Health Promoting Leadership in a Virtual Context

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COMPULSORY DECLARATION: This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, cited and referenced.

Signature Signed by candidate **Date: 14 February 2022**

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Abstract

Organisational leadership is regarded as one of the most important aspects of the workplace as it has been linked to productivity and efficiency and significantly influences employee health and well-being. The outbreak of COVID-19 and the shift to virtual work has shifted job demands and often increased stress. Hence, effective leadership is required to foster work conditions that are focused on promoting the health of employees. The importance of the role of leadership in creating healthy workplaces has been well established. Health-promoting leadership is a positive leadership approach thought to be instrumental in influencing employee well-being and health outcomes indirectly by focusing on changing the working conditions of employees. The main objective of this study was to identify if health-promoting leadership is related to health and well-being (work-related well-being and emotional exhaustion) in an environment in which a rapid shift to virtual working had taken place due to the COVID-19 pandemic. The study employed a descriptive, cross-sectional and quantitative research design. Convenience sampling using a snowball approach was employed. In total, 104 employees completed an online survey. The results showed that, as expected, the seven individual dimensions of health-promoting leadership were predictors of work-related well-being but not predictors of emotional exhaustion and health complaints. Therefore, the study contributes to the literature on health-promoting leadership and showed that leaders need to particularly focus on enhancing a sense of community for virtually working employees. This is through weekly online meetings as they provide employees with a space where they can interact with each other, and also share ideas with each other.

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Chapter 1: Introduction

Health and well-being have been recognised as being among the world's key development priorities in the United Nations Sustainable Development Goals (UN SDGs). The 17 UN SDGs set the global development agenda until the year 2030 (United Nation, n.d.). Organisations can play an important role in contributing towards meeting these goals due to their influence on governments, customers, and employees, for example, by promoting employees' health and well-being (Hymel, 2011). Studies have shown that healthy employees are more likely to be productive and engaged (Bregenzer & Jiménez, 2021) and less likely to suffer from well-being and health concerns like burnout and health complaints (Eriksson et al, 2010; Kaluza et al., 2021). As a result, researchers are beginning to recognise the benefits of promoting healthy workplaces. Recent studies have focused on health-promoting leadership as a positive leadership style in order to influence employee health and well-being (Franke & Felfe, 2011; Jiménez et al., 2017). Health-promoting leadership is particularly important in the current context of COVID-19 which has affected the working conditions of employees and affected the health and well-being of employees (Klebe et al b., 2021).

The COVID-19 pandemic has resulted in a much larger proportion of employees who are working virtually as compared to before 2020. For these employees, the stress experienced through working virtually under COVID-19 conditions may be experienced as an additional burden, due to employees feeling overworked and overwhelmed while trying to adapt to the new ways of working (Abdel Hadi, et al., 2021). Virtual work and the improvements in information communication technology (ICT) have, for example, contributed to employees being readily available at all hours of the day which often results in work being done outside of normal working hours. This constant availability has had an effect on employee well-being and health because constant availability usually means increased workload (Bregenzer & Jiménez, 2021). Predating COVID-19, Demerouti et al.'s (2014) study indicated that the perception of constant availability at work is a prerequisite that links to increased emotional exhaustion which is a dimension of burnout. In addition, an overflow of messages from work and the inability to manage these can lead to increased employee stress (Bregenzer & Jiménez, 2021). Health-promoting leadership might play an important role for employee well-being and health in this context. Research outside of the virtual work contexts suggests that employees with leaders who demonstrate health-promoting leadership report higher well-being and better employee health (Bregenzer & Jiménez, 2021; Kaluza et al., 2020; Turgut et al., 2020).

Health-promoting leadership remains a relatively new phenomenon with only a few researchers investigating it (Bregenzer & Jiménez, 2021; Jiménez et al., 2017). Existing literature on health-promoting leadership indicates that it improves employee health and well-being. However, much of the research that exists predates the COVID-19 pandemic. This raises the question of whether health-promoting leadership is also effective in the virtual working conditions brought about as a consequence of COVID-19. At present, only a few researchers have investigated the role of health-promoting leadership within the virtual context (Bregenzer & Jiménez 2021; Efimov et al., 2020). According to Efimov et al. (2020), despite the known health concerns related to work, further investigation into the role of health-promoting leadership for employee well-being and health in the virtual context is thus necessary. The studies which do exist considered employees have who had not experienced a drastic change from office-based to virtual work, however, without being able to prepare for the new work setup as was the case with the COVID-19 pandemic. Health-promoting leadership may be a key leadership style in ensuring that employee well-being and health are not affected in this way of working virtually.

Therefore, the study aims to identify if health-promoting leadership is related to the health and well-being of employees in a virtual working context. The study seeks to answer the following research question:

Which of the dimensions of health-promoting leadership predict employee well-being and health in a virtual context the best?

Following the introduction, Chapter 2 is a review of the literature on health-promoting leadership and how it is linked to well-being and health outcomes. The health-promoting leadership dimensions/conditions are also introduced. Next, is Chapter 3 which explains the methods of the study and how data was collected and analysed. Following this, Chapter 4 presents the results of the hypotheses testing of the study. Finally, Chapter 5 is a discussion of the study results. Included is the limitations of research, recommendations for future research as well as theoretical and practical implementations. The overall conclusion of the study is also provided.

Chapter 2: Literature Review

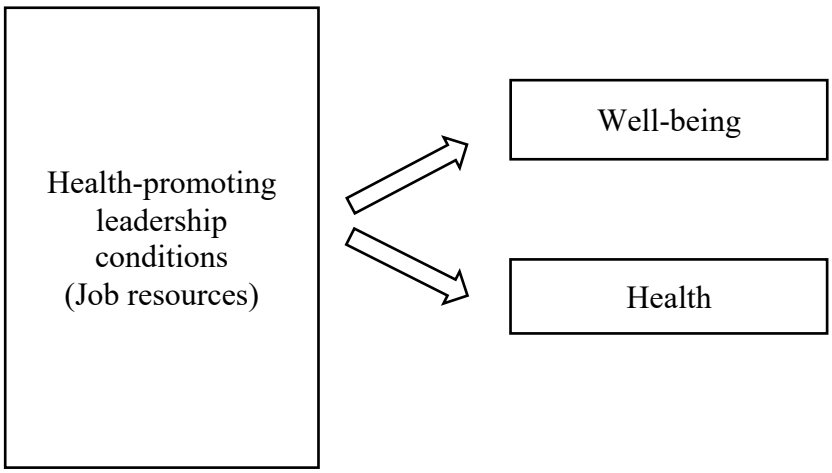
This chapter provides a brief outline of the overall theoretical framework that informs this dissertation. Included is also an overview of the available literature on health-promoting leadership, definition of key concepts and its relationship with employee well-being and health. The chapter concludes with the hypotheses which have been derived from the literature presented.

2.1 Theoretical background: The Conversation of Resources (COR) theory

In the Conversation of Resources (COR) theory, Hobfoll (1989) proposes that individuals value and seek to protect resources that are valuable to them. The theory posits that a loss of resources due to work demands may lead to employees inability to cope. As a result, demands reduce the opportunity for employees to capitalise on resources. The theory is similar to Bakker and Demerouti's (2007) Job-Demands Resources (J-DR) model as it states that the well-being of employees is affected by inadequate resources. Both, COR and the J-DR model have been used to explain and make predictions about well-being outcomes such as burnout and health concerns such as health complaints. In COR theory work demands are viewed as the process of reducing resources (e.g working under virtual conditions).

Hobfoll (1989) explained resources as personal characteristics, objects, conditions, or energies which enable individuals to promote or protect their health. Under COR theory, two types of resources are identified. These are external resources which are explained as organisational and social aspects (i.e. health-promoting conditions and social support) and internal resources which are cognitive aspects as well as actions (i.e. knowledge about health and healthy lifestyle). In light of this definition, health-promoting leadership is an external resource as it provides employees with health-promoting leadership conditions needed to reduce the risk of burnout. Employees are seeking favourable working conditions to reduce burnout and health risks. The initial framework for this study can thus be depicted as shown in Figure 1.

Figure 1: Initial theoretical model



The present study focuses on health-promoting leadership conditions within the virtual context due to the sudden shift towards virtual work resulting from COVID-19. It is imperative to explain what a virtual workplace entails and what are some of the challenges associated with it.

2.2. Definition of a Virtual Workplace

When countries around the globe went into lockdown amid the COVID-19 pandemic, organisations were presented with different challenges including the introduction of virtual working environments also known as remote working, flexible working, telework and telecommuting (Bentley et al., 2015; Graves & Karabayeva, 2020; Molino et al., 2020; Wang et al., 2021). Although virtual workplaces have always been a known practice within organisations, virtual work was a far less widely used practice before the pandemic (Wang, et al., 2021). Ejiwale (2012) had hypothesised that in the future organisations would gradually implement virtual workplaces as a response to organisational and environmental aspects, but in the COVID-19 context this shift happened rapidly and without time for preparation. Working virtually for at least part of the week has become the new normal for most working individuals. It assists organisations to protect the health of workers as well as to comply with social distancing protocols (Molino et al., 2020).

Virtual work provides individuals with flexibility regarding when and where work takes place. This type of work relies heavily on information and communication technologies (ICT) to meet the needs of the organisation (Bentley et al., 2015; Diab-Bahman & Al-Enzi, 2020; Ejiwale, 2012; Wang et al., 2021). Virtual work is then defined as a flexible working environment in which the individual is encouraged to work from a location away from the conventional office space through the use of ICT to complete work demands (Bentley et al, 2015; Ejiwale, 2012; Prasada et al., 2020; Wang et al., 2021). Therefore, the commute to work to sit at a desk surrounded by several co-workers falls away. The employer uses their place of residence or any other space as a workstation. Often this involves converting a room into an office space or using a specific part of their home where they can sit comfortably to complete their work (Bentley et al, 2015, Ejiwale, 2012; Grave & Karabayeva, 2020).

2.3 Challenges of working virtually

There are several advantages to working virtually, such as increased flexibility, reduced travel time and commute costs and a rapid shift from a physical to a virtual workspace as done under COVID-19. In most cases, however, organisations and employees also experience challenges brought about by working virtually, such as increased stress which may have an impact on well-being and productivity (Grave & Karabayeva, 2020; Klebe et al., 2021). The most common stressor in virtual workplaces is a high workload. The use of ICT may lead to employees feeling overextended as they may be expected to complete their tasks more quickly while also having less time to complete the work. Having a combined home and workspace may also result in workers working past their normal working hours and thus increasing the overall number of hours spent working. Employees may also struggle to manage communication from multiple streams (emails and calls) and different information (Grave & Karabayeva, 2020).

The following sections demonstrate how well-being and health link to health-promoting leadership. First, well-being and health are explained. Next, Health-promoting leadership and its dimensions are explained

2.4 Health and well-being at the workplace

According to Kirsten and Karch (2012) Workplace Health Promotion (WHP), projects are important in creating and improving health in organisations, and thus to create positive physical states. Hence WHP is described as the improvement of health and well-being of workers through the combined efforts of employees, employers and the society. WHP solutions recognise that all organisations have risk factors that may have an impact on employee health. This includes working conditions such as rewards or demands that may have an impact on the long-term health of employees. Therefore, WHP indicates that organisational factors are an important consideration that needs to be assessed to ensure that the health and well-being of employees is improved by adapting the working conditions at the workplace (Bregenzer, 2017).

A definition provided by the World Health Organisation (WHO) outlines that health is "a state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). This definition has since been adapted so that it is suitable to the organisational context. It now reads "A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace" (WHO, 2010, p. 6). This has been included in the UN SDGs via SDG 3. SDG3 aims to ensure that people are living healthy lives by promoting their well-being (Howden-Chapman et al., 2017; United Nation, n.d.).

Well-being is a broad concept and can be explained as a positive physical state, e.g. happiness (how work makes them feel) or the absence of ill-health, e.g. emotional exhaustion. Organisations that invest in healthy working environments can play an important role in achieving this goal as healthy working environments can affect the overall well-being of employees (Hymel, 2011; Kniffin et al, 2021). Hence, in this study well-being is conceptualised as work-related well-being and emotional exhaustion as they reflect short term and long-term well-being (Kaluza et al., 2020). Short-term well-being focuses on the current emotional state when currently doing activities. As such, work-related well-being is the current emotional state of the employee when doing their work (Breevaart et al., 2014). Long-term well-being develops over some time and long-lasting. Therefore, it can be identified as aspects such as burnout.

Moreover, ill-health can be described as a consequence of increased stress at work created through working conditions which can relate to poor well-being and physical health (Nakao, 2010). In this study, Psychosomatic symptoms referred to as health complaints are used to explain the body's reaction to work-related stress. Health complaints comprise of symptoms such as headaches or joint pain which are indicators of ill-health (Frankie et al., 2014). Stress is often considered as an antecedent of work-related problems and health concerns. Bauer et al. (2006) also found that health complaints are significantly correlated with burnout. This is an indication that health complaints are good indicators for ill-health at a workplace (Danna et al, 1999).

2.5 Definition of Health-promoting leadership

Dunkl et al. (2015) emphasised that to sustain healthy working environments, a systematic approach needs to be followed which combines organisational and individual factors to identify critical work-life aspects. Hymel et al. (2011) specified that these critical health-promoting aspects encompass the different activities that maintain or improve the health of a workforce. These activities range from identifying work-life areas that need to be improved to organising workplace interventions. Health-promoting leadership does so by addressing the mismatches between working conditions and individual needs (Dunkl et al., 2015; Jiménez et al. 2017; Leiter & Maslach, 1999). Therefore, a healthy working environment is one which there is congruence between the working conditions and employees (Jiménez et al. 2017).

When leaders ensure that employee resources are maintained by changing relevant working conditions, they demonstrate health-promoting leadership. Jiménez et al. (2017) identified these relevant aspects as workload, control, reward, community, fairness, values and health awareness. The first six dimensions are the key domains of work-life that have been associated with alleviating burnout to improve employee well-being in organisations (Leiter & Maslach, 1999). Although health awareness is not one of them, Jiménez et al., (2017) included it as being part of health-promoting leadership. This dimension was added because it was found to be an additional relevant aspect in improving employee well-being and health (Dunkl et al., 2015). The seven dimensions of health-promoting leadership are useful in identifying the most important aspects that leaders should be focusing on to ensure that their employees experience healthy working environments. Below, a definition of each of the seven dimensions is provided.

2.6 Health-promoting leadership dimensions

2.6.1 Health awareness: Unlike the other six dimensions, health awareness focuses on the direct effects of health-promoting leadership (Jiménez et al., 2017). Therefore, this dimension is strongly linked to Franke et al.'s (2014) conceptualisation of health-oriented leadership (HOL) which consists of awareness (self-care, staff care), health values and health behaviour. Health awareness can be explained as the process in which leaders become aware of their health and that of their employees as they begin to recognise the value in promoting health. As a result, health awareness is the first step in promoting health at the workplace. This is because leaders start to show health-promoting behaviour by changing the working conditions of their employees. Dunkl et al. (2015) indicated that employees tend to be healthier when their leaders have high health awareness.

2.6.2 Low workload: High workload is among the predictors associated with employee burnout. High workload refers to job demands that exceed the ability of the employee (Maslach & Leiter, 2008). Jiménez et al., (2017) indicated that to promote employee health, leaders must learn how to keep the workload low — that is an adequate level to ensure that employees have enough time to recover from work demands. Employees exposed to working for long hours are prevented from recovering from work demands and as a result. This can result in stressed employees and consequently low productivity and increased turnover (Grave & Karabayeva, 2020; Maslach & Leiter, 2008). Emotional exhaustion can also occur when work demands exceed the employee's resources to manage them (Jiménez et al., 2017; Maslach & Leiter, 2008). By ensuring that employees can efficiently recover from previous tasks, leaders ensure employee health is maintained (Jiménez et al., 2017). This is achieved by maintaining an adequate workload for employees so that they do not become unduly overwhelmed (Dunkl et al, 2015).

It then becomes the responsibility of leaders to evaluate their expectations regarding productivity in virtual work. Given the challenges of virtual working discussed earlier such as managing information from different platforms which may leave employees feeling overextended (Grave & Karabayeva, 2020). In addition, to address workload it may be beneficial for supervisors to set realistic goals and deadlines to ensure that an adequate

workload is achieved. This can be achieved by supervisors helping employees to prioritise goals. Deadlines that may be perceived as unrealistic by employees put them under pressure and may impact their well-being negatively (Grave & Karabayeva, 2020). Although an adequate workload is preferred in order to decrease the instances of emotional exhaustion, it is important to identify that achieving continuously adequate workloads is not always possible (Bregenzer, 2017). This is particularly the case with employees in management positions who often face challenges of high workload due to the nature of their jobs.

2.6.3 Control: Leaders can create working conditions that promote autonomous work in which employees have control over how they complete tasks. Autonomous workplaces decrease the occurrence of burnout at work and improve employee health (Bregenzer, 2017; Dunkl et al., 2015; Jiménez et al., 2017). Maslach and Leiter (2008) indicated that active participation in organisational decision making is also associated with lower levels of emotional exhaustion.

2.6.4 Reward: When employees feel that they are not being rewarded adequately for the job they do it may lead to burnout. Sufficient reward is an important factor in maintaining the positive relationship between employee and leader. Rewards can be monetary, for example in the form of bonuses, or non–monetary, for example, promotions (Dunkl et al., 2015; Jiménez et al., 2017; Maslach & Leiter, 2008). However, although there is a link between reward and employee health, it may be challenging for leaders to find the right reward given an employee's preference, without being able to monitor the employees in an office setting (Kniffin et al, 2021).

2.6.5 Community: Maslach and Leiter (2008) describe *community* as the quality of social interactions which includes support or the capacity to work as a team at work. Therefore, to support employee health and well-being leaders must build supportive working environments to enhance a sense of community within the workplace (Jiménez et al., 2017). Employees have a need to feel appreciated and treated with respect (Dunkl et al., 2015). Ergo, employees who feel that they are not treated respectfully may develop burnout. Halbesleben (2006) was able to show that by ensuring that there are positive social interactions between employees and leaders, leaders can reduce the risk of employee emotional exhaustion. Leaders have an impact on their employees. Maintaining a supportive environment for their employees means that it is less like for employees to experience burnout (Maslach & Leiter, 2008).

2.6.6 Fairness: Fairness relates to the degree to which employees perceive the decisions at work as being equitable and fair (Blader & Tyler, 2003). Robbins et al. (2012) mentioned that organisational unfairness in the workplace can lead to stress and impact the well-being of employees. Thus, adhering to procedural fairness and not showing certain individuals preferential treatment is an important aspect of health-promoting leadership. Treating individuals unfairly within the workplace can lead to employees feeling emotionally exhausted (Jiménez et al., 2017; Robbins et al., 2012).

2.6.7 Values: Employees' personal values must match the organisation's to maintain employee well-being. A mismatch between values can have a negative impact on organisational work-life (Dunkl et al., 2015; Jiménez et al., 2017). Employees tend to be more comfortable if their values match those of their organisation. Hence, values are crucial for creating a healthy and positive work-life. In this regard, the role of the leader would then be to ensure that value congruence is reached between the employees and the organisation to minimise the risk of employees experiencing burnout (Jiménez et al., 2017). According to Dunkl et al., (2015) leaders can play an active role in reducing the mismatch between employees' and organisation's values by ensuring that they communicate the organisational norms.

Making use of these seven dimensions, leaders can identify the basic conditions necessary to establish and create healthy working environments for their employees. Figure 2 provides an overview of the seven health-promoting leadership dimensions.

Figure 2: Health-promoting leadership conditions according to Jimenez et al. (2017).

2.8 Differentiating health-promoting leadership from related leadership concepts

Health-promoting leadership has been used in conjunction with health-oriented leadership (HOL), health-specific leadership and healthy leadership (Eriksson et al., 2011; Franke et al., 2014; Gurt et al., 2011). As shown in Table 1 each of these approaches provides different explanations about the mechanisms between leadership and health, though all of them consider the workplace needs of employees to create healthy working environments or to implement health-promoting interventions (Bregenzer, 2017; Turgut et al., 2020). This implies that leaders can influence health directly and indirectly.

Health-promoting leadership is largely concerned with indirectly influencing employee health by changing employees' workplace conditions (Bregenzer, 2017; Jiménez et al., 2017). To achieve this, leaders are responsible for creating and supporting conditions that enhance workplace health as outlined by Jiménez et al. (2017) in the seven dimensions of health-promoting leadership. Like health-promoting leadership behaviour, health-promoting leadership conditions can be characterised as employee resources. Hobfoll's (1989) seminal work on stress and the COR theory indicated that conditions are characterised as resources

because they are valued and sought after by employees. While behaviour focuses on the specific actions a leader takes, conditions are the environments that are created through behaviour. Health-promoting conditions thus focus on the work environment that a leader creates to support healthy workplaces. Health-promoting conditions form part of organisational level employee resources which include how the job is designed, organised and managed, while health-promoting behaviour would focus on what specifically the leader does (Nielsen et al., 2017). For example, organisational resources include aspects such as skills development, autonomy, compensations schemes and performance appraisal systems. These aspects when managed effectively create a working environment that decreases the occurrence of exhaustion and illness. According to Ali et al. (2013), working conditions are an important aspect of work-life, as employees can suffer from stress-related illnesses when they have a negative perception of their working conditions, whereas employees who have positive perceptions of their working conditions experience greater productivity and less stress-induced health complaints (Nielsen et al., 2017).

Leadership that has a direct influence on employee health is viewed as person-focused actions and often focuses on health awareness. Here, the role of the leader is to directly influence health through supporting healthy employee behaviours at work (Bregenzer, 2017; Jiménez et al., 2017). Franke et al.'s (2014) HOL and Gurt et al.'s (2011) health-specific leadership are focused on leaders exerting such direct influence on employee health. Franke et al.'s (2014) conceptualisation of health-promoting leadership includes first focusing on health awareness through which the leader becomes aware of the job-related strains that impact employee health. Secondly, leaders focus on health behaviour which includes the activities and behaviours leaders engage in to promote health at the workplace. Third, leaders have to show that they value health and are committed to improving health. In health, specific leadership leaders are responsible for showing specific leadership behaviour for instance communicating about health-related topics or creating workplace health promotion programs (Gurt et al., 2011). Table 1 below illustrates the key areas of focus for different health and leadership perspectives.

Table 1: Different perspectives of health and leadership in the past ten years

Leadership Perspective	Key area of focus	Author
Health-promoting leadership	combines individual and organizational aspects to describe how health-promoting leadership can be seen	Erikson et al., 2011
Health specific leadership	Domain-specific leadership that focuses on task and relationship	Gurt et al., 2011
Health-oriented leadership (HoL)	awareness (self-care, staff care), health values and health behaviour	Franke et al., 2014
Health-promoting Leadership conditions (HPLC)	Low workload, control, reward, community, fairness, value-fit and health awareness	Jiménez et al., 2017
Health and development-promoting leadership behaviour questionnaire (HDLBQ)	leadership behaviour that focuses on employees' job resources and demands	Höper & Stein (2019)

2.9 Differentiating health-promoting leadership from other positive leadership styles

Kelloway et al. (2013) explained that positive leadership is leadership that evokes positive emotions for employees at the workplace. This definition suggests that positive leadership styles show concern for the welfare of employees and this is the reason health-promoting leadership is considered to be a positive leadership approach (Bregenzer, 2017). Other well-known positive leadership approaches include transformational and transactional leaders (Bregenzer, 2017; Dunkl et al., 2015; Yao et al., 2014: Youssef-Morgan et al., 2013). All positive leadership approaches have been associated with lower stress and decreased employee burnout and improved employee health (Bregezer, 2017; Youssef-Morgan et al., 2013).

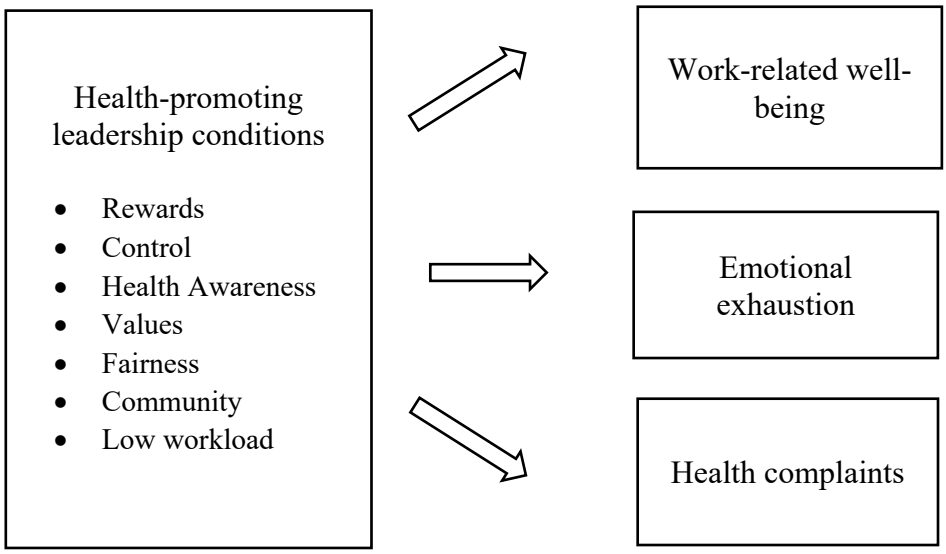
Transformational leadership focuses on the individual consideration of employees to support positive working behaviours which may lead to higher performance. In this regard, as in health-promoting leadership, transformational leaders recognise the needs of their employees. It is negatively related to exhaustion and positively related to well-being. From a transformational leadership perspective, the health of employees is thus maintained through the provision of resources (Vincent-Höper, & Stein, 2019).

For the most part, transactional leadership focuses on the individual interest of employees (Yao et al., 2014). This is usually achieved by rewarding employees for their behaviour and performance. In doing so, transactional leadership focuses on the short-term goals of the organisations. The process of offering a reward for performance is what is known as a contingent reward (Bregenze, 2017; Vincent-Höper, & Stein, 2019). Contingent punishment may occur as the result of employees not meeting the required performance standard and may take the form of suspension or any form of punishment that may be appropriate considering the situation (Odumeru & Ogbonna, 2013) Another form of reward is management by exception which focuses on an active and passive reward. For instance, when management monitors the deviations in behaviour it is referred to as active. When management corrects the deviations in behaviour after it has already occurred it is referred to as passive (Bregenzer, 2017). This leadership strategy is only successful in specific situations hence, it would be particularly useful in organisations facing problem-specific crises (Odumeru & Ogbonna, 2013).

According to Bregezer (2017), the key difference between health-promoting leadership and other positive leadership styles is that health-promoting leadership focuses on improving the health of employees. Transactional and transformational leadership focus primarily on improving employee performance, engagement, commitment, and satisfaction. There are similarities between transformational leadership and health-promoting leadership, however, in that both approaches focus on changing employees' working conditions. Both leadership styles try to create a meaningful work environment that plays a role in reducing the occurrence of burnout.

Figure 1 had outlined the conceptual framework derived from the COR theory (Hobfoll, 1989). When only considering individuals who had started working virtually as a result of the COVID-19 pandemic, the framework changes as follows:

Figure 3 Conceptual framework for the dissertation



2.10 Hypothesis testing

Based on this, the following hypotheses were formulated:

Hypothesis 1:
The seven dimensions of health-promoting leadership predict work-related well-being among employees who changed to a virtual environment due to the COVID-19 pandemic.

Hypothesis 2:
The seven dimensions of health-promoting leadership predict the emotional exhaustion among employees who changed to a virtual environment due to the COVID-19 pandemic.

Hypothesis 3:
The seven dimensions of health-promoting leadership predict the health complaints among employees changed to a virtual environment due to the COVID-19 pandemic.

To test the hypotheses data were collected from employees who were working virtually. The methods used have been outlined in the next chapter.

Chapter 3: Methods

This chapter outlines the methods used to investigate the hypotheses, including an outline of the research design. The sampling procedure is explained and a description of the sample is provided. Included in this chapter are also the measures used and the ethical considerations followed.

3.1 Research design

The study is descriptive and made use of a quantitative, correlational design. A quantitative approach was chosen because the study aimed to collect employees' perceptions of how much care their supervisor's took to promote healthy working environments. Participants were asked to indicate their perceptions of their supervisors as they are employees' direct contact and most immediately responsible for the work environment which employees experience. The quantitative approach is useful because it is an effective and uncomplicated method to collect large numbers of responses within a shorter timeframe than a qualitative approach, important given the one-year time frame for this study. Qualitative research focuses on exploring the subjective experiences of individuals which may require profuse interactions between the participant and researcher (Pietkiewicz & Smith, 2014). Lastly, the quantitative method allows to test hypotheses and to generalise the results from sample data to a broader population (Pietkiewicz & Smith, 2014; Sukamolson, 2007).

3.2 Sampling procedure

Any South African employee working virtually (part-time or full-time) in the white-collar/skilled workforce (thus excluding service workers e.g. maintenance, janitorial) were eligible to participate in this study. Hence, the sample included employees working in different organisations across a variety of different professions. While blue-collar workers might also work remotely from their employers' premises, their work would not be virtual, and this study focused specifically on employees' experiences while working virtually.

Convenience sampling using a snowballing approach was used to recruit potential participants (for a comprehensive description of how the sample was obtained see Section 3.4

Procedure and Data Analysis). De Vos et al. (2011) and Taherdoost (2016) pointed out the external validity concerns that this approach carries. As it is a non-probability sampling approach, it is not possible to determine the degree to which the sample is representative of the population. It was, however, considered the best method of recruiting employees working virtually - either through the researcher's social networks or through the social networks of those participants who were willing to pass on the link to the study in their social networks. In addition given the time constraints associated with completing the research within a 1-year Master's programme, the sampling technique was also selected because it is convenient, timely and cost-effective (Etikan et al., 2016; Taherdoost, 2016; Wagner et al., 2012).

3.3 Participants

Data collection occurred for a period of six weeks from 15 July to 31 August 2021. A total of 150 participants responded to the survey, however, only N = 104 formed the final sample. A total of 46 response sets were removed as they had more than 15% of missing data per scale, had indicated that they were not working virtually, showed suspicious response patterns or completed the questionnaire so quickly that it seemed unlikely that their answers reflected their views on the items provided. This was deemed to be the case, for instance, when respondents took 4 minutes or less to respond.

Table 2 below shows the sample's demographic distribution. Likely as a result of the snowballing approach used, most participants were female (68.3%) and African (81.7%). Approximately one-third worked part-time (N = 32) and two-thirds full-time (N = 68). The average age of participants was 31 (SD = 9.96) ranging from 18 to 63 years of age, with a mode of 24 years (N = 19).

Table 2: Demographic distribution of Sample

Demographics	Category	Frequency	Percentage
Gender	Male	31	29.8%
	Female	71	68.3%
	Prefer not to answer	2	1.9%
Ethnicity	African	85	81.7%
	Asian	0	0%
	Coloured	9	8.7%
	Indian	2	1.9%
	White	7	6.7%
	Prefer not to answer	1	1.0%
Type of employment	Parttime	32	30.8%
	Fulltime	68	65.4%
	Did not indicate	4	3.8%
Number of employees at the organisation	<10	22	21.2%
	10-50	32	30.8%
	50-100	11	10.6%
	100-500	11	10.6%
	>500	27	26.0%

3.4 Procedure and data analysis

A research proposal was first presented to a panel of lecturers within the Section of Organisational Psychology at the University of Cape Town to discuss the study's viability and appropriateness in terms of topic, proposed methods and scope. Following their approval and recommendations, ethical clearance was sought. After this had been provided by the University of Cape Town's Commerce Faculty Ethics in Research committee, data was collected using a questionnaire set up in the cloud-based Qualtrics software. A copy of the ethics approval letter has been provided in Appendix A.

An online survey was utilised because it has the capability of reaching a large number of participants within a short period. Even though this was not achieved in this study – likely due to survey fatigue and potentially feeling burdened by the virtual working conditions – due to the constraints of time (the research needed to be completed within the 1-year master's program) it was practical to terminate the collection of further data regardless of the small sample size (Kotrlik et al., 2001).

A link to the questionnaire was distributed via multiple online platforms (e.g., email, Facebook, WhatsApp, LinkedIn and Twitter) by either using the direct messaging option or posting the link on the timeline/profile. The respondents were asked to share the link on their social media profiles or to directly share the link with their co-workers, friends and family who might be interested in participating in the study. The link to the questionnaire included a brief introduction to attract respondents who were virtual working professionals. The introduction also indicated why the survey was relevant and how it might contribute to helping employers in creating healthy workplaces by changing working conditions as outlined by Jiménez et al. (2017). A copy of the introduction letter and questionnaire items can be found in Appendices B and C.

After data collection had been completed the data set was downloaded from Qualtrics in Microsoft Excel format. Unusable data sets were removed in Excel for the reasons described in Section 3.3. After the data had been cleaned it was exported into the statistical programme IBM Software Package for Social Sciences (SPSS) version 27. Here it was coded, which entails organising and assigning numerical codes to non-numerical information, in order to facilitate the data analysis process. The scales were subjected to validity and reliability analyses. Descriptive statistics (frequencies and percentages) were used to describe the sample and central tendencies and dispersion of the variables of interest as well as their intercorrelations. Multiple regression analyses were performed to test the study hypotheses.

3.5 Data management plan

As the data collected was confidential, it was the researcher's ethical imperative to ensure that the data was securely stored and not shared with anyone not directly involved in the research investigation. The data were thus stored on the researcher's personal computer

which was password protected. The file was linked to the researcher's OneDrive cloud storage to prevent any data from being lost. Following these steps, the data was deleted from the Qualtrics platform.

3.6 Ethical considerations

To conduct good research there are standards of ethical practices that need to be adhered to. The researcher is required to ensure that the participants are not harmed in any form by the research and act with integrity (Bryman, 2012). Therefore, before collecting data ethical clearance was sought and obtained from the Commerce Faculty Ethics in Research Committee (see Appendix A). The questionnaire included a cover page that described the aims of the research and the study relevance to ensure participants were informed of the nature and purpose of the study so that they could provide their informed consent when choosing to participate (see Appendix B). Participants were required to tick the option "yes" next to the item "I confirm that I understand the above content and consent to participating in the study" at the bottom of the cover page. Only participants who had answered "yes" were able to complete the questionnaire items. Those who responded "no" were directed to the end of the questionnaire where they were thanked for seeking information about the research.

The cover letter also specified that participation was voluntary and that a participant could revoke their consent at any time during the study for any reason (Bryman, 2012). Further, the respondents were also informed that there was no known harm arising from participating in the study. However, as it is known that the COVID-19 pandemic and changes to work and life have created hardship and stress for individuals (Sampson et al., 2021), a statement was also added on the cover page requesting that should the participant's mental or physical health require attention they could seek support from their manager, contact a private health practitioner, or public support facilities such as the South African Depression & Anxiety Group (SADAG) or Lifeline South Africa. The contact numbers for these two public facilities were also provided.

3.7 Measures

The constructs of interest were health-promoting leadership, work-related well-being, emotional exhaustion and health complaints. All constructs were measured with scales that had been used in previous research and which had been found valid and reliable in those studies. The psychometric properties for the scales were as follows. Reliability for work-related well-being was .81, emotional exhaustion was .71 and health complaints was .84 (Winkler et al 2014). The dimensions of health-promoting leadership had reliability value between .75 - .91. in addition, health-promoting leadership also showed convergent validity as the seven dimensions correlate with health-oriented leadership dimensions (Jiménez et al., 2017).

Participants provided their responses to all items on a Likert scale ranging from 1 to 6, where 1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = very frequently; 6 = always. All items were positively worded and no items needed to be reverse-coded. All the scale items can be found in Appendix C.

3.7.1 Health-promoting leadership. To measure health-promoting leadership, the Health-Promoting Leadership Conditions (HPLC) scale developed by Jiménez et al. (2017) was administered. The scale consists of 21 items measuring the seven health-promoting conditions that are integral to reducing factors like burnout as outlined in chapter 2: health awareness, workload, control, reward, community, fairness, and values. Each dimension is measured via three items. The measure was developed to assess health-promoting leadership from both, the employee's and the supervisor's point of view, by simply changing the introductory phrase. In this study, only the scale for employees was used. The introductory phrase for each item was adapted from "My Leader/Supervisor cares that…" to "My Supervisor cares that in virtual work" to ensure clarity where a participant might see leader and supervisor as different individuals and to ensure that participants answered the items in relation to virtual work. Participants were asked to indicate how often they experienced the work conditions provided in the items. A sample item is **"**My Supervisor cares that in virtual work all employees are motivated to take care of their health". The HPLC scale was used in this study because it can evaluate the leader's health-promoting capabilities from the perspective of the employee (Jiménez et al., 2017).

3.7.2 Employee-well-being. To measure employee well-being, work-related well-being and emotional exhaustion as one dimension of burnout were assessed. In Chapter 2 it was explained that work-related well-being focuses on the short term effects (how employees feel when doing their work under virtual conditions) and emotional exhaustion focuses on the long-term effects of well-being (Breevaart et al., 2014; Kaluza et al., 2020). Following Winkler et al. (2014), employee well-being was operationalised through a six-item scale based on the World Health Organisation's five-item (WHO-5) well-being index (WHO, 1998). The WHO-5 well-being index measures the current mental state of employees. Winkler et al.'s (2014) work-related well-being measure was able to assess the mental states of employees working virtually and preferred over the WHO-well-being index because one of the items assessed if employees liked doing virtual work. This item was found to be important because not enjoying working virtually could have an impact on well-being.

To assess emotional exhaustion a 3-item subscale of the Maslach Burnout Inventory was used (Maslach & Jackson, 1981). The emotional exhaustion subscale was used because emotional exhaustion is a core dimension of burnout as well as a reaction to stress (Jiménez, 2017; Maslach & Jackson, 1981; Maslach & Leiter, 2008). In addition, Maslach and Leiter, (2008) have indicated that emotional exhaustion is the most reported dimension of burnout. This suggests that it can give a good indication of burnout without including the other two dimensions of burnout (cynicism and personal achievement).

All items on the work-related well-being and emotional exhaustion scale were slightly adjusted to be relevant to the virtual work context. For example, the item "Do you feel vital and active at work?" was changed to "Do you feel vital and active working virtually?" and "Do you feel exhausted after work?" to "Do you feel exhausted after working virtually?". Difficult to understand words in the work-related well-being scale were replaced with simpler words that were similar to the original WHO-5 well-being index. For example, "listless" was replaced with "a lack of energy".

3.7.3 Employee Health. Lastly, to measure employee health, psychosomatic complaints, such as the occurrence of headaches and back pain was measured, as they are an indicator of long-term effects of stress (Winkler et al., 2014). Erikson et al. (2010) mentioned that illness at work can be used as an indicator of health. In this regard, illness does not have to be terminal to affect the health and well-being of employees. Winkler et al.'s (2014) English

translation of Mohr and Müller's (2005) 9-item scale which assesses the frequency with which employees are experiencing specific psychosomatic symptoms (health complaints) was used in this study. The scale describes some of the most common health complaints employees experience in trying to meet their job demands. This is the reason it was utilised in the current study. A sample item included "How often do you suffer from sleep disturbances (trouble falling or staying asleep)?".

The present study also collected demographic information to describe the sample. It included gender (male, female, non-binary and prefer not to answer) and ethnicity (African, Asian, Coloured, Indian, White, other and prefer not to answer), job title to identify if employees participating were part of the white-collar workforce, their employment type (full-time or part-time), and the number of employees in the organisation. The full demographic details of this research have been provided in Table 2.

This chapter is a comprehensive account of the literature on health-promoting leadership and its relationship with employee health and well-being. The next chapter describes the study results, starting with the validity and reliability analysis of the well-being, health and health promoting leadership scales, the descriptive statistics for these scales in the sample, and the results of the hypothesis testing.

Chapter 4: Results

The present chapter outlines the results of the study. The validity and reliability of the scales were first established to identify if the scales were valid and if they showed internal consistency. Descriptive results for the scales are provided as well as the results related to the hypotheses.

4.1 Validity analysis

To test the validity of the constructs the dimensionality of the scales was examined via an exploratory factor analysis (EFA). EFA is useful as it allows to explore the main dimensions of the variables of interest (Williams et al., 2010). To extract the factors principal-axis factoring (PAF) was employed. Direct oblimin rotation was selected because the factors underlying the scale were assumed to be correlated (Williams et al., 2010). PAF was chosen as it explains the common variance while also identifying the latent factors underlying the data as outlined by Matsunaga (2010).

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For factor analysis to be appropriate the data needs to meet certain criteria. Hair et al. (1995) indicated that a sample size of 100 and above is appropriate to calculate EFA. Using this guideline, this criterion was met as the sample size was N = 104. However, per Field (2018) to perform an EFA there needs to be at least ten participants per scale item. This means a maximum of ten items could not be included in the analysis as the health-promoting scale had 21 items. The Kaiser-Meyer-Olkin (KMO) measure, which measures the sampling adequacy needs to be .50 or greater and Bartlett's test of Sphericity needs to be significant to reject the null hypothesis that scale items do not correlate with one another (Field, 2018; Williams et al., 2010).

Extracted factors are considered relevant if their eigenvalues are equal or are greater than one (Kaiser, 1970). The number of factors obtained can further be confirmed by analysing the inflection point on the scree plot. The scree plot is a graphical representation of each factor's eigenvalues on a graph (Cattell, 1966).

Items are considered to correlate with a factor if the correlation between the item and factor is at least .30, indicated through the factor loadings (Hair et al., 2006; Tabachnick & Fidell, 2007). Items with a value less than .30 indicate that the items are not related to the factor which therefore does not explain common variance (Tabachnick & Fidell, 2007).

4.1.1 ***Health-promoting leadership.*** The 21-item scale had been designed to measure seven dimensions with three items each (Jiménez et al., 2017)). Due to the small size, it was not possible to conduct a PAF across the entire scale. Thus, separate PAF's were conducted, one for each of the scale's seven dimensions; workload, control, reward, community, fairness, values and health awareness to identify if there was one underlying latent variable for each sub-scale. All PFA results for health-promoting leadership sub-dimensions can be found in Table 3 below. Except for Health Awareness and Low workload, all subscales were unidimensional as intended with all three items loading significantly on the factor. KMO values were adequate and Bartlett's test of sphericity was significant.

Table 3: Principal Axis Factoring for health-promoting leadership dimensions

HPL Subscale	**No of items**	**KMO**	**Bartlett's test of sphericity**	**χ^2**	**df**	**Eigenvalues > 1**	**Total variance explained**	**Range of item-loadings**
Health awareness	2	.50	$p < .001$	1	115.17	1.84	91.85%	.96 - .96
Low workload	2	.50	$p < .001$	1	27.79	1.49	74.58%	.70 - .70
Control	3	.68	$p < .001$	3	75.99	2.03	67.71%	.62 - .79
Reward	3	.64	$p < .001$	3	128.20	2.18	72.87%	.54 - .93
Community	3	.75	$p < .001$	3	204.43	2.56	85.27%	.85 - .91
Fairness	3	.69	$p < .001$	3	74.32	2.05	67.88%	.67 - .81
Values	3	.71	$p < .001$	3	109.85	2.22	74.05%	.73 - .85

Note: KMO = *Kaiser-Meyer-Olkin*, χ^2 = *chi-square value*, DF = *degrees of freedom*

For the health awareness subscale, the initial KMO for sampling adequacy was .50 and Bartlett's test for sphericity was significant χ^2 (3, N =104) = 30.99, p < .001). The EFA showed that the three items loaded on two factors. This indicated that the subscale was not unidimensional. Health awareness_1 had a factor loading below .30 indicating that the item had no common variance with the other two items and hence, it loaded on a different factor. The EFA was generated again without health awareness_1 and revealed that the sub-scale loaded on one factor with an eigenvalue above one. The eigenvalue was 1.84 and accounted for 91.85% of the variance. The KMO value was still .50 and thus appropriate, and Bartlett's Test of Sphericity was significant χ^2 (1, N =104) = 125.02, p < .001).

For the low workload subscale the initial KMO was .47, just less than the recommended value of .50, indicating that the sample size was not adequate and Bartlett's Test of Sphericity was significant χ^2 (3, N = 104) = 30.99, p < .001. Low workload_1 had a factor loading of .11 hence it was removed and a second PAF run. The KMO increased to .50. The scale items loaded on one factor with an eigenvalue of 1.49 which accounted for 74.58% of the variance. Bartlett's test of Sphericity was also found to be significant χ^2 (1, N = 104) = 27.79, p < .001.

As shown in Table 3 above the KMO's for the subscales (control, reward, community, fairness, and values) ranged .64 - .75 with community having the highest KMO reported. The Bartlett's Test for all five dimensions were significant (p < .001). The subscales showed that they were unidimensional as all items loaded on one factor. All factors extracted had Eigenvalues that ranged between 2.03 -2.56 and explained between 67.71% – 85.27% of the variance.

4.1.2 Well-being and health. Three EFAs were conducted to assess the validity of each of the three scales used to assess well-being and health. For work-related well-being and emotional exhaustion, the KMO value and Bartlett's Test indicated that the data was appropriate for PAF and one factor represented the scale items as expected and as indicated in Table 4. For the health complaints scale, the KMO value was .85 and Bartlett's test results were also adequate χ^2 (36, N = 102) = 376.33, p < .001, but two factors with eigenvalues above one emerged. Health conditions_6 and health conditions_9 were deleted as they loaded on a separate factor. Ergo, the EFA was performed again without these two items. Again, the KMO was adequate .84 and Bartlett's Test of Sphericity significant χ^2 (21, N = 102) = 252.40, p < .001, with all remaining items loading significantly on the one emerging factor as shown in

Table 4. Table 4 also showed that the well-being variables (work-related well-being and emotional exhaustion had adequate KMO's the Bartlett's Test of Sphericity were significant ($p < .001$). The scales showed that they were unidimensional as they items loaded on one factor with eigenvalues above one.

Table 4: *Principal Axis Factoring for employee well-being and health*

Scale	**No of items**	**KMO**	**Bartlett's test of sphericity**	**χ^2**	**DF**	**Eigenvalues > 1**	**Total variance explained**	**Range of item-loadings**
Work-related well-being	6	.88	$p < .001$	322.32	5	3.73	62.10%	.33 - .90
Emotional exhaustion	3	.66	$p < .001$	95.45	3	2.11	70.42%	.62 - .92
Health complaints	7	.84	$p < .001$	252.40	21	3.67	52.44%	.54 - .74

Note: KMO = *Kaiser-Meyer-Olkin*, χ^2 = *chi square value*, DF = *degrees of freedom*

4.2 Reliability analysis

The internal consistency of the health-promoting leadership subscales, health complaints scale and well-being scales (work-related well-being and emotional exhaustion) were tested using Cronbach's Alpha (α). The acceptable cut-off value for Cronbach's Alpha is .70 (Nunally 1970). At a lower value, the scale should be regarded as unreliable as it would mean the scale lacks internal consistency (Field, 2018). Pallant (2011) further suggests considering a Cronbach's Alpha of .80 as good, and of .90 and above as very good.

As shown in in Tables 5 and 6 all scales used in the study had acceptable to very good internal consistencies. Table 5 showed that Cronbach's Alpha for health-promoting leadership dimensions ranged between .70 - .92. Table 6 showed that the dependent variables had Cronbach's Alpha's that ranged between .75 - .85. The scales used in the study were rendered

reliable and no items need to be delated as there were no concerns about their internal consistency.

Table 5: Item total statistics for all dimensions of health-promoting leadership as the predictor variables

Subscale	Alpha	Range of corrected item-total correlation
Health awareness	.92	.85 - .85
Low workload	.70	.49 - .49
Control	.76	.54 -.63
Rewards	.80	.52-.75
Community	.91	.81-.85
Fairness	.76	.58 -.64
Values	.82	.66 - .74

Table 6: : Item total statistics for well-being and health as outcome variables

Subscale	Alpha	Range of corrected item-total correlation
Work-related well-being	.75	.32 - .79
Emotional exhaustion	.78	.55 - .72
Health complaints	.85	.50 - .68

4.3 Scale descriptives

As mentioned in Chapter 3 all items were answered using 6-point Likert scales ranging from 1 to 6. Therefore, 1 indicated the lowest possible score and 6 the highest possible score for each scale. This meant that low scores on the health-promoting leadership scale indicated employees perceived that supervisors were rarely practising health-promoting leadership at their organisation. Correspondingly, low scores on the well-being and health scales indicated low work-related well-being, low emotional exhaustion and low health complaints. High scores indicated supervisors who frequently showed health-promoting leadership behaviour, and employees experiencing increased work-related well-being, increased emotional

exhaustion and increased health complaints. For most scales, the means lay above the scale mid-point of 3.5. Table 7 provides an overview of the descriptive results related to each scale and subscale.

The health-promoting leadership dimension which participants experienced the most frequently was community (M = 4.45; SD = 1.30), leaders ensuring low workload was experienced the least, though the mean still lay above the scale midpoint (M = 3.69; SD = 1.34). These scores indicated that, on average, supervisors were perceived to promote a working environment in which employees occasionally benefited from a sense of community and occasionally had a low workload (a balance between too much and too little work).

With regards to the employee well-being aspects and health, employees indicated that they occasionally experienced work-related well-being (M = 4.24; SD = .96) and emotional exhaustion (M = 3.75; SD = 1.26), and rarely health complaints (M = 3.27; SD = .99).

Table 7: Summary of scale descriptives

Measurement scale	**N**	**M**	**Min**	**Max**	**SE**	**SD**	**Skewness**	**Kurtosis**
Health-promoting leadership								
Health awareness	104	4.29	1	6	.15	1.48	-.81	-.25
low workload	104	3.69	1	6	.13	1.34	-.41	-.57
Control	104	4.08	1	6	.11	1.16	-.73	.50
Rewards	104	4.18	1	6	.12	1.25	-.48	.11
Community	104	4.45	1	6	.13	1.30	-.83	.13
Fairness	104	4.39	1	6	.12	1.20	-.93	.59
Values	104	4.29	1	6	.12	1.23	-.61	-.08
Well-being and health								
Work-related well-being	103	4.24	1	6	.10	.96	-.97	1.48
Emotional exhaustion	102	3.75	1	6	.13	1.26	-.31	-.31
Health complaints	102	3.27	1	6	.10	.99	-.21	-.74

Note: *N = Number of respondents after listwise deletion; M =mean; Min =minimum; Max =maximum; SE = standard* error of mean; *SD = standard deviation.*

Table 8: Bivariate Correlations between study variables

Variable	Work-related well-being	Emotional exhaustion	Health complaints	Health awareness	Low Workload	Control	Rewards	Community	Fairness
Work-related well-being									
Emotional exhaustion	-.33**								
Health complaints	-.04	.34**							
Health Awareness	.40**	-.23*	-.05						
LowWorkload	.13	-.02	-.11	.23*					
Control	.32**	-.16	-.11	.63**	.26**				
Rewards	.42**	-.18*	-.18*	.52**	.04	.62**			
Community	.47**	-.20*	-.20*	.43**	.13	.51**	.64**		
Fairness	.42**	-.20*	-.20*	.56**	.01	.47**	.62**	.60**	
Values	.43**	-.25**	-.25**	.64	.96	.53**	.60**	.62**	.58**

** *Correlation is significant at the 0.01 level (1-tailed).*

* *Correlation is significant at the 0.05 level (1-tailed).*

4.4. Bivariate correlations

All Bivariate correlations have been provided in Table 8 above and explain the correlation between the predictor variable (health-promoting leadership) and outcome variables (work-related well-being, emotional exhaustion and health complaints). Cohen (1988) and Pallant (2011) indicated that a correlation of .1 is a small effect, a correlation of .3 a moderate effect and a correlation of .5 and above indicates a large effect. The total score of each variable was used to calculate the Pearson Correlation Coefficient (*r*) in order to identify the strength of the relationships.

4.4.1 Assumption testing for bivariate correlations

All measurement instruments underwent assumption testing to investigate if further analysis could be done. For Pearson-product moment correlation to be appropriate, the following assumptions need to be met:

Normality. In accordance with the central limit theorem, all data is expected to be normally distributed as long as the data set is above 30 (Field, 2018). This means that the larger the sample the more likely the data will be normally distributed. To further demonstrate that the data was normally distributed skewness and kurtosis were examined. Skewness values explain whether the data is asymmetrical and kurtosis values explain whether the data is peaked or flat (Field, 2018). A skewness and kurtosis of zero indicate perfect normal distribution. Data can be assumed to be approximately normally distributed if the skewness lies between -1 and 1 and the kurtosis between -3 and 3 (Pallant, 2011). The range for the skewness was between -.21 and -.93 and the range for the kurtosis was between -25 and 1.48 (see Table 7 which outlines the scale descriptives). The skewness and kurtosis results indicated that the data was not asymmetrical, too peaked or flat indicating that the data was normally distributed.

Outliers. The second assumption that needs to be met is that the data set should not contain outliers. Outliers refer to any extreme cases that may influence the data set (Field, 2018). The box and whisker plots were examined to determine if this assumption had been violated. The box and whisker plots identified that there were outliers for work-related well-being but were not above 3 standard deviations (see Figures 4-6)

Figure 4: Box plot for work-related well-being

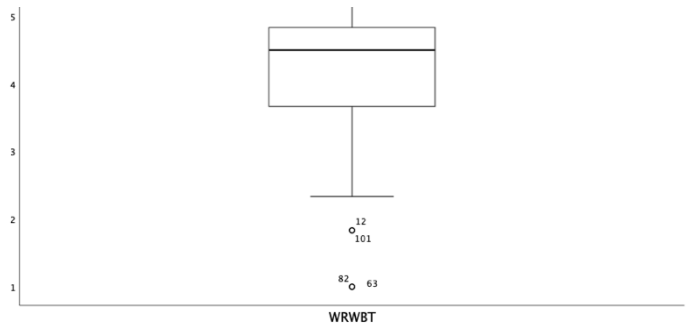


Figure 5: Box plot for emotional exhaustion

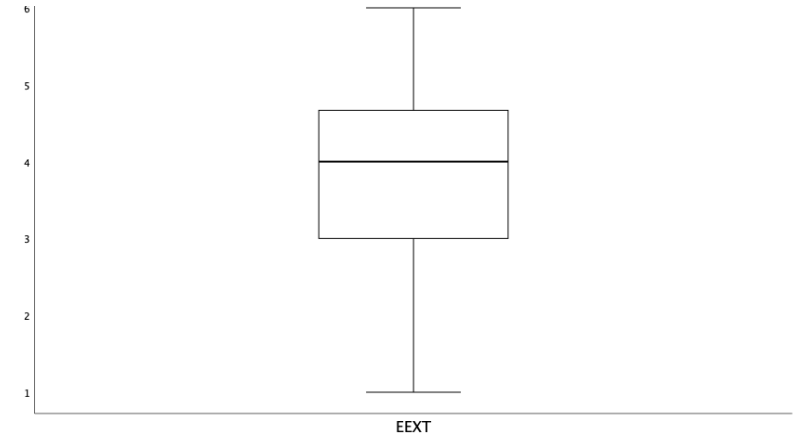
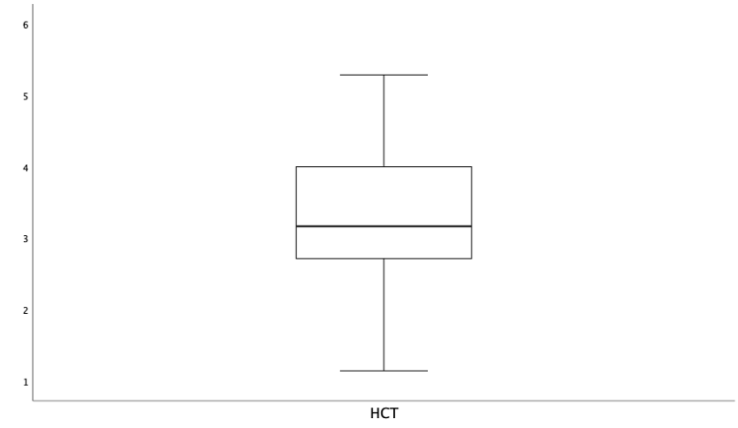


Figure 6: Box plot for health complaints



Linearity and homoscedasticity. To assess linearity the QQ plots were then examined to identify if the data was situated close to or on the solid line of the graph. In Normally distributed data the observation will sit on the solid line. However, the data is still considered to be normally distributed if the is little deviation from the solid line (Field, 2018). The QQ plots for health-promoting leadership and work-related well-being showed that there was little deviation from the solid line. Therefore, the QQ plots showed that the dots fit almost perfectly on the solid line (see Figures 7-9).

Figure 7: Normal Q-Q plot for work-related well-being

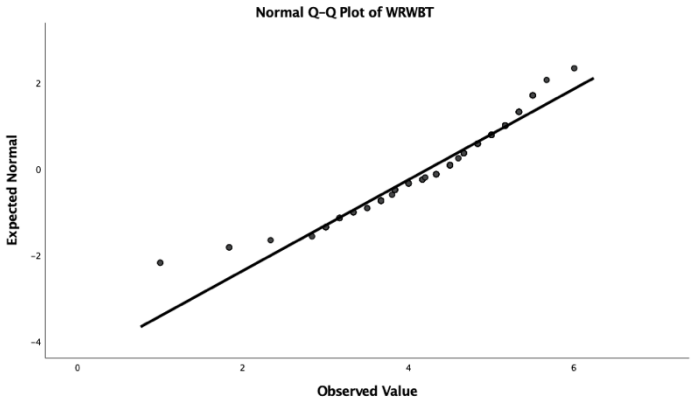


Figure 8: Normal Q-Q plot for emotional exhaustion

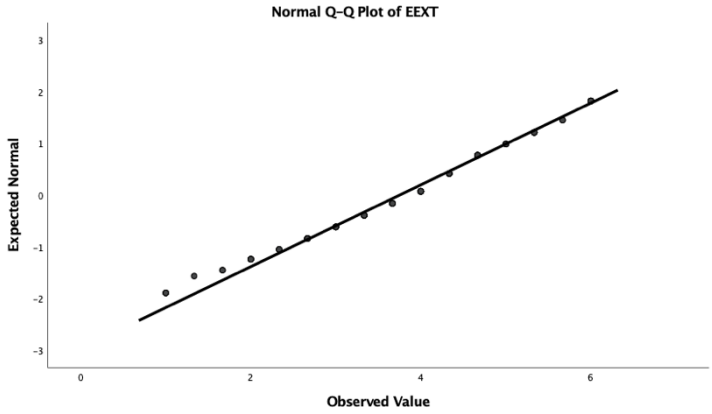
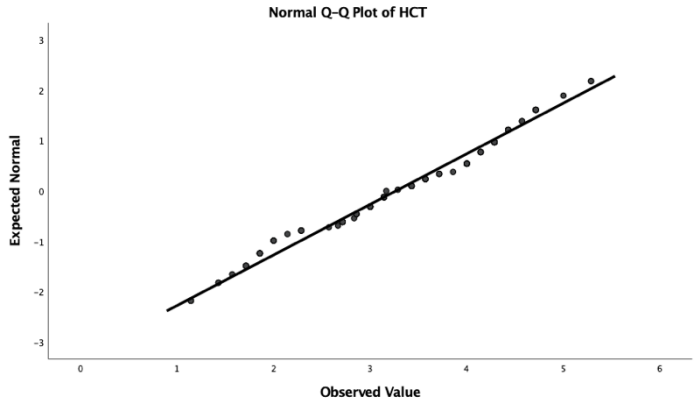


Figure 9: Normal Q-Q plot for health-complaints



It was assumed that the seven dimensions of health promoting leadership are positively related to work-related well-being and negatively to emotional exhaustion and health complaints. As seen in Table 8 above, the bivariate correlations showed that the seven dimensions of health-promoting leadership were positively related to work-related well-being and negatively related to emotional exhaustion and health complaints. For work-related well-being, the correlations between the dimensions had had a moderate effect except for low workload which indicated a small effect. The bivariate correlations between health-promoting leadership and emotional exhaustion and health complaints indicated that there was a small effect. However, the dimensions health awareness and health complaints indicated a large effect.

4.5 Standard multiple regression

In order to assess if the seven health-promoting leadership dimensions together predicted the three well-being related dimensions three standard multiple regression analyses were conducted. In each of these, the seven health-promoting leadership dimensions served as predictor variables and a different well-being dimension as the dependent variable. Before executing the analyses, it was assessed if the data satisfied the assumptions required for multiple regression analysis.

4.5.1. Assumption testing for regression

Linearity. To assess the assumption of linearity, P-P plots of the residuals were analysed. The P-P plots are useful in visually identifying the skewness of the data. In other terms, it assesses the data's goodness of fit by analysing the linearity of points on the P-P plots (Gan & Koehler, 1990). Ergo, P-P plots investigate the expected cumulative probability of a variable against the observed cumulative probability of a particular distribution (Ghasemi & Zahediasl, 2012). The distribution is regarded as linear when the dotted lines are close to the solid line or there is little deviation from the solid line. The P-P plots were investigated and showed that the distributions had a little deviation from the solid line. This indicated that the P-P plots for the residuals when predicting work-related well-being, emotional exhaustion and health complaints through the seven dimensions of health-promoting leadership showed a

linear relationship between the predictor variables. The assumption of linearity was not violated.

Figure 10: Normal P-P Plot for work-related well-being

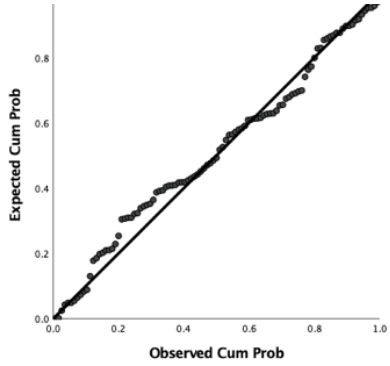


Figure 11: Normal P-P Plot for emotional exhaustion

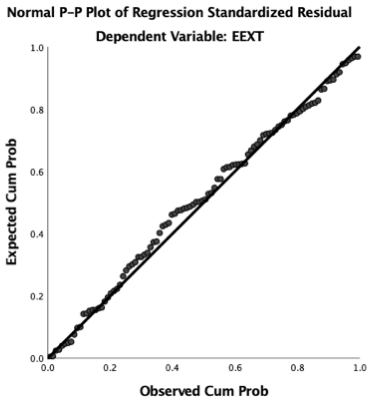
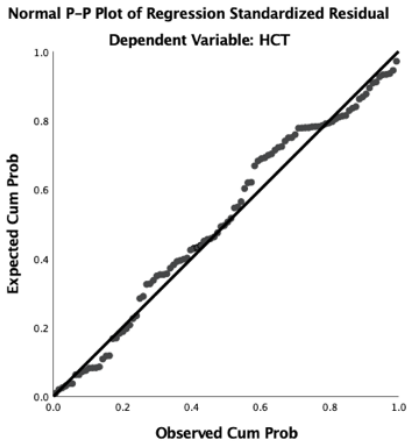


Figure 12: Normal P-P Plot for health complaints



Multicollinearity. Multicollinearity has an impact on the regression model because it makes it difficult to identify which independent variable influences the dependent variable (Field, 2018; Pallant, 2011). Multicollinearity means that there exist high intercorrelations among the independent variables making it impossible to identify which independent variable affects the dependent variables. The Variance Inflation Factor (VIF) values indicate the effect of multicollinearity. As outlined by Field (2018) VIF values need to be less than ten. Values above ten indicate that the assumption of multicollinearity has been violated. Table 9 below outlines the VIF values for all seven dimensions of health-promoting leadership. As the range of VIF values were between 1.18 – 2.48 and as all values were thus well below ten there was no multicollinearity in the data.

Table 9: Collinearity statistics for Multiple Regression Models

Predictor variable	VIF
Health awareness	2.28
Workload	1.18
Control	2.25
Rewards	2.48
Community	2.23
Fairness	2.12
Values	2.39

Outliers and Homoscedasticity. To investigate whether the assumption for outliers and homoscedasticity were met the standardized residual scatter plots were analysed (see Figures 13-15). On the plots, the x-axis depicts the standardised predicted value, and the y axis depicts the standardised residuals. The standardised residuals scatter plot for work-related well-being showed that there were cases above three standard deviations. Cases are considered as outliers if they exceed the threshold of 3.37 standard deviations above and below the mean (Welch et al., 2012). The cases did not exceed this threshold with case 63 having a standardised residual of 3.36 and case 89 having a standardised residual of 3.09. The standardised residuals for the regression models including emotional exhaustion and health complaints as dependent variables were within three standard deviations. In addition, standard residuals for emotional exhaustion and health complaints did not resemble a funnel pattern, nor have any curve, but

instead resemble a rectangular shape. Standard residuals for work-related well-being seemed a bit funnelled. The funnel shape was not too pronounced hence could not be considered a concern. The observations indicated that the assumption of homoscedasticity has not been violated (Field 2018). This means that the variance between the variables was equal.

Figure 13: Scatter plot for standardized residuals depicted against standardized predicted values for work-related well-being being predicted by the seven leadership dimensions

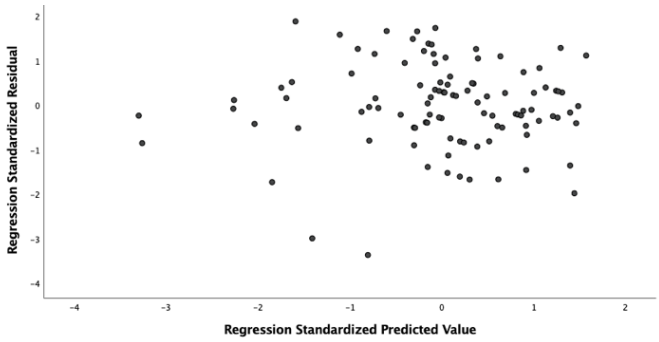


Figure 14 Scatter plot for standardized residuals depicted against standardized predicted values for emotional exhaustion being predicted by the seven leadership dimensions:

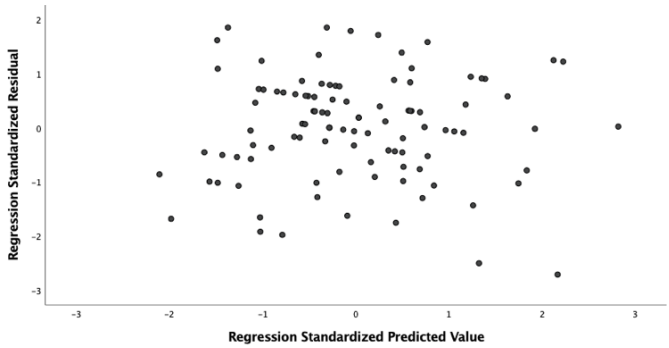
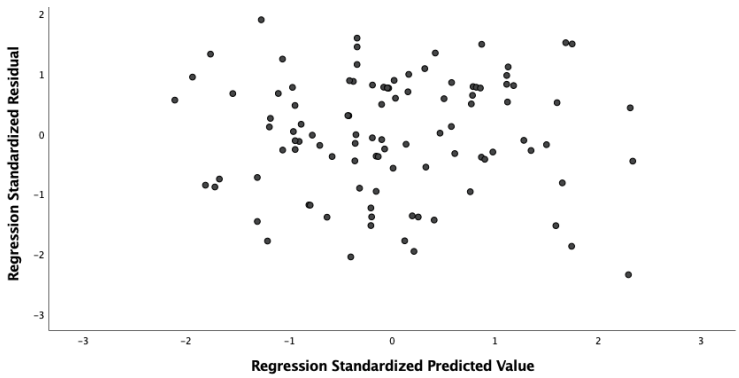


Figure 15: Scatter plot for standardized residuals depicted against standardized predicted values for health complaints being predicted by the seven leadership dimensions



Independent residuals. Field (2018) outlined that any observed residuals should be uncorrelated. To test the independence of the observed residuals the Durbin-Watson (*D*) test is used. The *D* statistic varies between 0-4 and a value of 2 indicates that the residuals are uncorrelated. Table 10 below illustrates the *D* statistic for all dependent variables of the study. The range for the *D* statistic was 1.64- 2.02 indicating that there was no autocorrelation of residuals. Residuals were considered to be independent therefore the assumption of independence was not violated.

Table 10: Durbin-Watson Tests for standard multiple regression models

Dependent variable	*D*
Work-related well-being	2.02
Emotional exhaustion	1.64
Health complaints	1.71

Three standard multiple regression analyses were conducted, meaning that the predictor variables were entered into the model simultaneously. The following health-promoting leadership dimensions served as predictor variables health awareness, control, workload, rewards, community, fairness, and values with work-related well-being, emotional exhaustion and health complaints serving as dependent variables.

4.5.2 Health-promoting leadership dimensions as predictors of work-related well-being. Table 11 below is a summary of the standard multiple regression with the seven dimensions of health-promoting leadership serving as predictor variables and work-related well-being as the dependent variable. The multiple regression showed that the model was significant F (7, 95) = 5.58; $p < .05$ explaining 24% ($R^2 = .24$) of the variance in work-related well-being. After controlling for all variables in the model, results showed that *community* explained most unique variance in the model ($\beta = .22$ $p < .05$). *Health awareness* explained the second largest variance with *low workload* just lagging behind and control explaining the least variance. It should be noted that although the other six dimensions of health-promoting leadership health, workload, rewards, fairness and values did make little contribution to the model, this contribution was not statistically significant ($p > .05$). This indicated that these

dimensions were not predictors of work-related well-being. Hence hypothesis 1 was supported This indicated that community is a key predictor of work-related well-being among employees who are working virtually.

Table 11: Summary of Standard Multiple Linear Regression Results for Hypothesis 1

Predictor variable	B	SEB	β	*p*	95% CI
Constant	2.00	.41		.00	1.15 - 2.79
Health awareness	.11	.09	.17	.19	-.06 - .28
Low workload	.70	.07	.10	.30	-.06 - .20
Control	.06	.11	-.07	.60	-.27 - .16
Rewards	.09	.11	.11	.41	-.12 - .29
Community	.16	.10	.22	.04	-.03 - .35
Fairness	.09	.10	.12	.36	-.11 - .29
Values	.06	.10	.08	.55	-.14 - .27

4.5.3 Health-promoting leadership dimensions as a predictor for emotional exhaustion. The HPL dimensions did not predict emotional exhaustion F (7, 95) = .89; p = .51 This means that the predictor variables did not explain a significant amount of variance in virtually working individuals' emotional exhaustion. In fact, the R^2 was virtually 0 (R^2 = -.01). Hypothesis 2 was not supported (see Table 12).

Table 12: Summary of Standard Multiple Linear Regression Results for Hypothesis 2

Predictor variable	B	SEB	β	*P*	95% CI
Constant	4.62	.63		< .05	3.36 - 5.87
Health awareness	-.16	.13	-.19	.20	-.47 - .09
Workload	.07	.10	.08	.44	-.12 - .28
Control	-.03	.16	-.03	.85	-.35 - .29
Rewards	.24	.16	.02	.88	-.29 - .34
Community	-.06	.15	-.07	.66	-.35 - .23
Fairness	.02	.15	.11	.92	-.29 - .32
Values	-.49	.16	-.05	.75	-.36 - .26

4.5.4 The seven dimensions of health-promoting leadership as predictors of health complaints. Equally to emotional exhaustion, HPL dimensions did not predict virtually working individuals' degrees of health complaints as the regression model was non-significant F (7, 95) = 1.55; p =.16; R^2 = .05. Overall, all the dimensions of health-promoting leadership only explained about five percent of the variance in the dependent variable (see Table 13).

Table 13: Summary of Standard Multiple Linear Regression Results for Hypothesis 3

Predictor variable	B	SEB	β	*P*	95% CI
Constant	3.97	.48		*P* < .05	3.02 – 4.93
Health awareness	.15	.10	.22	*P* = .15	-.05 - .35
Low workload	.80	.08	.11	*P* = .30	-.07 - .24
Control	-.04	.12	-.05	*P* = .76	-.29 - .21
Rewards	-.01	.12	-.01	*P* = .96	-.25 - .24
Community	-.28	.11	-.36	*P* < .80	-.25 - .20
Fairness	-.09	.12	-.10	*P* = .47	-.32 - .15
Values	-.23	.12	.28	*P* = .06	-.47 - .01

Table 14 provides a summary of the results. Overall, health-promoting leadership predicted well-being, but could not prevent health complaints or emotional exhaustion.

Table 14: Insights from results

Hypothesis	Results
1. The seven dimensions of health-Promoting leadership predict work-related well-being among employees who are working virtually.	Hypothesis supported
2. The seven dimensions of health-Promoting leadership predict emotional exhaustion among employees who are working virtually.	Hypothesis not supported
3. The seven dimensions of health-Promoting leadership predict the health complaints among employees who are working virtually.	Hypothesis not supported

This chapter explained the results of the study. Overall, the results of the study are not in accord with those from the literature findings. The next chapter discusses the results alongside the literature.

Chapter 5: Discussion

The following chapter provides a critical discussion of the study results in relation to the literature and presents possible reasons. Discussed are also the practical and theoretical implications, limitations of the research and recommendations for future research. The chapter ends with an overall conclusion.

Health-promoting leadership had been found to decrease the risk of employee burnout and health complaints (Bregenzer et al. 2019, Franke et al., 2014; Jiménez et al., 2017). This study sought to determine if health-promoting leadership would also be valuable in promoting health for employees who had suddenly shifted to a virtual working environment due to the COVID-19 pandemic. Specifically, it aimed to establish if there is a relationship between the dimensions of health-promoting leadership and the outcome variables work-related well-being, emotional exhaustion (well-being variables) and health complaints in a virtual working context. In addition to this, the study aimed to identify which of the seven sub-dimensions of health-promoting leadership predicted work-related well-being, emotional exhaustion and health complaints the most.

The results of the study showed that the dimensions of health-promoting leadership predicted work-related well-being but was not related to emotional exhaustion and health complaints. Greater health-promoting leadership related to greater work-related well-being Overall, this study thus showed conflicting results when compared to literature findings. Each of the results will be discussed in detail in the following sections.

5.1 Health-promoting leadership and work-related well-being

Hypothesis 1 had stipulated that the seven dimensions of health-promoting leadership predicted work-related well-being among virtually working employees. As expected, the results supported this assumption and found that the seven health-promoting dimensions were positively related to work-related well-being among virtually working employees. This suggests, that the more health-promoting leadership behaviour a leader is perceived to demonstrate, the more work-related well-being employees perceive. On that account, this means that demonstrating health-promoting leadership is important for leaders to consider in

order to promote work-related well-being. These results align with previous findings in non-virtual workspaces. Bregenzer et al. (2019) found that health-promoting leadership is effective in improving the well-being of employees, their health-knowledge and skills by providing a balanced workload, that is an adequate workload that does not make employees feel unduly stressed. Similarly, positive leadership approaches, like health-promoting leadership, have been linked to improved work-related well-being (Winkler et al., 2014) and reduced health complaints (Turgut et al. 2019).

In addition, the analysis identified community, a sub-dimension of health-promoting leadership as a particularly significant predictor for positive work-related well-being among virtually working employees. Community refers to the quality of social interactions which include social support or the capacity to work as a team at work (see Chapter 2, Section 2.6.5). In line with COR theory (Hobfoll, 1989) leaders creating a workplace that is viewed to be having a community is regarded as a valuable resource to employees to reduce the risk of ill-being. At the workplace, leaders and employees interact frequently with each other and therefore making the workplace a space where the foundation of community can be built. Additionally, employees also interact with each other on a social level, such as during lunch breaks or in casual interactions taking place in office buildings. These are natural and unfacilitated ways of forming community at the workplace. Hence, in a physical workplace community is built and maintained even without intervention or facilitation, however, the opportunities to do so in such informal manners fall away in virtual working conditions. The results indicate that in this space leaders should pay close attention to actively creating a sense of community to ensure that work-related well-being is achieved.

Employees may also feel that being away from the office diminishes their ability to influence decisions due to fewer opportunities for discussions between leaders and employees. This refers back to the unfacilitated ways of forming community at the workplaces that are missing in virtual working conditions. This might explain the dropping engagement levels and increased levels of employee resignations which are reported anecdotally and popularly referred to as the “great resignation”.

The results also suggest that the different dimensions of health-promoting leadership reinforce each other. Particularly, those who see their values as similar also perceive a greater sense of community and greater rewards, meaning that the three variables possibly reinforce

each other. For example, when leaders enhance a sense of community for their employees, employees might feel more supported in the workplace, a non-monetary reward. Having a strong sense of community also creates harmonious working relationships. This is similar to Jiménez et al.'s (2017) findings. Hence, creating a community at work might thus be one of the most important working conditions for leaders to focus on.

5.2 Health-promoting leadership and emotional exhaustion

The second study hypothesis was that seven dimensions of health-promoting leadership predicted emotional exhaustion among virtually working employees. In their research, Franke et al, (2014) and Jiménez et al., (2017) showed that health-promoting leadership was negatively related to emotional exhaustion. The results of this study did not support the findings of previous research. Therefore, the seven dimensions of health-promoting leadership were not negatively related to emotional exhaustion. The results differed from findings reported in the literature where health-promoting leadership was related to lower emotional exhaustion (Franke et al, 2014; Jiménez et al., 2017; Klebe et al., 2021).

It is possible that emotional exhaustion is aggravated by external circumstances not related to working conditions. Hence, this would explain why it is difficult for the leader to affect the work environment in a way that would reduce emotional exhaustion in the specific context in which employees found themselves in this study, that is a world affected by the COVID-19 virus. In this case, it could be that working virtually exhausted some employees especially severely as a result of work-family conflicts that health-promoting leadership could not address. For instance, for parts of time during the COVID-19 pandemic children of school-going age were also at home attending school online due to school closures, thus increasing the burden of childcare (Yamamura & Tsustsui, 2021). For some employees this likely increases role conflict as they may find it difficult to shift between both work and home responsibilities, that is completing job demands and taking care of their increased household and child responsibilities. The shift between multiple roles has an effect on employees' emotional condition (Novitasari et al. 2020). Additionally, other factors such as severe illness or the loss of loved ones during the COVID-19 pandemic may have a prolonged emotional toll on employees, indicating that they are likely to be more exhausted. For others, for example, those who had perceived the work environment as toxic, the move to virtual work could have reduced

emotional exhaustion. In these cases, employees might have low emotional exhaustion because they do not interact with their leader and colleagues as directly or in person - regardless of the degree to which the leader showed health-promoting leadership while they were working virtually.

5.3 Health-promoting leadership and health complaints

Hypothesis 3 stipulated that the seven dimensions of health-promoting leadership predicted health complaints among virtually working employees. Just like in the case of emotional exhaustion, health-promoting leadership was not related to health complaints. The results contradict the evidence found in several studies which had shown a link between health-promoting leadership and health (Köppe et al., 2018; Turgut et al. 2020). Franke et al. (2014), for example, found in their study on service workers that staff care behaviour which is similar to health-promoting leadership was linked to fewer health complaints by employees.

Just like in the case of emotional exhaustion, moderating factors might be the reason that how employees perceived their leader's health-promoting leadership behaviour was not associated with the degree to which they experienced health complaints. These include work and individual characteristics, such as overcommitment (Franke et al., 2014). Overcommitted employees are those that are heavily invested in their work which may result in them skipping their breaks or working very long hours. Generally, overcommitted employees are those that put too much pressure on themselves. This may lead to them having a mismatch between personal demands and resources (Efimov et al., 2020; Köppe et al., 2018). Therefore, regardless of whether leaders are practising health-promoting leadership, employees who are overcommitted may still experience stress which might affect their health. Employees who are not overcommitted may have lower health complaints. Negative health outcomes as a result of being overcommitted may be more pronounced for individuals working virtually than for those working face-to-face. This is because employees in virtual working environments may experience more exhaustion due to additional responsibilities, such as childcare, which may result in more health-related problems.

Another likely reason to be considered is that employees may have perceived their employers as not consistently showing health-promoting leadership behaviour. Mullen et al.

(2011) showed in their study that positive leadership (transformational leadership) was associated with safety outcomes. However, it is important to note that this association was dependent on the consistency of leader behaviour. Therefore, as health-promoting leadership is also considered to be a positive leadership approach we could also ascertain that that leaders practicing health promoting behaviour would be associated with fewer health complaints. This is if leaders are perceived to be consistently showing health-promoting behaviour. Based on this, it is plausible to assume that in this study, leaders may have been perceived to not to be showing consistent health-promoting behaviour resulting in the lack of association between health-promoting leadership with the degree to which they experienced health complaints.

5.4 Theoretical contributions and practical implications

As a theoretical contribution, the study contributes to the literature on health-promoting leadership. The study showed that out of the seven health-promoting leadership conditions, community predicted work-related well-being the most. The study results also supported Akerjordet et al.'s (2018) assertion that health-promoting leadership serves indeed as a preventative approach to protect employee health by leaders creating healthy working conditions for employees. In addition, the results showed that health-promoting leadership was related to greater well-being. However, it seems not to be possible to use health-promoting leadership to improve the health concerns for employees who are already experiencing ill-health, in this case in the form of emotional exhaustion or health complaints. This suggests that leaders in this context can affect well-being (that employees feel better), but cannot remove negative effects such as emotional exhaustion and health complaints.

In addition, the study showed imperial insight that the health-promoting leadership framework can be applied in virtual working conditions. However, but that there are several considerations leaders need to consider such as work-family conflict in a context related to COVID-19.

The number of virtual workplaces has increased rapidly with the start of the COVID-19 pandemic and without preparation to move to virtual work. This means that virtual working under COVID-19 conditions included rapid changes mainly in the work environments which were not previously set up for virtual work. The experiences of employees who moved to

virtual workspaces due to COVID-19 might differ from environments that are set up for virtual work and where employees expect to be working virtually, and from face-to-face environments. It is thus imperative for leaders in virtual workplaces to particularly focus on creating a sense of community, more so than in face-to-face environments. Virtual workplaces are more isolated and lack informal human interaction. Therefore, virtual workplaces can be alienating due to the lack of spontaneous face-to-face interaction and support from both, leaders and co-workers. Leaders could promote a greater sense of community in a virtual workplace through regular, e.g. weekly, online meetings with the team or check-ups via email. In meetings, it would be important to communicate important information with employees, but also to provide a space in which employees can interact with each other, learn about each other and also share ideas with each other. In addition, an informal way of creating a sense of community would be for leaders to organise a virtual fun day for their teams which would last for about thirty minutes every two weeks or monthly where the employees can enjoy a cup of coffee together and converse socially.

Leaders and organisations who know the benefits of promoting healthy workplaces may be more proactive in managing virtual employees (Graves & Karabayeva, 2020). This would mean they take preventative measures to reduce the stress their employees may experience doing virtual work. The preventative measures may include the use of health-promoting conditions to reduce stress at the workplace. Leaders who demonstrate health-promoting leadership behaviour by changing the working conditions may enhance employees' performance and well-being. This study indicated that in a virtual context, leaders might need to focus specifically on building community. They may need support in how to create a supportive environment that includes good social interactions in a virtual space.

The study showed that it might not be possible for leaders to counter employees' emotional exhaustion and health complaints by setting up the work environment in a health-promoting way. This suggests that the influence of a leader is limited once employees are experiencing ill-health. It would thus be imperative for leaders to be vigilant of their employees' health and encourage them to seek support through, for example, employee assistance programmes should they feel that their health is compromised. This, too, might increase the sense of community employees feel – which was shown to be an important predictor of employee well-being.

5.5 Limitations of research

The first limitation of the research presented in this dissertation is that it employed a cross-sectional design. Cross-sectional and correlational designs limit the researcher from making causal conclusions about the relationships between variables (Yao et al, 2021). It can, for example, not be concluded that health-promoting leadership increases well-being. It could also be that individuals with high well-being perceive their leader in a more positive light because they are doing well and thus well-being causes the perception that a leader demonstrates a health-promoting leadership style.

A longitudinal and experimental design would be necessary to assess if there are changes in employees' health and well-being from before the leader adopted greater health-promoting leadership behaviour to after. The relationship between health-promoting leadership and the outcome variables should also be affected by the length of time an employee has been working with their current leader. This is likely as COR theory (Hobfoll, 1989) assumes that extended periods of stress lead to loss of resources – or in reverse that health-promoting leadership builds resources over a period of time. The cross-sectional approach adopted in this research still allowed to identify relationships between leader behaviour and employee health and well-being. The relationship found in the study provides an initial indication of a possible underlying causal relationship between health-promoting leadership dimensions and work-related well-being.

Even though the convenience sampling approach used was useful due to the constraints posed by the specified time provided by the academic department within which to complete the Master's research and as it allowed for sourcing participants working in different organisations - which ensured that organisation-specific characteristics did not confound the findings - the approach has limitations. There are concerns that the study may not be representative of the population given the type of sampling procedure and the data bias. An example of this is the over-representation of females. The relationships between health-promoting leadership and the outcome variables might be different for females and males, as females, for example, tend to be the primary caregivers and are likely to experience work-family conflicts more than males – and thus have higher emotional exhaustion levels when family tasks increase. Falkenberg et al., (2015) indicated that women almost always report

higher health complaints at work than males. Consequently, if there had been an equal number of men and women in the sample, health-promoting leadership might have been related to lower emotional exhaustion and possibly health complaints. The higher proportion of females in the sample may be attributed to the fact that females are generally more likely than males to participate in survey research (Curtin et al., 2000).

This study's criteria for inclusion was primarily selected to be able to gather the different perspectives of employees working virtually part-time or full-time and how they perceived their employers to be promoting health promoting behaviours. However, the criteria for inclusion proved to be another limitation as the sample included a disproportion of responses between employees working virtually part-time and full-time, which could have also been exacerbated by convenience sampling discussed in the paragraph above. For instance, a one-third of the sample was working virtually part-time meaning that two-thirds were working virtually full-time which could have had implications on the results of the study (see Table 2 for the demographic distribution). Consequently, the results could have been greatly influenced by employees working virtually full-time as they may experience different working conditions from those employees working part-time.

A fourth concern is that the study results might be influenced by common method bias. This is as data was generated via self-report data. Participants provided their subjective perceptions of their leader's health-promoting behaviour and their own well-being. When using self-report data participants are likely to answer questions about health-promoting leadership and well-being, participants are likely to correlate well-being with health-promoting leadership. This indicates that the survey may not collect accurate health-promoting leadership and work-related well-being scores. As a result, it can cause measurement error and threaten the validity of the results (Kamakura, 2010; Podsakoff et al 2003).

The last limitation is that long questionnaires tend to result in a high dropout rate. This is often a result of questionnaire fatigue which is evidenced in participants not completing a questionnaire to the end. In some instances, participants might complete the questionnaire but rush through it without grasping the items provided. A significant number of participants started the survey and never went on to complete it, resulting in the removal of 46 incomplete responses from the initial dataset.

5.6 Future recommendations

Health-promoting leadership dimensions focus on the indirect conditions leaders need to address to maintain employee health. As the effects of indirect behaviours take time to reflect in employees' well-being and specifically health outcomes, longitudinal studies exploring the relationships over time are important. They could provide insights into how long it takes for health-promoting leadership to have an effect on employees' well-being and assist in determining the causal relationship between predictor and outcome variables.

The study suggested that creating a sense of community is important for work-related well-being of virtually working employees. Further research could confirm if community at the workplace consistently emerges as the most important condition for leaders to create in virtual workspaces. As the data was collected from a South African population, where there are different cultural backgrounds across different racial backgrounds it indicates that community is an important aspect in creating workplace well-being (Prinsloo & Huysamen, 2018). Researchers could investigate the different ways in which community could be created virtually and whether the effect on well-being is enduring or short-term only. Studies exploring how best to train leaders in health-promoting leadership would add value, too.

Additionally, the organisational context in which the leader operates might be an important variable to consider in future research on health-promoting leadership and employee well-being and health. Kaluza et al. (2020) indicated that there is a need to consider how an organisational health climate (conditions and perspectives in an organisation about health) and health-promoting leadership relate to each other, as organisational climate is significantly related to positive outcomes like employee well-being, too. If leaders do not perceive their organisations to have strong health practices and policies, including coaching and training leaders on health promotion, it is unlikely that they would practise health-promoting behaviours. While the few studies that do exist (Franke et al., 2014; Kaluza et al. 2020) have focused on the direct relationship between organisational climate and employee well-being the underlying mechanism is not yet known.

Besides organisational climate, there might be other organisational factors that promote leaders' health-promoting behaviour. This could be, for example, support from individuals higher-up in the organisational structure who could eliminate barriers that may prevent leaders

from implementing health-promoting behaviour. Therefore, future research should also look at exploring the impact of such factors on leaders' health-promoting leadership. These include also the decision-making latitude leaders have to implement health-promoting leadership as well leader characteristics such as their attitudes and self-efficacy in regards to promoting healthy work environments (Bregenzer, 2017, Yao, 2021).

Lastly, to counter the potential biases associated with self-report measures, it would be valuable to include objective measures in future studies. Köppe et al. (2018), for example, recommended recording health measures, such as employees' blood pressure.

Conclusion

The results of the study indicated that health-promoting leadership can assist in creating a working environment in which employees' well-being is supported, even in a virtual work environment necessitated by COVID-19. In this environment, it emerged that leaders should specifically consider building community as informal opportunities to do so which present themselves when working in a shared physical environment fall away in virtual workspaces. This is likely to be a new role for leaders and the current high levels of employee resignations informally reported across the world indicate that leaders may not yet have adopted a more proactive and deliberate approach to creating social support structures virtually. This study also highlighted that health promoting leadership – at least in virtual ways of working – is a preventative approach that can assist in maintaining employee well-being. Creating the type of work environment advocated for through health-promoting leadership (by leaders focusing on health awareness, adequate workload, control, rewards, community, fairness and values), however, does not assist in drawing employees out of ill-health when they already experience emotional exhaustion or health complaints. Overall, the empirical data presented in this dissertation have shown that the health-promoting leadership concept can also be applied to virtual work contexts. It also shows the importance of considering the broader external environment (e.g. such as changes to life brought about through COVID-19 ranging from childcare arrangements to fear of illness and death) and the importance for individuals in leadership roles to be made aware of how to support healthy work environments.

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Appendices

Appendix A: Ethical clearance for study

Faculty of Commerce

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06 07 2021

Tsepang Mokoaleli

School of Management Studies

University of Cape Town

REF: REC 2021/07/003

Health-promoting leadership in a virtual context

We are pleased to inform you that your ethics application has been approved. Unless otherwise specified this ethical clearance is valid until 31-Dec-2022 .

Your clearance may be renewed upon application.

Please be aware that you need to notify the Ethics Committee immediately should any aspect of your study regarding the engagement with participants as approved in this application, change. This may include aspects such as changes to the research design, questionnaires, or choice of participants.

The ongoing ethical conduct throughout the duration of the study remains the responsibility of the principal investigator.

We wish you well for your research.

2021.07.06
06:52:42 +02'00'

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Appendix B: Online Questionnaire

Consent form

A survey on health-promoting leadership, emotional exhaustion, work related well-being and psychosomatic complaints among virtually working employees in South Africa.

Overview and Purpose

My name is Tsepang, and I am currently studying to complete my Masters in Organisational Psychology at the University of Cape Town. I am conducting a survey on health-promoting leadership in a virtual context. The aim of this study is to investigate the extent to which health-promoting leadership conditions predict employee well-being health. The survey will particularly tackle the outcome variables work related well-being, emotional exhaustion and psychosomatic complaints. Your participation is important so that I can fully understand how employee well-being (work-related well-being and emotional exhaustion) and health (psychosomatic complaints) are affected by health-promoting leadership conditions in a virtual context. This research has been approved by the Commerce ethics in research committee

Procedures

In order to participate in this study you will be asked to complete an online survey. You will be asked to report your perceptions of health promoting leadership conditions at your place of employment, your well-being and the frequency of your health complaints.

Possible Risks and Benefits

There are no known risks associated with completing the questionnaire. However, should the employees' mental or physical health require attention they can seek support from the manager, contact their health practitioners, or public support facilities such as the South African Depression & Anxiety Group (SADAG) at 080 012 1314 or Lifeline South Africa at 086 132 2322. The benefits of participating in the study is that you will be able to contribute valuable information that will enable me to have a deeper understanding of health-promoting leadership in a virtual context.

Voluntary Participation

Participation in this study is completely voluntary. It is your decision if you wish to participate or decline to participate in this study. Should you chose to participate, you are free

to withdraw your participation at any time and for any reason. Choosing to withdraw from the study will not result in you suffering from any consequences. Before you can start answering questions on the survey you will be asked to confirm your willingness to participate. This indicates that you understand what participation in this study entails

Confidentiality

The information collected will be kept confidential and anonymous. Responses to the survey will not be shared with any individual not directly involved in the research investigation.

Questions and Contacts

Questions should be sent to me or my supervisor via e-mail and we will do our best to answer any questions you may have relating to this study.

Tsepang Mokoaleli: mkltse001@myuct.ac.za

Ines Meyer: ines.meyer@uct.ac.za (supervisor)

Consent to Participate

I have read the above and am satisfied with my understanding of the questionnaire and its possible benefits and risks. My questions about the survey have been answered. I hereby voluntarily consent to participation in the questionnaire as described.

Yes

No

Appendix C: Questionnaire instruments

Demographics

1. Which age bracket do you belong to?
    1. 18-25
    2. 26-35
    3. 36-45
    4. 46-55
    5. 56 and older
2. What is your gender?
    1. Male

2. Female
3. Non-binary
4. Prefer not to answer

3. What is your ethnicity?

1. African
2. White
3. Coloured
4. Indian
5. Asian
6. Prefer not to answer

4. What is your marital status?

1. Married
2. Divorced
3. Single
4. Widowed
5. Prefer not to answer

5. In my job, I work virtually (am a remote worker)?

1. Part-time
2. Full-time

What is your job title?

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6. Health-promoting leadership conditions

The following questions ask about your leader/supervisor's ability to promote health-promoting conditions when working virtually. Please indicate how often you experience these working conditions

For each question please use the introductory phrase "my leader cares that in virtual work…" the scale ranges from 1-6 where 1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = very frequently; 6 = always.

Health awareness

HA_1... the health of all employees is promoted

HA_2 ... all employees are motivated to take care of their health

HA_3 ... the health of employees is highly valued

Work load

WL_1 ... there is enough time for the work to be done.

WL_2 ... work under high pressure is not carried out over a longer period of time.

WL_3 ... work does not significantly affect private life.

Control

CT_1... the resources and scope for personal development at work can be influenced.

CT_2 ... at work autonomous and independent action can be taken.

CT_3... all have the necessary scope to do their work.

Reward

RE_1... work is appreciated.

RE_2... efforts do not go unnoticed.

RE_3... all contributions are being acknowledged.

Community

CM_1... work colleagues support each other.

CM_2... there is good cooperation between all work colleagues.

CM_3... work colleagues talk openly to each other.

Fairness

FA_1... all resources are fairly distributed.

FA_2... all employees are treated in a fair manner.

FA_3...one's career depends on competencies and not on the connections someone has.

Values

VA_1... the employees share the company's values.

VA_2 ... the employees' daily activities correspond with the company's objectives.

VA_3... Personal career interests are in line with the objectives of the company.

Employee Well-being

Work-related well-being

The following questions asses the frequency to which employees experience work related well-being. The scale ranges from 1-6 where 1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = very frequently; 6 = always.

- Do you like doing virtual work?
- Are you in a good mood while doing virtual work?
- Do you feel relaxed doing virtual work?
- Do you feel vital and active doing virtual work?
- Do you sometimes lack the energy to do virtual work?
- Do you feel fresh and rested when you start virtualwork in the morning?

Emotional exhaustion

The following questions asses the frequency to which employees experience emotional exhaustion. The scale ranges from 1-6 where 1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = very frequently; 6 = always.

- Do you feel exhausted after doing remote work?
- Do you feel tired when you get up in the morning to do remote work?
- Does your work demand a lot from you?

Health complaints

The following questions asses the frequency to which employees experience health complaints. The scale ranges from 1-6 where 1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = very frequently; 6 = always.

- In virtual work how often do you suffer from headaches ?
- In virtual work how often do you feel dizzy?
- In virtual work how often do you experience back pain?
- In virtual work how often do you suffer from stomach symptoms?
- In virtual work how often do you suffer from neck or shoulder pain?
- In virtual work how often do you have trouble concentrating?

- In virtual work how often do you suffer from any sleep disturbances (trouble falling or staying asleep)?
- In virtual work how often do you feel sick?
- In virtual work do you often get tired quickly?