, workload adjustments, development opportunities).

To examine the potential contribution of age-related support to physical and psychosocial well-being, the following relationships are proposed:

Hypothesis 2a: *Age-related organizational support is positively related to subjective physical well-being among older employees.*

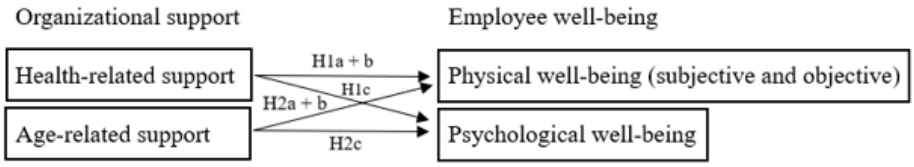
Hypothesis 2b: *Age-related organizational support is positively related to objective physical well-being among older employees.*

Hypothesis 2c: *Age-related organizational support is positively related to psychological well-being among older employees.*

2.5 Conceptual model

Based on the hypotheses mentioned above, a conceptual model has been developed (Figure 1). This conceptual model demonstrates the variables and their relationships in this study.

Figure 1
Conceptual model



3 Methodology

3.1 Research design

In this study, a positivistic paradigm was used as the researcher obtained an objective role and hypotheses were verified (Guba & Lincoln, 1994). The study is explanatory, deriving hypotheses from existing literature (Hair et al., 2019). This deductive study tested a general theory in practice and related the findings back to the existing theory (Hair et al., 2019). Additionally, this study used quantitative methods to gather information from a large number of participants in order to validate these theories and extrapolate them to a larger group of older

employees in education in the Netherlands. A cross-sectional study was conducted in April 2025, and in the short time frame allowed for this research, the researcher was able to gather a large amount of data. This positivistic paradigm aimed to understand the “real reality” in a natural context, resulting in increased practical relevance and generalizability (Guba & Lincoln, 1994).

The data for the current study were collected by two students during one semester and combined with the data that had been collected by a group of students in 2024. In addition, the survey that was conducted in the Netherlands was designed as a part of larger research effort called Later Life Workplace Index (LLWI) of Wöhrmann et al. (2018). This LLWI was used to describe favorable working conditions for older employees in a structured way and to compare the different practices that organizations use for an aging workforce. The LLWI is a tool which is used in multiple countries and industries and is used a number of thesis trajectories at Radboud University to obtain more data in a Dutch context. The questionnaire, which was distributed online via Qualtrics, was fairly fixed and mostly comprised five- and seven-point Likert scales (1= completely disagree, 5=completely agree). It took about 30 minutes for participants to finish the survey, which was anonymous. The researchers conducted a number of tests before distributing the survey to their personal networks and publishing it on social media platforms like LinkedIn. The data collection began on April 1, 2025, and ended on April 15, 2025. In addition, the researcher of this study contacted schools in the region Veenendaal/ Ede to obtain respondents. The target sample was 50 respondents per researcher.

3.2 Sample

To complement existing data collection, validate the LLWI survey in a Dutch context, and address the specific focus of the current study on the education sector, the survey in this study was administered to Dutch employees in the education sector. This concerns both teachers and other staff members, including primary, secondary, and higher education. The survey required participants to be 50 years of age or older, speak Dutch as their first language, work at least 20 hours (50% full-time) for one employer in the education sector, and not working a temporary basis. Using a non-probability, voluntary sampling technique, the researchers approached participants who fit the criteria and asked them to voluntarily complete the survey. Additionally, qualified respondents were asked to distribute the survey to their peers or other qualified respondents, also known as the "snowball effect" (Groves et al., 2009).

Because the questionnaire had already been completed by previous students, 412 answers were already collected. Furthermore, the researchers gathered an additional 128

employee responses, bringing the total number of responses to 540. The current dataset was cleaned by the researchers. Therefore, respondents who did not meet the requirements, stopped halfway or did not answer questions about the key variables were removed, in total 55 answers. After this, all answers from people who completed 60% or more of the survey were retained. There were also three attention checks in the questionnaire. Twelve respondents who had passed none or one of the attention tests were removed. This led to 473 responses overall, including 61 respondents for the current survey. By focusing on generating responses only from people working in education, the researchers were able to make the results even more generalizable. Because the existing dataset focused on employees from all sectors, this ultimately resulted in a total of 232 responses from respondents working in education.

The combined data from the two datasets showed information about the characteristics of the overall sample (see Appendix 1). The average age of respondents was 57.67 years (SD=4.39), and the majority of participants (61.6%) identified as female. Additionally, 52.6% of the participants reported having an HBO or higher level of education. In addition, the majority of respondents (47%) said they were employed by a company with more than 500 employees, and the majority (58.6%) said they had been there for more than 15 years.

3.3 Research ethics

The Netherlands Code of Conduct for Research Integrity has established a number of ethical requirements for conducting human research, including independence, responsibility, honesty, accuracy, and transparency (KNAW et al., 2018, p. 7). This study tried to adhere to this code of conduct.

First, to ensure honesty and transparency, this study provided the references of the secondary data used and detailed descriptions of the sampling and analysis processes. Peer-reviewed journal articles that were primarily used for the theoretical framework made up the majority of the secondary data. Secondly, anonymity and voluntary participation are particularly important when conducting surveys, which means that data must be handled accurately and responsibly. For this reason, participants were asked to consent to the use of their data in this research. In addition, the respondents' data was handled with care and only used for this study. The data remained anonymous and is not traceable to the respondent. Additionally, the data was securely stored and only accessible to the researchers. Moreover, the survey guidelines stated that participants could leave the study at any moment or to choose not to respond to any questions if they so desired.

3.3 Measures

The variables included in the conceptual model were measured using validated scales from the literature (Appendix 2). Each scale consisted of several items. The original scales were developed in English and were translated to Dutch.

Employee psychological well-being. The dependent variable "employee well-being" was measured by using The World Health Organisation- Five (WHO-5) Well-Being Index (Topp et al. 2015). Five items were measured on a five-points Likert scale ranging from 1 (at no time) to 5 (all the time). The items included for example: "I have felt cheerful and in good spirits" (Topp et al., 2015). With a Cronbach's α of 0.87, this scale was adequately reliable.

Employee physical well-being. "Health status" was used to measure physical well-being. The seven-point Likert scale of Adams and Beehr (1998) was used for health status and consisted of 4 items, such as: "Overall, I am very satisfied with my health". The seven-point Likert scale varied from 1 (strongly disagree) to 7 (strongly agree) and demonstrated good reliability (Cronbach's α= 0.89). Additionally, one item was added from the Work Ability Index (WAI) (Tuomi et al., 1991). This item included: "How many whole days have you been off work because of a health problem (disease, health care, or for examination) during the past year (12 months)?". Respondents were required to fill in the exact number of days they were absent due to health reasons.

Health-related support. To measure health-related support, items based on HR practices from Kooij et al. (2014) were utilized. A distinction was made between three sub-items: *availability of physical exercise and nutrition opportunities* (Cronbach's α= 0.80)*, workplace medical treatment* (Cronbach's α= 0.64) *and health promotion* (Cronbach's α= 0.71). The items were answered based on a seven-point Likert scale. The items included for example: "Employees of our organization are well-informed about healthy nutrition (e.g. promotion of healthy alternatives in the cafeteria, talks on healthy nutrition, displays)" or "In our organization employees are made aware of health-promoting behavior (e.g., through training, counseling, displays)". The α of the medical treatment scale was not very high, but tolerable. Therefore, it was tested what happened to the reliability when these three sub-items were taken together. Because the reliability increased to 0.82, three sub-items in this study were computed into one variable (GM_S).

Age-related support. To measure age-related support, the five-point scale from Boehm et al. (2014) (Cronbach's α = 0.83) was utilized. Respondents rated each item on a five-point Likert scale. The items included for example: "With how much intensity does your organization foster

the promotion of an age-friendly organizational culture?”.

Control variables. The survey started with several demographic questions. By using control variables based on these demographic data, it was examined what influence these external factors had on the research results. This aimed for higher internal validity and generalizability (Hair et al., 2019). This study aimed to control for gender. Research has found that women report lower psychological well-being and more health problems than men (Gómez-Baya et al., 2018). Second, this study controlled for education level. People with a lower level of education (primary education + pre-vocational secondary education) live 14 fewer years in good perceived health than people with a higher vocational education or university education (Pharos, 2025; Verbunt, n.d.). Further, higher educated people have a lower BMI on average, smoke less often, exercise intensively at least once a week and eat more vegetables and fruit than lower educated people (André et al., 2018). People with a higher professional or university education also feel healthier and satisfied with their lives more often (Centraal Bureau voor de Statistiek [CBS], 2017).

3.4 Data analysis

SPSS was utilized to examine the data and test the hypotheses. After collecting the data, the dataset was checked for missing values and other inconsistencies. Missing values were deleted from the dataset. Also, the item “health status (subjective)” was reversed and thus recoded. Then, the two datasets were merged. It was carefully checked that the order of the items was the same in both datasets.

The characteristics of the dataset were examined by requesting the descriptive statistics, for example gender, age, educational level, tenure, organization size and number of employers. The item scales were then tested for reliability (Cronbach’s alpha). To find out whether the scales are consistent in what they measure, an exploratory factor analysis was also employed (Hair et al., 2019). To further investigate the connections between each variable in the conceptual model of this study, a correlation analysis was carried out while also taking account for the potential influence of the control variables. Additionally, the regression analysis assumptions of linearity, multicollinearity, homoscedasticity, and residual normality were checked (Hair et al., 2019). A regression analysis was then used to test the hypotheses. The first step was adding gender and educational level as control variables to the model. In the second step, health-related support (GM_S) was added, followed by the addition of age-related support (AIHR) in Model 3. For each model, the explained variance (R^2), the change in explained variance (ΔR^2), and the significance of the individual predictors were examined. This

determined the extent to which health- and age-related support were related to physical and psychological well-being. In addition, several additional analyses were performed to further deepen the findings.

4 Results

4.1 Descriptive Statistics and Outliers

Table 1 shows the descriptive statistics of the variables used in this study. The independent variable psychological wellbeing has a mean of M= 4.25 (*SD*= 0.92). This indicates that participants rated their psychological well-being as quite good. The other independent, variable physical well-being, consisted of subjective and objective physical well-being. Subjective physical well-being has a mean of M= 5.38 (*SD*= 1.26), which is also more at the "good" side of physical well-being. The objective physical well-being measured that participants indicated that they were sick an average of 5 days per year (M = 5.08, *SD* = 13.19). Both psychological and subjective physical well-being had relatively high means and were negatively skewed, meaning that most participants indicated values above the mean and skewed to the left. This means that well-being is on average good, with a few exceptions, which were also indicated by the high standard deviation of 13.19 for objective physical well-being. Objective physical well-being is skewed to the right (skewness= 7.62). This means that most people are moderately ill, but there are a few people with extremely high levels of illness. But, because the skewness of objective physical well-being was very high (skewness > 1), a log transformation was applied. This substantially reduced the skewness (0.82). Therefore, the transformed variable (T_OHS) was included in further analyses.

When looking at the descriptive statistics of the control variables, the positive skewness indicated that most participants identified as a woman (woman= 1, man= 2, other= 3) (M= 1.39). When looking at educational level as a control variable, the mean of M=3.48 and the positive skewness indicated that the answers of the participants were more centered towards the left of the mean.

Table 1

Descriptive Statistics

		Independent variables			Dependent variables		Control variables	
		Psychological wellbeing (WHO)	Subjective physical wellbeing (SHS)	Transformed Objective physical wellbeing (T_OHS)	Health-related support (GM_S)	Age-related support (AIHR)	Gender	Educational level
N	Valid	232	232	138	232	221	232	232
	Missing	0	0	94	0	11	0	0
Mean		4.25	5.38	0.62	3.53	3.49	1.39	3.48
Std. Deviation		0.92	1.26	0.42	1.13	0.83	0.50	1.17
Skewness		-.63	-1.25	0.82	0.29	-0.51	0.57	0.38
Std. Error of Skewness		0.16	0.16	0.21	0.16	0.16	0.16	0.16
Kurtosis		-0.14	1.43	1.15	-0.48	0.29	-1.41	-0.67
Std. Error of Kurtosis		0.32	0.32	0.41	0.32	0.33	0.32	0.32
Minimum		1.60	1.00	0.00	1.00	1.00	1.00	1.00
Maximum		6.00	7.00	2.18	7.00	7.00	3.00	6.00

During the data analysis, some outliers were identified based on z-scores greater than +3 or less than –3 (Field, 2018). Many extreme values can significantly influence and disrupt the research (Field, 2018). To examine the outliers, the variables were standardized and z-scores were calculated (Appendix 3). Age- and health-related support both had one z-score greater than |3|. Psychological well-being had none, subjective physical well-being two and objective physical well-being one z-scores greater than |3| (Appendix 3). Since these outliers may contain valuable information about variation within the population in this study, they were not removed from the dataset to ensure a realistic representation of the sample and to maintain the external validity of the study by including all cases.

4.2 Exploratory Factor Analysis

To find out if the items used were related and if they captured common underlying patterns in the data, an exploratory factor analysis was performed (Hair, 2019). Principal Axis Factoring was chosen because this method focuses on discovering latent constructs based on common variance between items. This approach is appropriate for the purpose of the study, namely identifying underlying dimensions that explain the shared variance of variables. As predicted by the theoretical argumentation, the Oblimin method was selected because it allows for the correlation of the factors. Initially, an exploratory factor analysis was attempted on all 25 items together, originating from six different scales. However, this analysis did not show a clear factor structure. The KMO value was low (0.38), indicating insufficient coherence between the items. In addition, the factors proved difficult to interpret in terms of content and

several items showed low communalities or strong cross-loadings.

Based on this, it was decided to perform the factor analysis separately for each scale. This approach yielded clearer and more interpretable results. First, the analysis of the WHO-5 Well-Being Index showed a KMO value of 0.84, which indicates a very good sampling adequacy. In addition, Bartlett's test of sphericity was significant ($\chi^2(10) = 582.69$, $p < .001$), which indicated sufficient correlation between the items. Based on the eigenvalues and the scree plot, one factor was extracted, which explained 66.99% of the total variance. All five items loaded strongly on this factor (Appendix 4).

Second, the analysis of the Health Status Scale (SHS) showed a KMO value of 0.83, which is also a very good value ($\chi^2(6) = 585.69$, $p < .001$). There was no rotation applied, because only one factor was found (Appendix 4). The item "*My health limits my work*" is one exception, which loaded negatively (–0.67), due to the negative formulation of this item. Additionally, the Work Ability Index was a single-item scale and therefore no factor analysis could be performed on objective physical well-being.

For the HR Practices scale, all three subscales were analyzed separately using factor analysis. For the Availability of Physical Exercise and Nutrition Opportunities Scale, the KMO value was 0.73 ($\chi^2(6) = 67.34$, $p < .001$). This confirms that factor analysis is suitable for these data. All four items loaded strongly on this factor, indicating an unidimensional scale structure, with the items jointly measuring one underlying concept. A slightly lower KMO value of 0.61 was found for the Medical Treatment scale, which just meets the minimum requirements for factor analysis. Bartlett's test of sphericity was significant ($\chi^2(3) = 69.38$, $p < .001$). Although the item "*In our organization employees regularly receive medical check-ups (e.g., vaccinations, stress tests, eye examinations, blood pressure)*" loaded relatively low (0.41) and had a low communality (0.164), this item was not deleted from the analysis to ensure a high similarity to the original scale. The last subscale Health Promotion had a KMO value of 0.66, indicating moderate but sufficient sampling adequacy ($\chi^2(3) = 99.43$, $p < .001$). Factor loadings ranged from 0.55 to 0.77, indicating that the items collectively measure an underlying construct. Although the item "*In our organization health aspects play an important role in organizational decisions (e.g., investment decisions or operational changes)*" had a relatively low communality (0.302), the other contributions were strong enough to consider the scale as unidimensional. Therefore, this item was not deleted from the analysis.

Last but not least, for the Age-related Support scale, a KMO value of 0.78 was found, indicating good sampling adequacy ($\chi^2(10) = 225.02$, $p < .001$). Factor loadings ranged from 0.051 to 0.84. Although the item "*With how much intensity does your organization offer training*

and education for managers on how to deal with an age-diverse workforce and how to respond to the needs of different age groups?" made a lower contribution (communality = 0.26), the items generally showed sufficient coherence to be considered as one scale. These results show that all items contribute to the construct of age-related support within organizations.

4.3 Correlation Analysis

For this study, a correlations analysis was done (Table 2). In general, the values of the Pearson correlation coefficient (r) range from -1 to 1, where -1 and 1 indicate perfect linear correlation between two variables (Field, 2018). The highest correlations were identified between psychological well-being and subjective physical well-being ($r = 0.41$, $p < 0.001$) and between the variables health- and age-related support ($p < 0.001$). This means that a higher value of psychological well-being leads to higher subjective physical well-being and a higher value of health-related support leads to higher age-related support and vice versa. Objective physical well-being did not relate to any of the other studied variables, only negatively to educational level ($r= -0.20$, $p< 0.05$). When looking at the control variables, gender did not relate to any of the other variables. Educational level related positively to subjective physical well-being ($r= 0.14$, $p< 0.05$) and objective physical well-being ($r=-0.20$, $p<0.05$). This is a low correlation, but it is significant. Since these correlations form the basis for the multiple regression analysis, the assumptions of a regression analysis are tested in Chapter 4.4.1.

Table 2
Correlation Analysis

		N	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Psychological well-being	Sig (2-tailed)	232	4.25	.92	(0.87)									
2. Subjective physical well-being	Sig (2-tailed)	232	5.38	1.26	.41**	(0.89)								
3. Transformed objective physical well-being	Sig (2-tailed)	138	0.62	0.42	-.08	-.15	-							
4. Physical exercise	Sig (2-tailed)	231	3.29	1.53	.14*	.09	.03	(0.80)						
5. Medical treatment	Sig (2-tailed)	227	3.36	1.33	.15*	.13*	.07	.36**	(0.64)					
6. Health promotion	Sig (2-tailed)	227	3.94	1.40	.17**	.11	-.07	.52**	.52**	(0.71)				
7. Health-related support	Sig (2-tailed)	232	3.53	1.13	.19**	.12	.02	.83**	.73**	.83**	(0.82)			
8. Age-related support	Sig (2-tailed)	221	3.49	.83	.17*	.19**	-.06	.27**	.30**	.54**	.46**	(0.83)		
9. Gender	Sig (2-tailed)	232	1.39	.48	.12	.06	.01	.04	.11	.04	.07	-.03	-	
10. Educational level	Sig (2-tailed)	232	3.48	1.17	-.05	.14*	-.20*	-.06	.07	-.04	-.03	-.05	.09	-

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

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

4.4 Multiple Regression Analysis

4.4.1 Assumptions

Before the hypotheses could be tested, four assumptions had to be checked: linearity, multicollinearity, homoscedasticity of the residuals, and normality of the residuals (Hair et al., 2019). The assumptions of homoscedasticity and linearity were tested by looking at the scatter plot (Appendix 5.1). A clear funnel shape or a curved pattern may indicate homoscedasticity (even distribution of the residuals) (Hair et al., 2019). In the regression model with psychological well-being as the dependent variable, the scatter plot did not show a clear funnel shape or curved pattern (Appendix 5.1, Figure 1). This confirmed the assumption of homoscedasticity. The points were somewhat diagonally scattered, which may indicate a pattern or a slight violation of linearity, but this did not seem serious. The assumption of linearity also seemed reasonable, but there was slight diagonal clustering. An interaction effect may be considered in hypothesis testing if this is an important predictor. The second model, with subjective physical well-being as the dependent variable, did not show a clear curvature (Appendix 5.1, Figure 2). This implied that there was a sufficiently linear relationship between the predictors and the dependent variable. However, the spread of the residuals appears to decrease at higher predicted values. This may indicate a violation of the assumption of homoscedasticity. Despite the violation, no correction was made. The deviation appears limited, and regression analysis was considered relatively robust in the literature for mild violations of this assumption (Hair et al., 2019). Nevertheless, the results should be interpreted with some caution. The scatter plot of the third regression model, with transformed objective physical well-being as the dependent variable, showed a slight violation of the assumption of homoscedasticity (Appendix 5.1, Figure 3). Despite the fact that a log transformation of the variable has been performed, there was still slight heteroscedasticity in the model. The model has improved considerably due to the transformation. Since the deviation is limited, it was decided to continue with the model, but the results should be interpreted with some caution. The scatterplot did not show a clear curved pattern, indicating that the relationship between the predictors and the dependent variable was linear.

Third, the multicollinearity assumption was examined. There should not be an excessive amount of correlation between the model's independent variables. The assumption of multicollinearity is met when the tolerance level is greater than or equal to 0.25 and the VIF value is less than 10 (Hair et al., 2019). This assumption was met for all three models (tolerance values > 0.25; VIF > 1) (Appendix 5.3). Lastly, the assumption of normality of the residuals was examined (Hair et al., 2019). This is examined using a Normal P-P Plot of the standardized

residuals (Appendix 5.3). The probability plot of model 1 in Figure 4 of Appendix 5.3 closely followed the normal distribution line. This satisfied the assumption of normality. Second, Figure 5 in appendix 5.3 showed for subjective physical well-being slight deviations from the diagonal line, particularly in the middle of the distribution. This suggested that the assumption was not fully met. However, since the deviations were not extreme, the violation was considered to be limited. For transformed objective physical well-being, Figure 6 in Appendix 5.3 showed that the residuals lied largely on or around the diagonal. This suggested that the assumption of normality of the residuals is reasonably met. Small deviations at the extremes were visible, but these were acceptable and expected for a variable that was originally skewed. The log transformation has significantly improved the normality assumption.

4.4.2 Hypotheses Testing

After the assumptions were checked, the hypotheses could be tested by means of a multiple regression analysis. First, Hypotheses 1a, 1b and 1c were tested. To test Hypothesis 1a, the relationship between health-related support and subjective physical well-being, a multiple regression analysis was examined. In Model 1, only the control variables gender and education were included. Education was significantly related to SHS ($\beta = 0.16$, $p = 0.02$), indicating higher subjective physical well-being among participants with higher education, while gender had no significant effect ($p = 0.46$) (Table 7). In Model 2, the variable GM_S was added. The model showed a borderline significant improvement in explained variance ($\Delta R^2 = 0.02$, $p = 0.05$) (Table 6), although similarly to the case of psychological well-being, the amount of explained variance was relatively small. GM_S had a positive and significant effect on SHS ($\beta = 0.13$, $p = 0.05$) (Table 7). This supported Hypothesis 1a.

Table 6
Model Summary dependent variable SHS

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.17[a]	.03	.02	1.23	.03	3.42	2	218	.04
2	.22[b]	.05	.04	1.22	.02	4.03	1	217	.05
3	.27[c]	.07	.06	1.21	.03	5.78	1	216	.02

a. Predictors: (Constant), Education, Gender
b. Predictors, (Constant), Education, Gender, GM_S
c. Predictors, (Constant), Education, Gender, GM_S, AIHR

Table 7
Coefficients

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.63	.34		13.65	<.001
	Gender	.13	.17	.05	.75	.46
	Education	.18	.07	.16	2.44	.02
2	(Constant)	4.13	.42		9.91	<.001
	Gender	.10	.17	.04	.57	.57
	Education	.18	.07	.17	2.54	.01
	GM_S	.15	.07	.13	2.01	.05
3	(Constant)	3.46	.50		6.94	<.001
	Gender	.13	.17	.05	.76	.45
	Education	.19	.07	.17	2.63	.01
	GM_S	.06	.08	.05	.69	.49
	AIHR	.27	.11	.18	2.40	.02

a. Dependent Variable: SHS

To test Hypothesis 1b, the relationship between health-related support and objective physical well-being was examined. The regression analysis shows that in final model 3 health-related support (GM_S) is not a significant predictor of objective well-being (OHS) ($p = 0.47$) (Table 9). Only the control variable education level was found to be a significant predictor of transformed objective physical well-being (T_OHS) ($\beta = –0.18$, $p = 0.05$). This means that a higher education level is associated with less reported sick days, although the effect is statistically weak. The other variable gender ($p = 0.51$), was not significant and thus did not make a substantial contribution to explaining T_OHS in this model. The full model explained little variance in objective physical well-being (Adjusted $R^2 = 0.01$) (Table 8). Hypothesis 1b was thus not supported. This result can partly be explained by the nature of the dependent variable: T_OHS was originally a highly skewed, objective one-item scale with a few large outliers that was transformed.

Table 8
Model Summary: dependent variable T_OHS

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.17[a]	.03	.01	.41	.03	1.91	2	127	.15
2	.17[b]	.03	.01	.41	.00	.08	1	126	.77
3	.19[c]	.04	.01	.41	.01	.99	1	125	.32

a. Predictors: (Constant), Education, Gender
b. Predictors, (Constant), Education, Gender, GM_S
c. Predictors, (Constant), Education, Gender, GM_S, AIHR

Table 9

Coefficients

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.76	.14		5.30	<.001
	Gender	.06	.08	.06	.70	.49
	Education	-.06	.03	-.17	-1.93	.06
2	(Constant)	.72	.19		3.84	<.001
	Gender	.06	.08	.06	.70	.48
	Education	-.06	.03	-.17	-1.92	.06
	GM_S	.01	.03	.03	.29	.77
3	(Constant)	.83	.22		3.83	<.001
	Gender	.05	.08	.06	.67	.51
	Education	-.06	.03	-.18	-1.97	.05
	GM_S	.03	.04	.07	.72	.47
	AIHR	-.05	.05	-.10	-.99	.32

a. Dependent Variable: T_OHS

To test Hypothesis 1c, the relationship between health-related support and psychological well-being was examined. Model 1 explained 3% of the variance in psychological well-being ($F(2,218) = 3.14$, $p = 0.05$) (Table 10). Only the control variable gender was found to be a significant predictor of psychological well-being ($\beta = 0.16$, $p = 0.02$). This suggests that men reported higher psychological well-being compared to women. In model 2, health-related support (GM_S) was added, which increased the explained variance to 4%. This was significant ($\Delta R^2 = 0.04$, F-change = 8.29, $p = 0.00$), but was not a very high percentage of explained variance. Additionally, the findings showed in model 3 that health-related support predicted psychological well-being significantly ($\beta = 0.19$, $p = 0.00$) (Table 11). Hypothesis 1c was thus supported.

Table 10

Model Summary dependent variable WHO

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.17[a]	.03	.02	.89	.03	3.14	2	218	.05
2	.25[b]	.06	.05	.87	.04	8.29	1	217	.00
3	.27[c]	.07	.06	.87	.01	1.85	1	216	.18

a. Predictors: (Constant), Education, Gender

b. Predictors, (Constant), Education, Gender, GM_S

c. Predictors, (Constant), Education, Gender, GM_S, AIHR

Table 11
Coefficients

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.0	.24		16.74	<.001
	Gender	.29	.12	.16	2.36	.02
	Education	-.05	.05	-.07	-1.02	.31
2	(Constant)	3.57	.30		12.03	<.001
	Gender	.26	.12	.14	2.14	.03
	Education	-.05	.05	-.06	-.91	.36
	GM_S	.15	.05	.19	2.88	.00
3	(Constant)	3.30	.36		9.22	<.001
	Gender	.27	.12	.15	2.24	.03
	Education	-.05	.05	-.06	-.88	.38
	GM_S	.11	.06	.14	1.93	.06
	AIHR	.11	.08	.10	1.36	.18

a. Dependent Variable: WHO

To test Hypotheses 2a, 2b and 2c, the role of age-related support in relation to both physical and psychological well-being was examined. AIHR was added as variable to model 3 of the regression analyses (Table 6 to 11). Hypothesis 2a proposed a positive effect of age-related support on subjective physical well-being. The results show that AIHR is significant and is a positive predictor of SHS ($\beta = 0.18$, $p = 0.02$) (Tables 6 and 7). Hypothesis 2a was thus supported. Although the model improved significantly ($\Delta R^2 = 0.03$, $p = 0.02$) compared to the model without the variable AIHR, GM_S lost its significance ($p = 0.49$), while AIHR showed a significant positive effect ($\beta = 0.18$, $p = 0.02$). This suggests that the effect of GM_S on SHS may be explained by AIHR. Or there is an overlapping influence of both variables, which makes the most sense based on the theory.

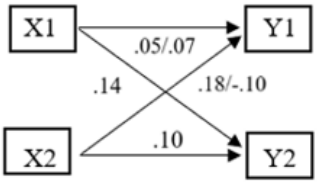
Additionally, the results of Hypothesis 2b, which proposed a positive effect of age-related support on objective physical well-being, show that AIHR has a negative beta ($\beta = -0.99$), with a p-value just above the usual significance threshold ($p = 0.32$) (Tables 8 and 9). Although this result is not significant, it could possibly indicate a trend. Hypothesis 2b was thus not supported.

As a next step, Hypothesis 2c was assessed which proposed the positive effect of age-related support on psychological well-being. The addition of AIHR did not lead to a significant increase in explained variance ($\Delta R^2 = 0.01$, $p = 0.18$) (Table 10). Hypothesis 2c is therefore not supported.

To provide an overview of the regression results related to the hypotheses, Figure 7

summarizes the effects of health- and age-related support on both physical (objective and subjective) and psychological well-being.

Figure 7
Regression results in statistical model (β)



X1= Health-related support, X2= Age-related support, Y1= Physical well-being (subjective and objective), Y2= Psychological well-being

Each arrow displays the standard beta coefficient. Where two values are shown (e.g. .05/.07), the first refers to the effect on subjective physical well-being, and the second to the effect on objective physical well-being.

4.5 Additional Analyses

Some additional analyses were performed to deepen the results and to gain additional findings. In order to test robustness and explore whether other relevant variables could influence the relationships examined, an additional analysis was performed with number of years of service (tenure) and contract type (employment status) as control variables (Appendix 6, Tables 12 and 13). These variables can influence how employees experience health- or age-related support, and help to rule out alternative explanations for well-being. *Tenure* was included as an additional control variable, because employees with a longer tenure may experience support within the organization differently, due to a greater familiarity with the organization or accumulated work experiences (Ng & Feldman, 2010). Tenure was not found to be significant on psychological well-being ($p= 0.69$) ($R^2 = 0.07$, Adjusted $R^2 = 0.05$) (Appendix 6, Table 12). This additional analysis suggests that the length of employment does not play a substantial role in explaining psychological well-being in this study. The previously found relationship between GM_S and psychological and physical well-being also appears to be largely intact when controlling for tenure. Tenure also had no significant effect on subjective physical well-being (SHS) ($\beta = –0.05$, $p = 0.51$) (Appendix 6, Tables 14 and 15). The same applies to model 3 with transformed objective physical well-being as the dependent variable ($\beta = -0.01$, $p = 0.86$) (Appendix 6, Tables 16 and 17). Additionally, the variable *employment status* was initially included as a control variable, to investigate whether having a permanent versus flexible contract influenced how employees experienced organizational support (Connelly & Gallagher, 2004). However, the variable was excluded from the analysis by SPSS, because it had

insufficient correlation with the other variables and had no variation. All respondents in the study were employed full-time (>20 hours per week). Respondents working less than 20 hours did not meet the criteria and were removed from the dataset.

In addition to testing direct effects, it was also investigated whether age played a moderating role in the relationship between AIHR and well-being. This analysis was conducted to investigate whether the effectiveness of age-related support varies depending on an employee's age, because older individuals may have different needs or responses to support than younger colleagues (Meyers et al., 2020; Zacher & Schmitt, 2016; Griffiths; 1999). By including an interaction term (AIHR*Age), it could be investigated whether age strengthens or weakens the relationship between AIHR and well-being. This provides insight into for whom these HR practices are most effective, and helps to tailor policies more specifically to age groups within the organization. The moderation analysis showed that the interaction term AIHR*Age was not significant on psychological ($p= 0.81$) and subjective physical well-being ($p= 0.54$) (Appendix 6, Tables 18 and 19). Therefore, no evidence was found for a moderating effect of age within this model.

Lastly, based on the results of Hypothesis 2a, there is a possibility that the effect of GM_S on SHS can be explained by AIHR. This potential effect is consistent with the idea of Xiu et al. (2019) that organizational practices often interact and reinforce each other. It is possible that health-related support can serve as a mechanism through which age-related support influences employee well-being. This reasoning is based on the idea that organizations that pay attention to age-related support may also provide broader health-related support, which in turn may benefit employee well-being (Pedro et al., 2020). To investigate this potential mechanism, a mediation analysis was performed using the PROCESS macro (Model 4) (Appendix 6, Table 20). The results showed that AIHR had a significant positive effect on GM_S ($B = 0.62$, $p < 0.001$), suggesting that more age-related support is associated with higher perceived levels of health-related support. The relationship between GM_S and WHO was positive, but not significant ($B = 0.11$, $p = 0.08$). The direct effect of AIHR on WHO was also not significant ($B = 0.13$, $p = 0.13$). Additionally, the indirect effect of AIHR on WHO via GM_S was not significant ($B = 0.07$, 95% CI [–0.01, 0.14]), as the confidence interval contained zero. This means that there is no statistical evidence for mediation of GM_S in this relationship. For subjective physical well-being also no significant indirect effect was found via GM_S, indicating that there is no mediation found for this variable either ($B = 0.02$, 95% CI [–0.09, 0.13]) (Appendix 6, Table 21). But, the results did indicate a trend-based positive association, suggesting that GM_S may play an explanatory role in the relationship between

age-related support and well-being. However, this model did not provide sufficient evidence for this.

5 Discussion

5.1 Summary and Interpretation of the Results

The purpose of this study was to better understand how organizational support, health- and age-related support in particular, affect the well-being of older employees in the education sector with the aim of informing strategies for sustaining their employability. Therefore, the following research question was formulated: *"To what extent do health-related organizational support and age-related organizational support influence the health and well-being of older employees in the education sector?"*. Drawing on the JD-R model, six hypotheses were formulated, to assess the distinct effects of support types on physical well-being and psychological well-being.

Overall, the findings partially supported the proposed hypotheses. First, for health-related support was found a positive significant relationship with subjective physical well-being (H1a) and psychological well-being (H1c). However, no significant relationship was found with objective physical well-being (H1b). Secondly, for age-related support was only H2a supported, indicating a positive relationship with subjective physical well-being. In contrast, H2b and H2c, which predicted effects on objective physical well-being and psychological well-being, respectively, were not supported.

The findings above are partly in line with the theoretical propositions of the JD-R model. This model proposed that job resources like organizational support can help employees manage their job demands and enhance well-being (Bakker & Demerouti, 2017). Previous research suggesting that such support improves health outcomes, reduces stress, and improves mental health, particularly in high-demand occupations such as education (Moroni et al., 2022; Bourbonnais et al., 2006), is supported by the is supported by the found positive effect of health-related support on both subjective physical and psychological well-being.

In contrast, the fact that no significant effects were found for objective physical well-being (H1b, H2b) may be due to measurement limitations or the complexity of objectively capturing physical health outcomes via self-report (Voukelatou et al., 2020). Subjective forms of physical well-being may be sensitive to organizational support, but objective indicators may require longer observation than measured in this study. The JD-R model is about employees' experienced demands and resources, so it is logical that subjective effects can be measured better.

The lack of support for the psychological effects of age-related support (H2c) is striking, as age-related support is theoretically thought to help older employees stay engaged and mentally healthy (Turek et al., 2020; Schreurs et al., 2011). One possible explanation is that these forms of support are experienced as irrelevant or ineffective by older employees, thus limiting their effect on psychological well-being. This perception of resources is precisely crucial in the JD-R model. Also, the failure to find an effect on psychological well-being may be due to a poor match between the resource and the perceived demands (misfit). On the contrary, the supported effect of age-related support on subjective physical well-being (H2a) supports the idea that tailoring working conditions to the needs of older workers can improve their perceived health (Ilmarinen, 2001).

Lastly, several control variables were tested. For educational level, a positive relationship was found with both subjective and objective physical well-being, although the effect on objective physical well-being was statistically very weak. This aligns with the statistics of CBS (2017) indicating that higher educated people report better health and less sick days. Furthermore, people with a lower level of education live fewer years in good perceived health than people with a higher educational level (Pharos, 2025; Verbunt, n.d.). Lastly, gender was only found to be a significant predictor for psychological well-being, indicating higher reported psychological well-being among men compared to women. This is in line with the findings found by Gómez-Baya et al. (2018). This may reflect gender-related differences in experienced job demands or psychological resources.

Several additional analyses were conducted. First, no significant evidence was found for the control variables tenure and employment status. Second, a moderation analysis was performed in which age was the moderating variable in the relationship between age-related support and well-being. This additional analysis was performed to see whether the effectiveness of age-related support varies depending on age. The analysis was based on the JD-R model and the proposition by Xiu et al. (2019) that organizational practices often interact and reinforce each other. However, the results showed no significant moderating effect of age, despite the indications for a possible positive association.

5.2 Theoretical and Practical Contributions

Since three of six hypotheses in this study are supported, the importance and relevance of this research is confirmed, although some potential for further clarifications remains. By distinguishing between health- and age-related support and focusing on their effects on both physical and psychological well-being of older employees in education, this study makes an

important contribution. Well-being in this sector has become increasingly important in recent years and the results found show which types of support are the most effective in order to promote well-being and sustainable employability among older employees in this sector. The research therefore contributes to the design of more targeted HR practices for older employees.

Theoretically, the study makes several contributions to the literature. First, it extends the JD-R model by introducing a distinction between subjective and objective physical well-being as different well-being outcomes. This finding shows that subjective and objective outcomes can differ. Second, by distinguishing between health- and age-related support as different resources, this study adds conceptual depth into the "resource" part of the JD-R model. The results indicate that these resources do not have the same effect: health-related support showed more positive effects, while age-related support only had a significant influence on subjective physical well-being. This emphasizes the need for tailored specific job resources to employees' needs and contexts, especially for older employees in demanding sectors such as education. These findings not only extend the JD-R model, but also lay the foundation for future age-dependent research, which is increasingly relevant given the aging workforce (Grimm & Holzhausen, 2023). While previous research often focuses on organizations in general, this study focuses on a sector that is heavily affected by an aging population, high job demands and a talent shortage, particularly among support and teaching staff.

Second, the findings of this study address an empirical gap in the organizational and HRM literature by focusing specifically on the role of age-related support, a topic that has been less frequently studied compared to general organizational support or studies on younger employees (Lawrence et al., 2011; Van der Heijden et al., 2022). While previous research has often focused on general HR practices, this study shows that age-related support is positively related to subjective physical well-being for older employees. This suggests that older employees feel more valued and physically capable when employers recognize age-related needs. This is in line with the emphasis of Ilmarinen (2001) on the importance of adapting working conditions to older employees. No significant relationship was found between age-related support and objective physical or psychological well-being, but it provides a good basis for further investigation.

In addition to the theoretical contributions, there are also some practical contributions of this research. First, given that a huge outflow is expected in the education sector (UWV, 2023), this research can help organizations or schools to set up a strategic approach to reduce the outflow and keep older employees working longer. Second, this study showed that health-related organizational support can positively influence the well-being of older employees. This

indicates that schools or other organizations can benefit from investing and supporting health-related practices, such as promoting healthy lifestyles in canteens or by offering a gym membership. In addition, job demands can also be reduced, for example by providing more autonomy or participation in decision-making. All this support ensures better employee well-being, less absence and illness and improved job motivation (Van Vegchel et al., 2004; Bourbonnais et al., 2006).

Lastly, although two of three hypotheses about the effect of age-related support on employee well-being still lagged behind, awareness of age-related support can be increased. If schools are more aware of the possibility of age-related support, organizational support can be increased, allowing schools and other organizations to work towards a more inclusive and sustainable workforce. Overall, this study helps to support organizations and create awareness to provide organizational support to older employees. Organizations should integrate health- and age-related HR strategies, so that more older employees remain active in the education sector and the workload is reduced in this sector.

5.3 Limitations and Future Research

Despite the contributions of this study, some limitations should be noted that should be taken into account in future research. A first key limitation is the choice of a cross-sectional design. All data were collected at a single point in time, which limits the ability to establish causal relationships between the organizational support and well-being variables (Hair et al., 2019). Although significant relationships were found, it remains unclear whether organizational support causally leads to improved well-being or, conversely, whether older employees with better well-being experience more organizational support. Future research should consider a longitudinal design to investigate possible causal and reciprocal relationships. Furthermore, because a deductive, cross-sectional design was chosen, the limitation of using one survey could be expanded in future research. The survey could be conducted at multiple points in time in future research.

In addition, the survey could be expanded with more varied measurement methods, also known as triangulation (Creswell & Creswell, 2017). Particularly for objective physical well-being, this was briefly asked using a quantitative single self-reported indicator of absenteeism, but incorporating additional quantitative or qualitative items could improve the reliability and validity of this variable (Hair et al., 2019). This single self-reported indicator did not capture the full picture of objective physical well-being. Additional quantitative questions could, for example, monitor blood pressure, heart rate, or medical visits. Further, open questions or

qualitative interviews could delve deeper into how older employees experience age- or health-related support. This could reveal personal experiences that are difficult to explore with closed structured questions (Hair et al., 2019). Especially for topics such as perceived organizational support or subjective physical well-being, qualitative insights can complement numerical data.

Also, the sample size was statistically decent (N= 221), but the sampling method was non-random, which brings a possible selection bias. The data were mainly collected by the researcher's own network through convenience and snowball sampling (Groves et al., 2009). Given this sampling method, there may be an overrepresentation in the sample of people with a good attitude towards their employer or people with good well-being, which resulted in a more positive image being received in this study. This affects the extent to which this research can be generalized to a broader population of older employees in the educational sector. Future research should use a randomized design, where respondents from all regions of the Netherlands are examined with different experiences, which benefits the external validity. Besides, a significant number of potential respondents were excluded from the dataset due to incomplete data or dropout during the survey. This was probably due to the length of the survey. This may have led to an underrepresentation of older employees with lower well-being, health problems, or lower digital literacy. These may be the people who need organizational support the most.

The final limitation of this study is the fixed structure of the LLWI survey. The questions of the LLWI were already fixed, which made it impossible to add extra questions to the survey, such as questions about economic status and more questions about age-related support. This would be a valuable addition, as research shows that economic status is an important predictor of well-being (Marmot, 2005). People with lower economic status have, on average, poorer health, higher absenteeism, and less access to health-promoting resources in the workplace (Marmot, 2005). It would also be valuable to ask additional questions about age-related support. The current survey mainly asked questions about equal treatment, inclusive HR practices and age-friendly culture, focusing on support that helps employees realize their potential (Turek et al., 2020). Additional questions such as questions about maintaining the current level of functioning through flexible work arrangements or reducing physical requirements would be a great addition.

5.4 Conclusions

The aim of this study was to map the influence of health- and age-related organizational support on the well-being of older employees in the educational sector. The results showed that health-related support had an effect on both subjective physical and psychological well-being.

However, the results of age-related support showed less strong evidence. Evidence was only found for the effect of age-related support on subjective physical well-being. This study did not find support for all of the hypotheses proposed, but highlights the need for further research into this complex concept of well-being. This research contributes to theoretical insights into well-being and also provides practical tools for companies in the educational sector that have to deal with more older employees. As more and more older employees will retire and the sector is faced with high work demands, this study concludes the need for targeted organizational support to promote the sustainable employability of older employees.

References

Adams, G. A., & Beehr, T. A. (1998). Turnover and retirement: a comparison of their similarities and differences. *Personnel Psychology*, *51*(3), 643–665. https://doi.org/10.1111/j.1744-6570.1998.tb00255.x

Adams, J. M. (2019). The Value of Worker Well-Being. *Public Health Reports, 134*(6), 583–586. https://doi.org/10.1177/0033354919878434

Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley, K. M. (2012). Work–Family Conflict and Flexible Work Arrangements: Deconstructing Flexibility. *Personnel Psychology*, *66*(2), 345–376. https://doi.org/10.1111/peps.12012

André, S., Kraaykamp, G., & Meuleman, R. (2018). *Een (on)gezonde leefstijl: Opleiding als scheidslijn*. Sociaal en Cultureel Planbureau (SCP). https://digitaal.scp.nl/leefstijl/assets/pdf/een-ongezonde-leefstijl-opleiding-als-scheidslijn-SCP.pdf

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal Of Occupational Health Psychology*, *22*(3), 273–285. https://doi.org/10.1037/ocp0000056

Bakker, A. B., & Sanz-Vergel, A. I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands. *Journal Of Vocational Behavior*, *83*(3), 397–409. https://doi.org/10.1016/j.jvb.2013.06.008

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology, 99*, 274–284. https://doi.org/10.1037/0022-0663.99.2.274

Bal, P. M., Kooij, D. T. A. M., & Rousseau, D. M. (2014). Aging Workers and the Employee-Employer Relationship. In *Springer eBooks*. https://doi.org/10.1007/978-3-319-08007-9

Beck, A. J., Hirth, R. A., Jenkins, K. R., Sleeman, K. K., & Zhang, W. (2016). Factors associated with participation in a university worksite wellness program. *American*

Journal of Preventive Medicine, 51(1), 1-11. https://doi.org/10.1016/j.amepre.2016.01.028

Boehm, S. A., Kunze, F., & Bruch, H. (2014). Spotlight on Age-Diversity Climate: The Impact of Age-Inclusive HR Practices on Firm-Level Outcomes. *Personnel Psychology*, *67*(3), 667–704. https://doi.org/10.1111/peps.12047

Bolnick, H., Millard, F., & Dugas, J. P. (2013). Medical care savings from workplace wellness programs: What is a realistic savings potential? *Journal of Occupational and Environmental Medicine, 55*(1), 4-9. https://doi.org/10.1097/JOM.0b013e31827b4fd3

Bourbonnais, R., Brisson, C., Vinet, A., Vézina, M., & Lower, A. (2006). Development and implementation of a participative intervention to improve the psychosocial work environment and mental health in an acute care hospital. *Occupational And Environmental Medicine*, *63*(5), 326–334. https://doi.org/10.1136/oem.2004.018069

Capio, C. M., Sit, C. H. P., & Abernethy, B. (2014). Physical Well-Being. In *Springer eBooks* (pp. 4805–4807). https://doi.org/10.1007/978-94-007-0753-5_2166

Centerdata. (2024). *Het landelijke beeld van de lerarentekorten*. Retrieved February 11, 2025 from https://www.ocwincijfers.nl/themas/arbeidsmarkt-en-leraren/trendrapportage-arbeidsmarkt/tekorten-po/landelijk-beeld

Centraal Bureau voor de Statistiek [CBS]. (2017, December 14*). Lager opgeleiden minder gezond en tevreden*. Retrieved February 6, 2025 from https://www.cbs.nl/nl-nl/nieuws/2017/50/lager-opgeleiden-minder-gezond-en-tevreden

Connelly, C. E., & Gallagher, D. G. (2004). Emerging trends in contingent work research. *Journal Of Management*, *30*(6), 959–983. https://doi.org/10.1016/j.jm.2004.06.008

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.

De Vos, A., Van Der Heijden, B. I. J. M., & Akkermans, J. (2020). Sustainable careers: Towards a conceptual model. *Journal of Vocational Behavior, 117,* 103196. https://doi.org/10.1016/j.jvb.2018.06.011

Della, L. J., DeJoy, D. M., Goetzel, R. Z., Ozminkowski, R. J., & Wilson, M. G. (2008). Assessing management support for worksite health promotion: Psychometric analysis of the Leading by Example (LBE) instrument. *American Journal of Health Promotion, 22*(5), 359-367. https://doi.org/10.4278/ajhp.22.5.359

Dement, J. M., Epling, C., Joyner, J., & Cavanaugh, K. (2015). Impacts of Workplace Health Promotion and Wellness Programs on Health Care Utilization and Costs. *Journal Of*

Occupational And Environmental Medicine, *57*(11), 1159–1169. https://doi.org/10.1097/jom.0000000000000555

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal Of Applied Psychology*, *86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Doll, H. A., Petersen, S. E. K., & Stewart-Brown, S. L. (2000). Obesity and Physical and Emotional Well-Being: Associations between Body Mass Index, Chronic Illness, and the Physical and Mental Components of the SF-36 Questionnaire. *Obesity Research*, *8*(2), 160–170. https://doi.org/10.1038/oby.2000.17

Draaisma, A., Woldman, N., Runhaar, P., Brok, P. D., Van Woerkom, M., Claessens, L., & Lucas, F. (2021). *Anders organiseren in primair onderwijsteams: een zoektocht naar minder werkdruk en meer werkgeluk*. Wageningen University & Research. https://doi.org/10.18174/544885

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*(3), 500-507. https://doi.org/10.1037/0021-9010.71.3.500

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.

Findsen, B. (2015). Older Workers' Learning Within Organizations: Issues and Challenges. *Educational Gerontology*, *41*(8), 582–589. https://doi.org/10.1080/03601277.2015.1011582

Gómez-Baya, D., Lucia-Casademunt, A. M., & Salinas-Pérez, J. A. (2018). Gender Differences in Psychological Well-Being and Health Problems among European Health Professionals: Analysis of Psychological Basic Needs and Job Satisfaction. *International Journal Of Environmental Research And Public Health*, *15*(7), 1474. https://doi.org/10.3390/ijerph15071474

Grant, A. M., Christianson, M. K., & Price, R. H. (2007). Happiness, Health, or Relationships? Managerial Practices and Employee Well-Being Tradeoffs. *Academy Of Management Perspectives*, *21*(3), 51–63. https://doi.org/10.5465/amp.2007.26421238

Griffiths, A. (1999). Work Design and Management - The Older Worker. *Experimental Aging Research*, *25*(4), 411–420. https://doi.org/10.1080/036107399243887

Grimm, M., & Holzhausen, A. (2023). *The right to work versus the right to retire: No more time for ageism.* Allianz Research. Retrieved February 6, 2025 from https://www.allianz.com

Groves, R. M., Fowler, F. J., Jr, Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology* (2nd ed.). John Wiley & Sons.

Grymonprez, S. (2018, September 19). De werklast van de leraar nageteld: tot 49 uren per week. *De Standaard*. https://www.standaard.be/cnt/dmf20180919_03761546

Guba, E. & Lincoln, Y. (1994). Competing paradigms in qualitative research. In Denzin, N. & Lincoln, Y. (Eds.), *Handbook of Qualitative Research* (pp. 105-117). Thousand Oaks: Sage.

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2019). *Multivariate data analysis* (8th edition). Cengage.

Ilmarinen, J. E. (2001). Aging Workers. *Occupational And Environmental Medicine*, *58*(8), 546. https://doi.org/10.1136/oem.58.8.546

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

Ingersoll, R., Merrill, L., & May, H. (2016). Do accountability policies push teachers out? *Educational Leadership, 73*(8), 44.

Joo, B.-K., & Lee, I. (2017). Workplace happiness: Work engagement, career satisfaction, and subjective well-being. *Evidence-based HRM, 5*(2), 206-221. https://doi.org/10.1108/EBHRM-04-2015-0011

Kanfer, R., & Ackerman, P. L. (2004). Aging, Adult Development, and Work Motivation. *Academy Of Management Review*, *29*(3), 440–458. https://doi.org/10.5465/amr.2004.13670969

Keenan, E. M., & Mostert, K. (2013). Perceived organisational support for strengths use: The factorial validity and reliability of a new scale in the banking industry. *South African Journal of Industrial Psychology, 39*(1), 1–12. https://doi.org/10.4102/sajip.v39i1.1052

Klusmann, U., Kunter, M., Trautwein, U., Lüdtke, O., & Baumert, J. (2008). Engagement and Emotional Exhaustion in Teachers: Does the School Context Make a Difference? *Applied Psychology*, *57*(s1), 127–151. https://doi.org/10.1111/j.1464-0597.2008.00358.x

KNAW, NWO, Netherlands Association of University of Applied Sciences, NFU, TO2 federatie & VSNU. (2018). Netherlands Code of Conduct for Research Integrity. https://www.nwo.nl/sites/nwo/files/documents/Netherlands%2BCode%2Bof%2BConduct%2Bfor%2BResearch%2BIntegrity_2018_UK.pdf

Kooij, D. T. A. M., Jansen, P. G., Dikkers, J. S., & De Lange, A. H. (2010). The influence of age on the associations between HR practices and both affective commitment and job satisfaction: A meta-analysis. *Journal of Organizational Behavior, 31*(8), 1111–1136. https://doi.org/10.1002/job.666

Kooij, D. T., De Lange, A. H., Jansen, P. G., & Dikkers, J. S. (2013). Beyond chronological age. Examining perceived future time and subjective health as age-related mediators in relation to work-related motivations and well-being. *Work & Stress*, *27*(1), 88–105. https://doi.org/10.1080/02678373.2013.769328

Kooij, D. T., Jansen, P. G., Dikkers, J. S., & De Lange, A. H. (2014). Managing aging workers: a mixed methods study on bundles of HR practices for aging workers. *The International Journal Of Human Resource Management*, *25*(15), 2192–2212. https://doi.org/10.1080/09585192.2013.872169

Lawrence, S. A., Troth, A. C., Jordan, P. J., & Collins, A. L. (2011). A Review of Emotion Regulation and Development of a Framework for Emotion Regulation in the Workplace. In Perrewé, P.L. & Ganster, D.C. (Eds.), *Research in Occupational Stress And Well Being* (Vol. 9, pp. 197–263). Emerald Group Publishing Limited. https://doi.org/10.1108/s1479-3555(2011)0000009010

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, *365*(9464), 1099–1104. https://doi.org/10.1016/s0140-6736(05)71146-6

Meyers, M. C., Kooij, D., Kroon, B., & Van Woerkom, M. (2020). Organizational support for strengths use, work engagement, and contextual performance: The moderating role of age. *Applied Research in Quality of Life, 15*, 485–502. https://doi.org/10.1007/s11482-018-9702-4

Moroni, A., Degan, R., Martin, B., Sciannameo, V., Berchialla, P., Gilli, G., & Cremasco, M. M. (2022). Effectiveness of Workplace Health Promotion (WHP) interventions in university employees: a scoping review. *Health Promotion International*, *38*(1). https://doi.org/10.1093/heapro/daac171

Ng, T. W. H., & Feldman, D. C. (2010). Organizational Tenure and Job Performance. *Journal Of Management*, *36*(5), 1220–1250. https://doi.org/10.1177/0149206309359809

Pedro, D. R. C., Fracasso, N. V., Costa, R. G., Rossaneis, M. Â., Aroni, P., & Haddad, M. D. C. F. L. (2020). Age management practices toward workers aged 45 years or older: an integrative literature review. *Revista Brasileira de Medicina Do Trabalho*, *18*(02), 194–202. https://doi.org/10.47626/1679-4435-2020-536

Penedo, F. J., & Dahn, J. R. (2005). Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current Opinion in Psychiatry*, *18*(2), 189–193. https://doi.org/10.1097/00001504-200503000-00013

Pharos. (2025, January, 17). *Sociaal economische Gezondheidsverschillen (SEGV)*. Retrieved March 4, 2025 from https://www.pharos.nl/factsheets/sociaaleconomische-gezondheidsverschillen-segv/

Ryan, R. M., & Deci, E. L. (2001). On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review Of Psychology*, *52*(1), 141–166. https://doi.org/10.1146/annurev.psych.52.1.141

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal Of Organizational Behavior*, *25*(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W. B., & Taris, T. W. (2013). A Critical Review of the Job Demands-Resources Model: Implications for Improving Work and Health. *Springer eBooks*, 43–68. https://doi.org/10.1007/978-94-007-5640-3_4

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal Of Organizational Behavior*, *30*(7), 893–917. https://doi.org/10.1002/job.595

Schreurs, B., De Cuyper, N., Van Emmerik, I. H., Notelaers, G., & De Witte, H. (2011). Job demands and resources and their associations with early retirement intentions through recovery need and work enjoyment. *SA Journal Of Industrial Psychology*, *37*(2). https://doi.org/10.4102/sajip.v37i2.859

Shiri, R., Nikunlaakso, R., & Laitinen, J. (2023). Effectiveness of Workplace Interventions to Improve Health and Well-Being of Health and Social Service Workers: A Narrative Review of Randomised Controlled Trials. *Healthcare*, *11*(12), 1792. https://doi.org/10.3390/healthcare11121792

Siegrist, J. (2016). Effort-Reward Imbalance model. In G. Fink (Ed.), *Stress: Concepts, cognition, emotion, and behavior* (pp. 81–86). Elsevier. https://doi.org/10.1016/b978-0-12-800951-2.00009-1

Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education, 27*(6), 1029–1038. https://doi.org/10.1016/j.tate.2011.04.001

Skakon, J., Nielsen, K., Borg, V., & Guzman, J. (2010). Are leaders' well-being, behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research. *Work & Stress, 24*(2), 107–139. https://doi.org/10.1080/02678373.2010.495262

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy And Psychosomatics*, *84*(3), 167–176. https://doi.org/10.1159/000376585

Tuomi, K., Ilmarinen, J., Jahkola, A., Katajarinne, L., & Tulkki, A. (1991). *Work Ability Index*. Helsinki: Finnish Institute of Occupational Health.

Turek, K., Mulders, J. O., & Henkens, K. (2020). The Proactive Shift in Managing an Older Workforce 2009–2017: A Latent Class Analysis of Organizational Policies. *The Gerontologist*, *60*(8), 1515–1526. https://doi.org/10.1093/geront/gnaa037

UWV. (2023). *Geen rem op groeiende lerarentekorten*. Retrieved February 6, 2025 from https://www.uwv.nl/nl/nieuws/geen-rem-op-groeiende-lerarentekorten

Van der Heijden, B. I. J. M., Veld, M., & Heres, L. (2022). Does age matter? Examining career commitment as a moderator in the relationship between age-related HR/D practices and subjective career success for younger versus older academic staff. *Human Resource Development Quarterly*, *33*(4), 381-399. https://doi.org/10.1002/hrdq.21463

Van der Noordt, M., Van der Lucht, F., Polder, J. J., Hilderink, H. B. M., & Plasmans, M. H. D. (2020). *Gezondheid en arbeidsparticipatie rond de AOW-leeftijd: Verwachte ontwikkelingen tot 2040* (RIVM Report No. 2019-0219). Rijksinstituut voor Volksgezondheid en Milieu (RIVM). https://www.rivm.nl/bibliotheek/rapporten/2019-0219.html

Van Vegchel, N., De Jonge, J., Bosma, H., & Schaufeli, W. (2004). Reviewing the effort–reward imbalance model: drawing up the balance of 45 empirical studies. *Social Science & Medicine*, *60*(5), 1117–1131. https://doi.org/10.1016/j.socscimed.2004.06.043

Verbunt, S. (z.d.). *Iedereen hoogopgeleid voor een gezonder Nederland?* Centraal Planbureau. Retrieved February 6, 2025 from https://www.cpb.nl/iedereen-hoogopgeleid-voor-een-gezonder-nederland

Voukelatou, V., Gabrielli, L., Miliou, I., Cresci, S., Sharma, R., Tesconi, M., & Pappalardo, L. (2020). Measuring objective and subjective well-being: dimensions and data sources. *International Journal Of Data Science And Analytics*, *11*(4), 279–309. https://doi.org/10.1007/s41060-020-00224-2

Vujčić, M. T., Oerlemans, W. G. M., & Bakker, A. B. (2016). How challenging was your work today? The role of autonomous work motivation. *European Journal Of Work And Organizational Psychology*, *26*(1), 81–93. https://doi.org/10.1080/1359432x.2016.1208653

Warr, P. (2013). How to think about and measure psychological well-being. In Sinclair, R. R., Wang, M. , & Tetrick, L.E. (Eds.), *Research methods in occupational health psychology: Measurement, design, and data analysis* (pp. 76-90). Routledge.

Wöhrmann, A. M., Deller, J., & Pundt, L. (2018). Complementing AAI at the Meso Level: The Silver Work Index. In Walker, A. & Ng, C.K. (Eds), *Aging and employment: Advances in theory, methods and practice* (pp. 75–94). https://doi.org/10.1007/978-981-10-6017-5_5

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal Of Stress Management*, *14*(2), 121–141. https://doi.org/10.1037/1072-5245.14.2.121

Xiu, L., Dauner, K. N., & McIntosh, C. R. (2019). The impact of organizational support for employees' health on organizational commitment, intent to remain, and job performance. *Evidence-based HRM, 7*(3), 281-299. https://doi.org/10.1108/EBHRM-10-2018-0062

Zacher, H. (2014). Successful Aging at Work. *Work Aging And Retirement*, *1*(1), 4–25. https://doi.org/10.1093/workar/wau006

Zacher, H., & Frese, M. (2009). Remaining time and opportunities at work: Relationships between age, work characteristics, and occupational future time perspective. *Psychology And Aging*, *24*(2), 487–493. https://doi.org/10.1037/a0015425

Zacher, H., & Schmitt, A. (2016). Work Characteristics and Occupational Well-Being: The Role of Age. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.01411

Zelenski, J. M., Murphy, S. A., & Jenkins, D. A. (2008). The happy-productive worker thesis revisited. *Journal of Happiness Studies, 9*(4), 521-537. https://doi.org/10.1007/s10902-008-9087-4

Appendices

Appendix 1: Demographic Statistics

		Mean (SD)	
Age (in years)		57,67 (4,385)	
Variable		**N (Total= 232)**	**%**
Gender	*Female*	143	61.6
	Male	88	37.9
	Other, non-binary	1	0.4
Educational Level	*High School*	6	2.6
	Apprenticeship (MBO)	28	12.1
	Degree at a University of Applied Sciences (HBO)	122	52.6
	University (Bachelor's Degree)	8	3.4
	University (Master's Degree)	60	25.9
	PhD	8	3.4
Organization Size (in number of employees)	*30-49*	15	6.5
	50-99	6	2.6
	10-249	49	21.1
	250-499	44	19
	500-4999	109	47
	5000-49999	9	3.9
Tenure	*< 1 year*	9	3.9
	1-3 years	24	10.3
	4-6 years	23	9.9
	7-15 years	40	17.2
	>15 years	136	58.6
More than one employer	*Yes*	12	5.2
	No	219	94.4

Appendix 2: Measurement Scales

The World Health Organisation- Five Well-Being Index (WHO-5) (Topp et al. 2015)

1. I have felt cheerful and in good spirits.
2. I have felt calm and relaxed.
3. I have felt active and vigorous.
4. I woke up feeling fresh and rested.
5. My daily life has been filled with things that interest me.

The Health Status Scale (Adams & Beehr, 1998)

1. I am very satisfied with my health.
2. My health is better than most people my age.
3. My health limits my work.
4. Generally speaking, my health is very good.

The Work Ability Index (WAI) (Tuomi et al., 1991)

1. How many whole days have you been off work because of a health problem (disease, health care, or for examination) during the past year (12 months)?

HR Practices (Kooij et al., 2014)

Availability of physical exercise and nutrition opportunities

1. Employees of our organization are well-informed about healthy nutrition (e.g., promotion of healthy alternatives in the cafeteria, talks on healthy nutrition, displays).
2. Employees of our organization receive incentives and opportunities to eat healthy food (e.g., by lower prices or a greater variety compared to the less healthy alternatives).
3. Employees of our organization are encouraged to move as much as possible in the workplace (e.g., use the stairs, talk a walk during lunch break, sports during lunch break, use the bicycle to work).
4. Employees of our organization receive incentives and opportunities to do sports outside work (e.g., company sports groups, cooperation with gyms).

Workplace medical treatment

5. In our organization employees regularly receive medical check-ups (e.g., vaccinations, stress tests, eye examinations, blood pressure).
6. In our organization there are special programs to reintegrate employees into work after a long illness (e.g., medical therapies, mental or physical health therapies).
7. employees receive therapeutic help in the workplace or in the immediate vicinity if required (e.g., physiotherapy in case of great physical stress and strain).

Health promotion

8. In our organization employees are made aware of health-promoting behavior (e.g., through training, counseling, displays).
9. In our organization managers and top management are committed to promoting a sustainable, healthy way of life and work for their employees.
10. In our organization health aspects play an important role in organizational decisions (e.g., investment decisions or operational changes).

Age-Related Support Scale (Boehm et al., 2014)

1. With how much intensity does your organization offer age-neutral recruiting activities?
2. With how much intensity does your organization offer equal access to training and further education for all age groups?
3. With how much intensity does your organization offer equal opportunities to be promoted, transferred, and to make further career steps irrespective of one's age?
4. With how much intensity does your organization offer training and education for managers on how to deal with an age-diverse workforce and how to respond to the needs of different age groups?
5. With how much intensity does your organization foster the promotion of an age-friendly organizational culture?

Appendix 3: Outliers

Zscore (AIHR)		Frequency	Percent %
Valid	-3,0062	3	1,3
	-2,7645	1	,4
	-2,6033	1	,4
	-2,2005	2	,9
	-2,0394	1	,4
	-1,7977	3	1,3
	-1,5560	3	1,3
	-1,4955	1	,4
	-1,3948	4	1,7
	-1,3142	5	2,2
	-1,1934	7	3,0
	-1,0725	6	2,6
	-,9920	1	,4
	-,8913	2	,9
	-,8308	5	2,2
	-,5891	28	12,1
	-,3474	12	5,2
	-,2870	2	,9
	-,1863	5	2,2
	-,1057	5	2,2
	,0151	4	1,7
	,1360	10	4,3
	,2165	6	2,6
	,3173	8	3,4
	,3777	19	8,2
	,6194	38	16,4
	,8611	3	1,3
	,9215	3	1,3
	1,0222	1	,4
	1,1028	5	2,2
	1,2237	6	2,6
	1,3445	4	1,7
	1,4251	4	1,7
	1,5258	2	,9
	1,5862	2	,9
	1,8279	9	3,9
	Total	221	95,3
Missing system	11	4,7	
Total	232	100,0	

Zscore (GM_S)		Frequency	Percent %
Valid	-2,23333	1	,4
	-1,93916	1	,4
	-1,90239	1	,4
	-1,84111	1	,4
	-1,64500	3	1,3
	-1,57145	2	,9
	-1,54694	1	,4
	-1,44888	2	,9
	-1,35083	10	4,3
	-1,25277	5	2,2
	-1,20374	2	,9
	-1,17433	1	,4
	-1,15472	5	2,2
	-1,13020	3	1,3
	-1,05666	2	,9
	-,97261	1	,4
	-,95860	4	1,7
	-,86055	5	2,2
	-,84654	4	1,7
	-,82133	1	,4
	-,79926	1	,4
	-,76249	4	1,7
	-,72047	1	,4
	-,68895	3	1,3
	-,66444	6	2,6
	-,64483	1	,4
	-,61541	2	,9
	-,59440	1	,4
	-,57864	1	,4
	-,56638	6	2,6
	-,46832	12	5,2
	-,37027	3	1,3
	-,35801	1	,4
	-,34225	2	,9
	-,27221	4	1,7
	-,24770	1	,4
	-,21618	1	,4
	-,17416	6	2,6
	-,09011	2	,9
	-,07610	3	1,3
	-,02707	2	,9
	,02196	11	4,7
	,03596	2	,9
	,12001	3	1,3
	,16204	1	,4
	,19355	1	,4
	,21807	3	1,3
	,26710	1	,4
	,28811	1	,4
	,30387	1	,4
	,31612	2	,9
	,41418	10	4,3
	,51224	5	2,2
	,52449	1	,4
	,54025	2	,9
	,56126	2	,9
	,59068	2	,9

	,61029	4	1,7
	,63481	2	,9
	,66632	1	,4
	,70835	2	,9
	,74512	2	,9
	,79240	2	,9
	,80640	4	1,7
	,85543	2	,9
	,96574	1	,4
	1,00251	2	,9
	1,04454	2	,9
	1,07606	3	1,3
	1,10057	4	1,7
	1,17061	1	,4
	1,19863	4	1,7
	1,29668	6	2,6
	1,39474	2	,9
	1,40700	1	,4
	1,42275	1	,4
	1,49279	4	1,7
	1,51731	1	,4
	1,54883	2	,9
	1,59085	2	,9
	1,67490	2	,9
	1,73793	2	,9
	1,84825	1	,4
	1,88502	1	,4
	2,17919	2	,9
	2,27724	1	,4
	2,62044	1	,4
	3,06169	1	,4
	Total	232	100,0

ZScore (WHO)		Frequency	Percent %
Valid	-2,88609	1	,4
	-2,66834	1	,4
	-2,45059	3	1,3
	-2,23285	2	,9
	-2,01510	4	1,7
	-1,79735	7	3,0
	-1,57961	7	3,0
	-1,36186	6	2,6
	-1,14411	6	2,6
	-,92636	16	6,9
	-,70862	5	2,2
	-,49087	16	6,9
	-,27312	15	6,5
	-,05538	9	3,9
	,16237	20	8,6
	,38012	26	11,2
	,59787	23	9,9
	,81561	35	15,1
	1,03336	15	6,5
	1,25111	3	1,3
	1,46885	4	1,7
	1,68660	4	1,7
	1,90435	4	1,7
	Total	232	100,0

ZScore (SHS)		Frequency	Percent %
Valid	-3,49072	2	,9
	-3,29159	1	,4
	-2,89334	3	1,3
	-2,49509	2	,9
	-2,29596	1	,4
	-2,09683	3	1,3
	-1,89771	4	1,7
	-1,69858	4	1,7
	-1,49946	5	2,2
	-1,30033	7	3,0
	-1,10120	3	1,3
	-,90208	8	3,4
	-,70295	8	3,4
	-,50382	8	3,4
	-,30470	11	4,7
	-,10557	16	6,9
	,09356	20	8,6
	,29268	26	11,2
	,49181	32	13,8
	,69093	28	12,1
	,89006	13	5,6
	1,08919	11	4,7
	1,28831	16	6,9
	Total	232	100,0

ZScore (T_OHS)		Frequency	Percent %
Valid	-1,47155	18	7,8
	-,75890	23	9,9
	-,34202	20	8,6
	-,04625	17	7,3
	,18317	22	9,5
	,37063	4	1,7
	,52911	4	1,7
	,66640	1	,4
	,78750	1	,4
	,89582	9	3,9
	,99382	1	,4
	1,08327	2	,9
	1,24176	3	1,3
	1,31270	2	,9
	1,60847	2	,9
	2,02535	5	2,2
	2,18383	1	,4
	2,73799	1	,4
	2,96742	1	,4
	3,68007	1	,4
	Total	138	59,5
	Missing System	94	40,5
	Total	232	100,0

Appendix 4: Factor loadings

Pattern matrix							
	Factor						Communalities
	1a	2a	3a	4b	5c	6d	
I have felt cheerful and in good spirits.	.81						.65
I have felt calm and relaxed.	.78						.60
I have felt active and vigorous.	.86						.74
I woke up feeling fresh and rested.	.72						.52
My daily life has been filled with things that interest me.	.67						.45
I am very satisfied with my health.		.90					.81
My health is better than most people my age.		.84					.71
My health limits my work.		-.67					.45
Generally speaking, my health is very good.		.89					.80
Employees of our organization are well-informed about healthy nutrition (e.g., promotion of healthy alternatives in the cafeteria, talks on healthy nutrition, displays).			.69				.47
Employees of our organization receive incentives and opportunities to eat healthy food (e.g., by lower prices or a greater variety compared to the less healthy alternatives).			.77				.59
Employees of our organization are encouraged to move as much as possible in the workplace (e.g., use the stairs, talk a walk during lunch break, sports during lunch break, use the bicycle to work).			.67				.45
Employees of our organization receive incentives and opportunities to do sports outside work (e.g., company sports groups, cooperation with gyms).			.73				.53
In our organization employees regularly receive medical check-ups (e.g., vaccinations, stress tests, eye examinations, blood pressure).				.41			.16
In our organization there are special programs to reintegrate employees into work after a long illness (e.g., medical therapies, mental or physical health therapies).				.70			.49
employees receive therapeutic help in the workplace or in the immediate vicinity if required (e.g., physiotherapy in case of great physical stress and strain).				.75			.56
In our organization employees are made aware of health-promoting behavior (e.g., through training, counseling, displays).					.70		.50
In our organization managers and top management are committed to promoting a sustainable, healthy way of life and work for their employees.					.77		.59

In our organization health aspects play an important role in organizational decisions (e.g., investment decisions or operational changes).					.55		.30
With how much intensity does your organization offer age-neutral recruiting activities?						.76	.58
With how much intensity does your organization offer equal access to training and further education for all age groups?						.73	.54
With how much intensity does your organization offer equal opportunities to be promoted, transferred, and to make further career steps irrespective of one's age?						.84	.70
With how much intensity does your organization offer training and education for managers on how to deal with an age-diverse workforce and how to respond to the needs of different age groups?						.51	.26
With how much intensity does your organization foster the promotion of an age-friendly organizational culture?						.71	.50

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization

a. 1 factors extracted. 6 iterations required.
b. 1 factors extracted. 14 iterations required.
c. 1 factors extracted. 12 iterations required.
d. 1 factors extracted. 7 iterations required.

Appendix 5: Testing Assumptions

Appendix 5.1: Testing Linearity and Homoscedasticity

Figure 1
Scatterplot Regression Model 1. Dependent variable: WHO

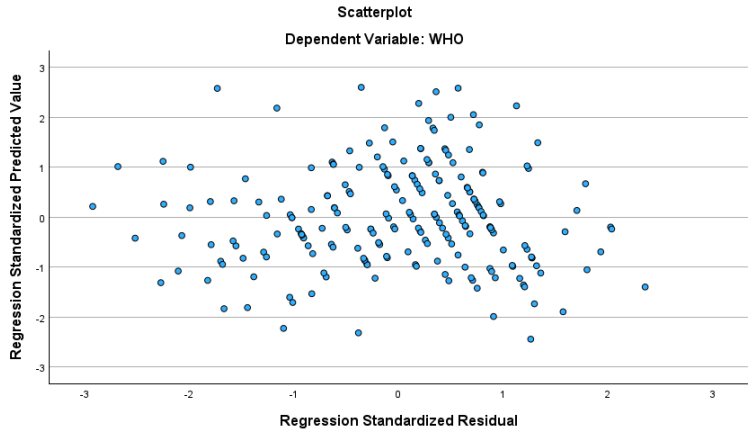


Figure 2
Scatterplot Regression Model 2. Dependent variable: SHS

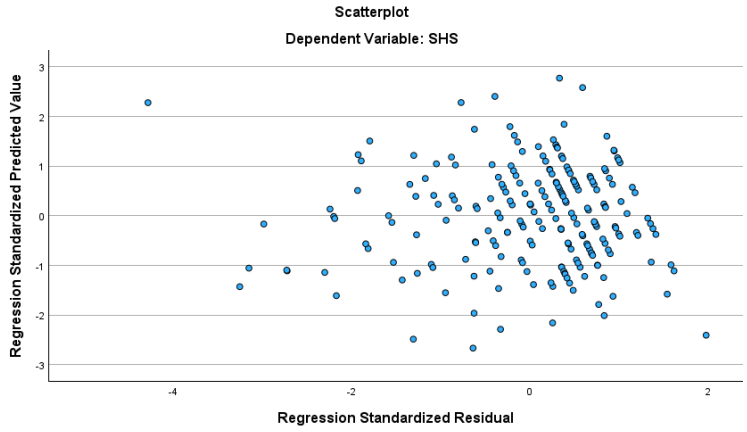
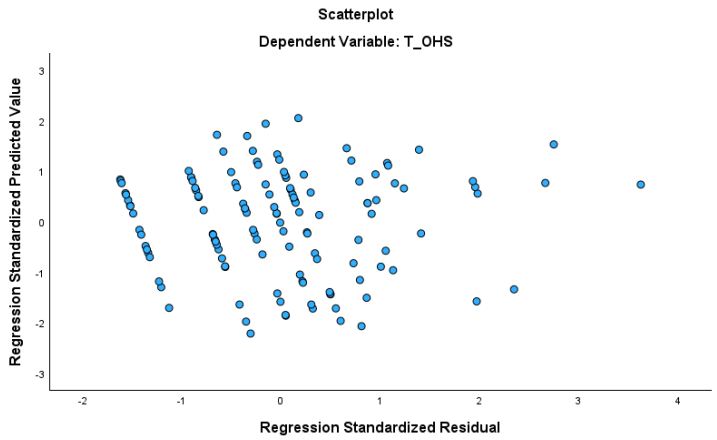


Figure 3
Scatterplot Regression Model 3. Dependent variable: T_OHS



Appendix 5.2: Testing Multicollinearity

Table 3

Coefficients Model 1

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.30	.36		9.22	<.001		
	GM_S	.11	.06	.14	1.93	.06	.78	1.28
	AIHR	.11	.08	.10	1.36	.18	.78	1.28
	Gender	.27	.12	.15	2.24	.03	.98	1.02
	Education	-.05	.05	-.06	-.88	.38	.99	1.01

a. Dependent Variable: WHO

Table 4

Coefficients Model 2

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.46	.50		6.94	<.001		
	GM_S	.06	.08	.05	.69	.49	.78	1.28
	AIHR	.27	.11	.18	2.40	.02	.78	1.28
	Gender	.13	.17	.05	.76	.45	.98	1.02
	Education	.19	.07	.17	2.63	.01	.99	1.01

a. Dependent Variable: SHS

Table 5

Coefficients Model 3

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.83	.22		3.83	<.001		
	GM_S	.03	.04	.07	.72	.47	.78	1.29
	AIHR	-.05	.05	-.10	-.99	.32	.77	1.29
	Gender	.05	.08	.06	.67	.51	.95	1.05
	Education	-.06	.03	-.18	-.97	.05	.95	1.05

Dependent Variable: T OHS

Appendix 5.3: Testing Normality

Figure 4

Normality plot Regression Model 1. Dependent variable: WHO

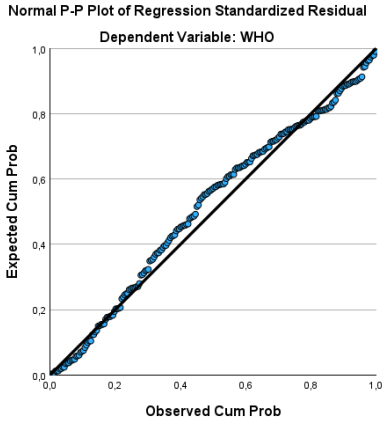


Figure 5

Normality plot Regression Model 2. Dependent variable: SHS

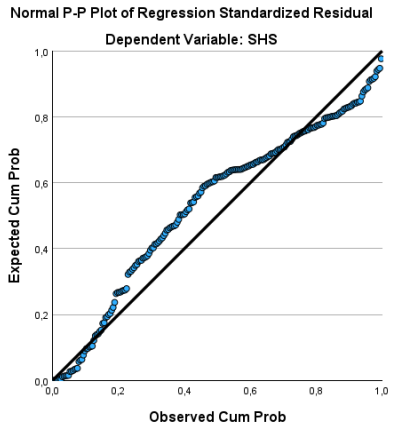
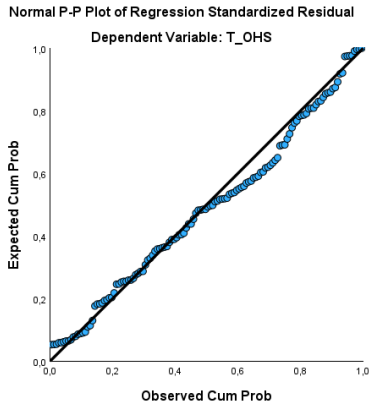


Figure 6

Normality plot Regression Model 3. Dependent variable: T_OHS



Appendix 6: Additional analyses

Table 12

Model Summary with additional control variables

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.27[a]	.07	.05	.87

a. Predictors: (Constant), Tenure, Education, Gender, AIHR, GM_S

b. Dependent Variable: WHO

Table 13

Coefficients with additional control variables

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.40	.44		7.73	<.001
	GM_S	.11	.06	.14	1.83	.07
	AIHR	.11	.08	.10	1.32	.19
	Gender	.27	.12	.15	2.26	.03
	Education	-.05	.05	-.06	-.89	.38
	Tenure	-.02	.05	-.03	-.40	.69

a. Dependent Variable: WHO

Table 14

Model Summary with additional control variables

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.27[a]	.08	.05	1.21

a. Predictors: (Constant), Tenure, Education, Gender, AIHR, GM_S

b. Dependent Variable: SHS

Table 15

Coefficients with additional control variables

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.69	.61		6.03	<.001
	GM_S	.05	.08	.04	.56	.58
	AIHR	.26	.11	.17	2.34	.02
	Gender	.14	.17	.05	.81	.42
	Education	.19	.07	.17	2.60	.01
	Tenure	-.05	.07	-.05	-.66	.51

a.Dependent Variable: SHS

Table 16

Model Summary with additional control variables

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.19[a]	.04	-.00	.42

a. Predictors: (Constant), Tenure, Education, Gender, AIHR, GM_S

b. Dependent Variable: T_OHS

Table 17

Coefficients with additional control variables

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.86	.27		3.14	.00
	GM_S	.03	.04	.07	.69	.49
	AIHR	-.05	.05	-.10	-1.00	.32
	Gender	.05	.08	.06	.66	.51
	Education	-.06	.03	-.18	-1.95	.05
	Tenure	-.01	.03	-.02	-.17	.86

a. Dependent Variable: T_OHS

Table 18

Coefficients with moderation effect

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.59	3.95		.91	.37
	GM_S	.10	.06	.13	1.74	.08
	AIHR	-.14	1.07	-.13	-.13	.90
	Gender	.25	.12	.14	1.99	.05
	Education	-.05	.05	-.06	-.88	.38
	Tenure	-.03	.05	-.04	-.60	.55
	Age	-.00	.07	-.01	-.04	.97
	AIHR*Age	.00	.02	.24	.25	.81

a. Dependent Variable: WHO

Table 19

Coefficients with moderation effect

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1.69	5.46		-.31	.76
	GM_S	.04	.08	.03	.45	.66
	AIHR	1.21	1.48	.81	.82	.41
	Gender	.05	.17	.02	.29	.77
	Education	.18	.07	.17	2.60	.01
	Tenure	-.08	.07	-.08	-1.15	.25
	Age	.10	.09	.34	1.01	.31
	AIHR*Age	-.02	.03	-.59	-.61	.54

a. Dependent Variable: SHS

Table 20

PROCESS output mediation analysis (WHO)

Effect	β	p	95% CI (LL)	95% CI (UL)
AIHR→ GM_S	.62	< .001	.45	.79
GM_S→ WHO	.11	.08	-.01	.22
AIHR → WHO (direct)	.13	.13	-.04	.29
AIHR → WHO (indirect via GM_S)	.07	.14	-.01	.14

Table 21

PROCESS output mediation analysis (SHS)

Effect	β	p	95% CI (LL)	95% CI (UL)
AIHR→ GM_S	.62	< .001	.47	.77
GM_S→ SHS	.03	.74	-.14	.19
AIHR → SHS (direct)	.30	.01	.08	.53
AIHR → SHS (indirect via GM_S)	.02	.51	-.09	.13