The role of leader support in the relationship between working from home and employee motivation

The consequences of the COVID-19 pandemic

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Table of contents

Abstract

This research aims to gain more insight into the relationship between working from home and employee motivation and the effect of social interaction and leader support on this relationship. The data for this research was obtained by using an online survey. The survey was spread among employees in the network of the researchers. Ultimately, 229 employees participated in this study. To analyze the data, the PROCESS model 5 function in SPSS was used. From the results, it can be concluded that working from home does have a significant effect on employee motivation. Furthermore, it is confirmed that social interaction is significantly influenced by working from home. However, social interaction does not have a significant effect on employee motivation. Also, the indirect relationship between working from home and employee motivation via social interaction turned out to be insignificant. Conversely, the effect of leader support on the relationship between working from home and employee motivation is significant. It can be concluded that working from home has an impact on the motivation of employees. Furthermore, supervisors should look at the support of the leader when they want to optimize the motivation of employees. Supervisors need to take into account the needs of the employees to create high employee motivation. Several limitations of this research are the cross-sectional nature of this research, the size of the dataset, how data is obtained, the conceptualization of employee motivation, and the relaxation of the COVID-19 measures. For future research, it is recommended to do a longitudinal study. Furthermore, it would be interesting to test the effect of different leadership styles on the relationship between working from home and employee motivation.

Introduction

COVID-19 caused a worldwide pandemic which has had a major impact on all aspects of society including professional organization and work (Hamouche, 2021). To reduce the spread of the COVID-19 virus, countries implemented several measures one of which was social distancing (Brodeur, Gray, Islam, & Bhuiyan, 2021; Gourinchas, 2020, p. 31-39). Employees and employers had to deal with drastically altered working conditions as many employees were mandated to work from home (Shaw, Main, Findley, Collie, Kristman, & Gross, 2020). Gartner's study (2020) showed that more than 50% of the organizations had over 80% of their employees working from home at the beginning of the COVID-19 pandemic. This forced the leadership of organizations to increasingly manage employees from a distance via virtual methods of communication (Kniffin et al., 2021; Aitken-Fox et al., 2020a, 2020b; Gourinchas, 2020, p. 31-39; Koirala & Acharya, 2020).

Working from home caused many challenges for employees. One of the challenges caused by working from home (WFH) is the motivation of the employee (Kniffin et al., 2021). For the functioning of the organization, it is crucial that employees are motivated, as worker motivation is strongly linked with their performance (Podsakoff & MacKenzie, 1997). Resultantly, it is crucial for organizations to have insight into the impact of WFH on the motivation of employees. Employee motivation can be defined as an internal condition that encourages individuals to behave in a way that they will achieve their goals (Certo, 2000). Previous research has shown that WFH has a positive effect on the motivation of employees (Xiao, Becerik-Gerber, Lucas, & Roll, 2021; Vyas & Butakhieo, 2021). However, these studies were conducted before the COVID-19 pandemic. Back then, WFH was voluntarily and only happened occasionally. During the COVID-19 pandemic, by contrast, WFH became mandatory and permanent for a longer period (Kniffin et al., 2021; Aitken-Fox et al., 2020a, 2020b; Gourinchas, 2020, p. 31-39; Koirala & Acharya, 2020). In the Netherlands, approximately 54% of the workers worked at home during the COVID-19 pandemic. Before the pandemic, only 33% of the workers worked from home. Furthermore, only 6% of the workers worked (almost) full-time at home before the COVID-19 pandemic. During the pandemic, this increased to 39% (Ministerie van Infrastructuur en Waterstaat, Kennisinstituut voor Mobiliteitsbeleid, 2020).

Because of all these changes caused by the COVID-19 pandemic, obligatory WFH for a longer period might hurt employee motivation. The WFH during the COVID-19 pandemic, which was mandatory and permanent for a longer period, had negative consequences such as loss in social interaction and increased work-family conflict (Zamani, Ghani, Radzi, Rahmat,

Kadar, & Azram, 2021). Because of social distancing, employees have fewer opportunities to interact with their colleagues and their supervisor. Moreover, communication could only happen via email, calls or videocalls. This complicates the interaction with co-workers and the supervisor. Non-verbal interaction gets lost when interacting via email, telephone or video meetings which might lead to misunderstandings and misinterpretations (Kniffin et al., 2021). These major changes regarding social interaction, caused by the COVID-19 pandemic, made it important for organizations to get more understanding of the impact of social interaction on the relationship between WFH and employee motivation.

Previous research has evidenced that social interaction is essential for the well-being of employees (Mogilner, Whillans, & Norton, 2018). Earley (1984) defines social interaction as all verbal exchanges among employees or a manager and an employee. Social interaction can be seen as social exchanges with others and identification with others that are associated with the organization (Sheldon, 1971). Two types of social interaction are included in this study, social interaction with co-workers and social interaction with the supervisor. Social interaction with co-workers is defined as the behaviour of co-workers towards one another and how they influence each other (Bardis, 1979). Social interaction with co-workers is also referred to as perceived group cohesion or perceived social cohesion (Bollen & Hoyle, 1990). Perceived group cohesion is about the belongingness to a group encountered by the employee and the associated feelings of morale (Bollen & Hoyle, 1990). Klassen and Krawchuk (2009) stated that perceived belongingness to a group and feelings of morale will affect the sense of engagement of the employee. This will result in a change in the motivation of employees (Klassen & Krawchuk, 2009). Social interaction with the supervisor is about the leader-member exchange (LMX) (Graen & Uhl-Bien, 1995). LMX refers to the relationship between a leader and a member (Graen & Uhl-Bien, 1995; Power, 2013; Schyns, Torka, & Gossling, 2007). According to Breevaart, Bakker, Demerouti, and Van den Heuvel (2015), each member develops a unique exchange relationship with the supervisor. The quality of the relationship can be determined by the degree to which employees feel understood by his/her supervisor, the degree to which the potential of the employee is seen by the supervisor and the degree to which the employee is aware of the leader's satisfaction of the employee (Graen & Uhl-Bien 1995). The quality of the relationship between member and leader affects the attitude and behaviour of members regarding their work which has an impact on the motivation of the members (Breevaart et al., 2015).

To reduce social isolation and remain a sense of unity within the organization, it is important to achieve an adequate amount of social interaction (Tunk & Kumar, 2022). Employees that work from home may have to cope with the feeling of isolation from the people at the office (Bailey & Kurland, 2002). The consequence of social isolation is lower job satisfaction, lower employee motivation, and lower visibility which results in a decrease in perceived career prospects (Nakrošienė, Bučiūnienė, & Goštautaitė, 2019; Lut, 2012; Varma, 2017). According to Ozcelik and Barsade (2018), the lack of social interaction has a negative effect on employee commitment, motivation, and performance.

To be able to cope with the new working conditions caused by the COVID-19 pandemic such as working from home, the role of the leader is important (Van der Lippe & Lippényi, 2020). Next to social interaction, leader support is also expected to influence the relationship between WFH and employee motivation. Leader support is defined as the support of one's superior in coping with various work-related problems (Tunk & Kumar, 2022). Leader support is expressing appreciation for the employees, involving employees in decision making, providing recognition to the employees for their efforts, and taking into account the values, goals, opinion and well-being of the employees (Eisenberger et al., 1986). According to Welchans (1995), leader support is an important resource for employees that work from home and has an impact on the motivation of employees while WFH. Existing research has shown that in case of a crisis, leader support plays a crucial role to motivate employees (Khan, Ju, Baloch, & Uddin, 2019; Soomro, Roques, & Ali, 2020). The support of a leader will have a positive effect on employees' well-being when they have to cope with a critical situation (Chen, Hao, Ding, Feng, Li, & Liang, 2020). Next to that, previous research proved that leader support can help to reduce the level of stress and conflicting nature of WFH (Van der Lippe & Lippényi, 2020). Moreover, perceived workplace uncertainty of the employee will decrease if leader support is present (Charoensukmongkol, Moqbel, Gutierrez-Wirsching, & Shankar, 2016; Maertz, Griffeth, Campbell, & Allen, 2007). This resulted in the increased importance of gaining more knowledge on the role of leaders that could affect the influence of WFH on the motivation of employees. This study, therefore, investigates the role of the leader by testing the effect of leader support on the relationship between WFH and employee motivation. Based on previous research, it is expected that leader support creates a decrease in the negative effects of WFH on employee motivation.

To get a better understanding of the impact of WFH on employees, the current study focuses on investigating the motivational consequences of WFH for employees and the role of

social interaction and leader support in the relationship between working from home and the motivation of employees. Deliberately, the social exchange theory is used (Blau, 1964). This theory suggests that employees will be more committed, and motivated for their job and perform at a higher level as a result of the effort of the organization towards them (Blau, 1964). Employees tend to make more effort when they feel valued by the organization (Gouldner, 1960; Aryee, Budhwar & Chen, 2002). This would mean that high social interaction and high leader support would help to weaken the negative effect of working from home on employee motivation. The resulting research question will be answered within this study: "*How does working from home affect employee motivation and to what extent does that depend on leader support?"*.

This research contributes to the literature on the social exchange theory by adding the aspect of working from home. A lot of research already has been done regarding several possibilities that might affect the behaviour of employees towards the organization (Gould-Williams & Davies, 2005; Gouldner, 1960; Aryee et al., 2002). For example creating enough possibilities for interaction, and leader support (Gould-Williams & Davies, 2005). This research focuses on social interaction and leader support in the context of working from home. According to the social exchange theory, social interaction and leader support will have a positive effect on the motivation of employees. However, there have not been many investigations regarding these relationships in case of employees working from home.

Furthermore, this study contributes to the literature on WFH by connecting WFH and the COVID-19 pandemic to the motivation of employees. In existing research, it is stated that the impact of the changed norms related to WFH needs further investigation, because this impact is not clear yet (Liu, Chen, & Li, 2021; Kniffin et al., 2021). Research is needed to examine the consequences of WFH on employee motivation (Kniffin et al., 2021). Also, more insight into the consequences of mandatory and prolonged working from home, and what happened during the COVID-19 pandemic, is needed (Kniffin et al., 2021). This research adds understanding to the literature about working from home and creates more understanding of how employee motivation can be sustained in a situation where WFH is mandatory.

Moreover, researchers already investigated the relationship between WFH and social interaction and the relationship between social interaction and employee motivation (Vyas & Butakhieo, 2021; Nakrošienė et al., 2019). This research provides more insight into the role of social interaction in the relationship between WFH and employee motivation. In that way, this study delivers a contribution to the literature on social interaction.

In addition, this study adds understanding about the role of leader support in the relationship between WFH and the motivation of employees. Existing literature is available about the role of leader support in the motivation of employees (Welchans, 1995). However, the link with WFH is not investigated yet. This study delivers a contribution to the literature on leader support by looking at the moderating role of leader support on the relationship between WFH and employee motivation. By investigating the consequences of working from home for the motivation of employees, in particular looking at social interaction and leader support, more insight is given into the impact of WFH on employee motivation.

The practical relevance of this research is the recommendations that can be given to organizations. This research creates more understanding about the consequences of working from home for the motivation of employees, and recommendations are given to help organizations cope with these consequences or how they can decrease the negative effects of the consequences (Kniffin et al., 2021). Next to that, recommendations can be given about how organizations need to handle the risks (Kniffin et al., 2021). Managers get more insight into the impact of working from home, especially looking at social interaction and leader support.

To answer the research question, each variable (working from home, employee motivation, social interaction and leader support) within this research will be further explained and defined in the theoretical framework. Based on existing literature, a definition will be determined for each variable. Subsequently, the way of conducting the research will be described. This part of the research contains an explanation of how the data is collected and analyzed. After that, the results of the data analysis will be discussed. In this part of the research, the hypotheses that are drafted within this research will be either adopted or rejected. Following this, a conclusion of the research will be stated and an answer to the research question will be given. Finally, there will be a discussion that contains the limitations of the research, suggestions for future research, and practical implications.

Theoretical framework

In this chapter working from home, employee motivation, social interaction, and leader support will be defined and clarified. Next to that, the hypotheses will be formulated and the conceptual model will be presented.

This study investigates the relationship between working from home and the motivation of employees. There is specific attention to the influence of social interaction and leader support on this relationship between working from home and employee motivation.

According to the social exchange theory, employees will put more effort into an organization when they perceive the organization puts effort into the employees (Blau, 1964). Social exchanges are voluntary actions by the employees and may be influenced by the organization's treatment of its employees. Blau (1964) also states that such treatment will be reciprocated. When employees identify signs of 'goodwill' from the organization towards the employees, this will lead to a sense of obligation on the employees' side to reciprocate this 'goodwill' with positive work attitudes and behaviour (Gouldner, 1960; Aryee et al., 2002).

There are multiple ways for organizations to show their effort and 'goodwill' towards the employees. Some examples are providing enough opportunities for training and development, providing involvement in decision making, giving a certain degree of authority, creating enough possibilities for interaction, providing security, proper rewards (bonuses, gifts, etc.) and providing support (Gould-Williams & Davies, 2005). As stated by the social exchange theory, this would result in higher commitment, motivation and intention to remain in the organization for employees (Gould-Williams & Davies, 2005). This research only focuses on social interaction and leader support as efforts of the organization towards the employees. Social interaction is included in this research because the COVID-19 pandemic and associated measures caused major changes in the social interaction within organizations (Kniffin et al., 2021). Therefore, it is interesting to investigate if these changes (e.g. distancing, virtual communication, etc.) would alter the effect of social interaction on employee motivation as expected by the social exchange theory. Previous research has shown that leader support is important for the work morale of employees and is a key factor in the psychological well-being of employees. Especially in a crisis, employees are tended to rely upon their leader (Caesens, Stinglhamber, Demoulin, & De Wilde, 2017). This makes it interesting to research whether the role of the leader would affect the way in which WFH influences the motivation of employees.

Accordingly, leader support is incorporated in this study. The other examples mentioned above are not taken into account in this study, but still would be interesting for further research. The influence of the amount and quality of social interaction and the degree of leader support are investigated in this research related to WFH and its impact on the motivation of employees.

Working from home

The concept of working from home (WFH) was already brought to attention by Nilles (1988) in 1973. Nilles (1988) referred to WFH as 'telecommuting' or 'telework'. However, WFH became more popular in the early 2000s. The establishment of the first telecommuting technologies was around the early 2000s and people became more interested in creating flexibility in their schedules and wanted to ensure a better work-life balance which led to increased attention for WFH (Xiao et al., 2021). According to Huws (1997), tele-home working or work from home is described as work that is completely executed from home and where the employee has a work agreement with only one employer. However, only employees who work from home full-time are taken into account by Huws (1997). Gajendran and Harrison (2007) therefore defined telecommuting as "an alternative work arrangement in which employees perform tasks elsewhere that are normally done in primary or central workplaces, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organization" (p. 1525). Their definition recognizes that WFH does not only occur on a full-time basis but employees can also work from home partially. Therefore, this definition of WFH is used in this research instead of the less inclusive definition from Huws (1997).

Due to the COVID-19 pandemic, many workers were forced to work from home full-time. According to statistics from the Dutch government, there was a major increase in the number of workers that worked at home during the COVID-19 pandemic compared to before the pandemic. In addition, almost all workers that worked from home before the COVID-19 pandemic worked only occasionally at home. During the pandemic, this changed. At that point, almost half of the employees that worked from home, worked (almost) full-time at home instead of occasionally (Ministerie van Infrastructuur en Waterstaat, Kennisinstituut voor Mobiliteitsbeleid, 2020). This created a whole new perspective on the traditional view of WFH that was usually only used for specific types of work, happens only occasionally, or when employees have to deal with unique circumstances (Xiao et al., 2021).

Because of the pandemic, the workplace and personal space became mixed which created major changes in the working situation of employees (Tunk & Kumar, 2022). This led to several opportunities and challenges for employees (Shaw et al., 2020; Xiao et al., 2021; Birimoglu Okuyan & Begen, 2022; Vyas & Butakhieo, 2021; Nakrošienė et al., 2019). Positive effects of WFH are for example more flexibility and improved productivity for employees (Xiao et al., 2021; Birimoglu Okuyan & Begen, 2022). Employees are more flexible in choosing their working times and alter their work schedules to their preferences that fit their private life (Xiao et al., 2021; Vyas & Butakhieo, 2021). Next to that, previous research proved that the productivity of employees increases when working at home (Birimoglu Okuyan & Begen, 2022; Vyas & Butakhieo, 2021). Because employees are not distracted by co-workers and fewer interruptions occur, the productivity of employees increases when working at home (Birimoglu Okuyan & Begen, 2022; Nakrošienė et al., 2019).

By contrast, WFH also has a negative effect on employees. Negative consequences of WFH are for example more work-family conflict and increased amount of screen time (Xiao et al., 2021; Birimoglu Okuyan & Begen, 2022; Vyas & Butakhieo, 2021). WFH causes a loss of a clear boundary between work and free time which lead to interference of work in the private life (Xiao et al., 2021; Van der Lippe & Lippényi, 2020). The blurred boundaries result in mixing up work and private life leading to conflicts between work and family (Van der Lippe & Lippényi, 2020). Furthermore, employees that work from home are forced to use their laptop to do their work and to keep in contact with co-workers and supervisors. This entails an elevation of screen time which can lead to physical and mental issues (Xiao et al., 2021; Birimoglu Okuyan & Begen, 2022).

Existing literature about WFH suggests that WFH has positive as well as negative effects on employees (Shaw et al., 2020; Xiao et al., 2021; Birimoglu Okuyan & Begen, 2022; Vyas & Butakhieo, 2021; Nakrošienė et al., 2019). Because of the COVID-19 pandemic, the attention to WFH increased significantly which has led to the need for more research into it. The impact of WFH on the employee needs further investigation because it is important for the performance of the organization (Kniffin et al., 2021). Organizations have to ensure that their employees are able to perform at their best to achieve a high performance level for the organization (Podsakoff & MacKenzie, 1997). The performance of employees is influenced by multiple factors. One important factor is the motivation of employees (Aryee et al., 2002).

Employee motivation

A lot of research is done about the motivation of employees and resultantly many different definitions are given to the concept (Conrad, Ghosh, & Isaacson, 2015). Pritchard and Ashwoord (2008) specify motivation as "the process used to allocate energy to maximize the satisfaction of needs" (p. 6). However, this definition is not specific enough and does not specify exactly what employee motivation entails. Certo (2000) has a more explicit definition. He defines motivation as "the inner state that causes an individual to behave in a way that ensures the accomplishment of some goal" (p. 354). This definition gives an abstract image of motivation. Although motivation increases the chance of accomplishing goals, it does not guarantee the accomplishment of some goals. Therefore, Daft (2003) referred to motivation as internal or external forces that enhance the enthusiasm of employees which results in the persistence of employees to achieve their goals. The definition of Daft (2003) adds that motivation can be internal as well as external and is more specific about motivation reinforcing employees to achieve their goals. Many other researchers constructed a definition for motivation. Other definitions of motivation are the internal drive to fulfill an unfulfilled need, the will to achieve, and a psychological procedure that creates purpose and direction in the behaviour of employees (Conrad et al., 2015). As stated by Mahmoud, Fuxman, Mohr, Reisel, and Grigoriou (2021), motivated employees try to accomplish a work-related goal. In this research, the focus is on work-related motivation and the enhancement of employees achieving their goals. Therefore an adjusted definition is created for employee motivation within this research. This resulted in defining employee motivation in this study as a psychological process that supports employees to persist in achieving their work-related goals. An employee is motivated when the employee feels happy when he/she performs well in his/her job, the employee feels personal satisfaction when he/she is succeeding in his/her work, and when the self-esteem of the employee grows when he/she does his/her job well (Janz, Colquitt, & Noe, 1997).

Current research shows that motivation is positively influenced by WFH (Vyas & Butakhieo, 2021). However, these studies are executed before the COVID-19 pandemic. Before the pandemic, working from home was voluntary and on an occasional basis (Xiao et al., 2021). Rupietta and Beckmann (2018) stated that the possibility of WFH increases the autonomy of an employee which leads to higher motivation. Also, WFH increases the flexibility of the work which can result in higher employee motivation (Abdullah, Rahmati, Zawawi, Khamsah, & Anuarsham, 2020). In the case of the COVID-19 pandemic, employees were forced to work

from home instead of having the possibility and had to work from home permanently for a long period (Kniffin et al., 2021; Aitken-Fox et al., 2020a, 2020b; Gourinchas, 2020, p. 31-39; Koirala & Acharya, 2020). The forced and permanently working from home led to a loss of social interaction with co-workers and supervisors and increased work-family conflicts due to partners and children who were also forced to work or were educated from home (Zamani et al., 2021). Also, employees who work from home are highly dependent on the internet. Khandelwal (2020) stated that a weak connection and a low velocity of the internet will reduce the motivation of employees that work from home. Moreover, unrealistic expectations about the performance of employees and the abundance of virtual consultations combined with high pressure to meet the deadlines will increase the stress level of employees that work from home (Zamani et al., 2021). Therefore, it is assumed that, in times of the COVID-19 pandemic, WFH leads to a decrease in employee motivation. At the point of executing this study (2022), employees have worked at home for approximately one and a half years. However, measures are less strict right now and employees are allowed to work at least partially in the office. There is still a kind of requirement to work partly from home, but it is not permanent anymore. The following hypothesis is formulated:

Hypothesis 1. *Working from home has a negative effect on employee motivation.*

Concluding from previous literature, WFH results in a lot of changes in the working circumstances that employees have to deal with (Zamani et al., 2021; Khandelwal, 2020). Consequently, it is expected that the motivation of employees will reduce. Looking at the social exchange theory (Blau, 1964), which suggests that employees will be more committed and motivated when they perceive effort from the organization towards them, the organization may have an influence on the impact of the WFH on the motivation of employees. One possibility for organizations to show their effort towards their employees is to provide enough opportunities for social interaction and strive to achieve a high quality of social interaction (Gould-Williams & Davies, 2005).

Social interaction

As mentioned in the previous paragraph, WFH as a consequence of the COVID-19 pandemic resulted in a decrease in social interaction with co-workers and supervisors (Zamani et al., 2021; Kniffin et al., 2021). Due to the distance that is created because of the WFH, there are fewer

opportunities to interact with colleagues and the supervisor. The decrease in social interaction was not limited to the work life of employees. Also in their private life employees had to deal with a loss in social interaction due to the COVID-19 measures. Moreover, communication is more complicated while working from home. Communication can only happen via email, calls or videocalls and this could lead to the loss of non-verbal interaction which might result in misunderstandings and misinterpretations (Kniffin et al., 2021). This creates a barrier to communicate and leads to less social interaction. Social interaction is defined as verbal exchanges between an employee and a co-worker or a supervisor (Earley, 1984). However, these exchanges are not necessarily only verbal, but the exchanges are also non-verbal exchanges. Sheldon (1971) described social interaction as the interaction and identification of an employee with other members of the organization. This definition is appropriate for this study as it includes all kinds of interactions of an employee with other members of the organization. In the study of Bardis (1979), social interaction is characterized as "the way in which individuals, groups or social systems act toward and mutually influence one another" (p. 148). Within this research, the definition that was established by Bardis (1979) is used, because this definition includes influencing each other. Bardis (1979) states that social interaction is not only about how people act toward each other but also the way in which they try to influence one another.

In this study social interaction encompasses social interaction with co-workers and social interaction with the supervisor. Social interaction with co-workers can be seen as the way in which co-workers act toward each other and the reciprocal influence between one another (Bardis, 1979). Bollen and Hoyle (1990) refer to social interaction with co-workers as perceived group or social cohesion. Cohesion refers to the closeness of a group and the motivation of the group members to encourage the vitality and well-being of the group (Tulin, Pollet, & Lehmann-Willenbrock, 2018). Social cohesion or group cohesion is particularly focused on the social relationships between the group members (Lott & Lott, 1965; Seashore, 1954). According to Bollen and Hoyle (1990), perceived group cohesion is defined as "an individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group" (p. 482). An employee that perceives high group cohesion has the feeling that he or she belongs to the group, feels appreciated by the group, and is happy and enthusiastic to be working in this group (Bollen & Hoyle, 1990). The extent to which a member senses belonging to a group and his or her feelings of morale inherent to being a member of a group influence the quality of social interaction with co-workers (Frank, 1957). Looking into

perceived group cohesion gives more insight into the quality of social interaction with co-workers (Bollen & Hoyle, 1990).

The second aspect of social interaction is social interaction with the supervisor. Social interaction with the supervisor can be seen as the way in which employee and supervisor act toward and mutually influence each another (Bardis, 1979). Graen and Uhl-Bien (1995) defined social interaction between employee and supervisor as Leader-Member Exchange (LMX). LMX focuses on the relationship between leader and member (Graen & Uhl-Bien, 1995; Power, 2013; Schyns et al., 2007). Breevaart et al. (2015) argue that members develop a unique exchange relationship with their leader and that the quality of the relationship differs between employees with the same leader. The development of these relationships is a result of work-related exchanges between the leader and member (Abu Elanain, 2014). The quality of the relationship between employee and leader, and in doing so the quality of the social interaction with the supervisor, is determined by several aspects (Graen & Uhl-Bien, 1995). For example, the quality of the relationship between employee and leader will be high if the employee has the feeling that he/she is understood, if the employee's potential is seen by the supervisor and if the supervisor keeps the employee informed about his/her satisfaction with the employee's performance (Graen & Uhl-Bien, 1995). The quality of this relationship between leader and member influences the work attitudes and behaviours of members (Breevaart et al., 2015). In this research social interaction with co-workers and social interaction with the supervisor are combined and are jointly used in the rest of this research.

In case of the situation during the COVID-19 pandemic, employees were forced to work from home which limited the face-to-face interaction with coworkers and supervisors because of the distance (Vyas & Butakhieo, 2021). A recent study showed that the majority of employees that worked from home during the pandemic missed being at the office and missed the interaction with others (JLL, 2020). Moreover, the quality of social interactions with co-workers as well as with supervisors decreased (JLL, 2020). According to Tunk and Kumar (2022), it is therefore important to achieve an adequate amount and quality of social events in the virtual office to reduce social isolation among employees and to maintain a sense of community. The WFH during the COVID-19 pandemic will consequently lead to a reduction in the amount of social interaction as well as in the quality of the social interaction, which results in the following hypothesis:

Hypothesis 2a. *Working from home has a negative effect on social interaction.*

Social interaction is essential for the well-being of employees and influences the motivation and performance of employees (Mogilner et al., 2018; Ozcelik & Barsade, 2018). Windeler, Chudoba, and Sundrup (2017) stated that employees need social interaction to a certain extent to be able to function well when WFH. According to Baruch (2001) and Wilson and Greenhill (2004), a deficiency in social interaction will lead to a decrease in the organizational identification of employees who work from home. So-called teleworkers may feel isolated from the people at work (Bailey & Kurland, 2002). This will result in a decrease in the satisfaction of an employee with one's job as well as lower employee motivation and lower perceived career opportunities as a consequence of lower visibility (Nakrošienė et al., 2019; Lut, 2012; Varma, 2017). Furthermore, the social interaction between co-workers will have an effect on the motivation of the employee (Bollen & Hoyle, 1990). A low sense of belonging to a particular group and low feelings of morale will cause a decrease in the motivation of employees (Klassen & Krawchuk, 2009). Feeling belonged to a group and high feelings of morale will lead to a higher engagement of the employee which will result in higher employee motivation (Bollen & Hoyle, 1990). Also, the social interaction between employee and supervisor is an important factor in the motivation of an employee. The quality of LMX has an impact on employee motivation. In case of high-quality LMX, the motivation of an employee will be higher compared to low-quality LMX (Breevaart et al., 2015). High-quality exchanges between leader and member will lead to affect and liking for the leader which motivates the member (Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). Based on these findings, the following hypothesis is formulated:

Hypothesis 2b. *Social interaction has a positive effect on employee motivation.*

As stated above, the distance that is created by WFH results in a reduction in the quality and amount of social interaction (Vyas & Butakhieo, 2021). Tunk and Kumar (2022) stated that it is important to attempt to achieve sufficient social interaction during working from home to decrease the social isolation of employees. Social isolation may lead to lower employee motivation which is caused by lower job satisfaction while WFH (Nakrošienė et al., 2019). Therefore, it is expected that social interaction will mediate the negative relationship between working from home and employee motivation.

Hypothesis 3: *Social interaction mediates the negative relationship between working from home and employee motivation.*

To sum up, due to WFH there will be fewer opportunities for social interaction and the quality of social interaction will decrease because of virtual communication (Zamani et al., 2021; Kniffin et al., 2021). However, existing studies state that a certain level of social interaction is crucial to be able to function well when WFH (Windeler et al., 2017). High levels and quality of social interaction with co-workers and the supervisor will therefore have a positive effect on the motivation of employees. This results in the expectation that social interaction will mediate the relationship between WFH and employee motivation. This is in line with the social exchange theory as this theory suggests that employees are more motivated when they perceive a certain degree of 'goodwill' from the organization towards the employees (Blau, 1964). In this case, the effort is shown by creating high levels and quality of social interaction which will result in higher motivation and thereby mediate the effect of WFH on the motivation of employees. Another way for organizations to show their 'goodwill' is the support from leaders (Gould-Williams & Davies, 2005; Charoensukmongkol et al., 2016; Maertz et al., 2007).

Leader support

Leader support, also called social support, is described by Cohen, Underwoord, and Gottlieb (2000) as "the exchange of emotional, information, or instrumental resources in response to the perception that others are in need of such aid" (p. 4). The last part of the definition, in response to the perception that others are in need of such aid, is abstract and is a more general definition of support instead of relating it to the work environment. Anderson and Williams (1996) created a definition of leader support that is more work-related. They perceive leader support as the extent to which the direct supervisor is willing to help (Anderson & Williams, 1996). However, it might be simplistic to state it is just about offering help. Therefore, McIntosh (1990) had a more extensive definition of leader support by defining it as the degree to which one's supervisor provides resources to assist employees in coping with stressful experiences and to increase the employee's well-being (McIntosh, 1990). Adams, King, & King (1996) specify this by distinguishing two types of leader support. A distinction can be made between instrumental and emotional supervisory support (Adams et al., 1996). Instrumental supervisory support is the assistance of one's supervisor to help an employee to cope with work-related stressors. Emotional support of a supervisor is related to the supervisor's empathetic understanding and listening, and genuine interest in the well-being of an employee (Drach-Zahavy, 2004). Eisenberger, Huntington, Hutchison, and Sowa (1986) state that leader support

is about the interpretation of employees concerning the commitment of the organization towards them. In the situation of the COVID-19 pandemic, Tunk and Kumar (2022) indicate leader support as the support of a supervisor towards the team members in coping with various problems related to the work while WFH. This has led to the following definition of leader support within this research: "The exchange of emotional, informational or instrumental resources to help an employee cope with work-related stressors and to understand and showing interest in the well-being of an employee while WFH". An employee who perceives high leader support feels appreciated by his/her supervisor, is involved in decisions related to himself/herself by the supervisor, gets recognition for his/her efforts from the supervisor and his/her values, goals, opinion, and well-being are taken into account by the supervisor (Eisenberger et al., 1986)

Current research about WFH revealed that employees face lower support from supervisors while WFH (Cooper & Kurland, 2002). However, during the COVID-19 pandemic when employees were forced to work from home, the support of a supervisor became even more important (Oakman, Kinsman, Stuckey, Graham, & Weale, 2020). In previous research, it is confirmed that supportive leadership is essential in motivating employees during a crisis (Khan et al., 2019; Soomro et al., 2020). Leader support plays a significant role in remaining the work morale of employees and the psychological well-being of employees in a crisis (Caesens, Stinglhamber, Demoulin, & De Wilde, 2017). In the work of Chen et al. (2020), it was proven that the support of the leader and the organization positively influences the well-being of the employees. Furthermore, the COVID-19 pandemic has led to many sudden and unexpected changes in the work situation (e.g. working from home, virtual teamwork, and virtual contact with co-workers and the supervisor) which resulted in uncertainty among employees. This uncertainty has led to the need for regular communication to ensure clarity and support of the supervisor (Oakman et al., 2020). As stated by Cicero, Pierro, and Van Knippenberg (2010) and Lau and Liden (2008), employees are tended to turn to their supervisors in case of high uncertainty. Therefore, the support of the direct leader is an important factor in decreasing the perceived workplace uncertainty of the employees (Charoensukmongkol et al., 2016; Maertz et al., 2007).

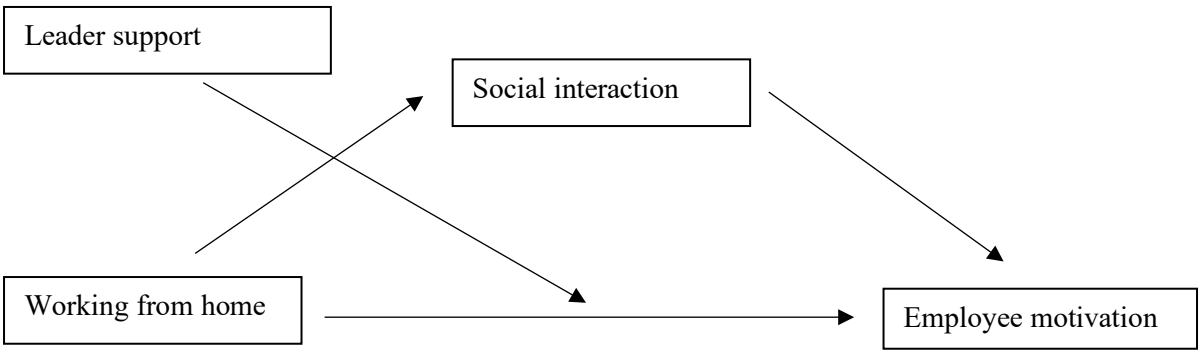
Previous research has proved that high leader or social support decreases the negative effects of stressors within one's work (O'Driscoll et al., 2003; Thomas & Ganster, 1995). In case of WFH, social support can help to reduce the level of stress and the conflicting nature of WFH (Van der Lippe & Lippényi, 2020). Baker, Avery, and Crawford (2007) as well as Grant,

Wallace, Spurgeon, Tramontano, and Charalampous (2019) mentioned that support from the supervisor has an influence on how employees experience WFH. Also, Vyas and Butakhieo (2021) stated that social support contributes to the perception of employees on WFH. The support of one's supervisor is an important resource for teleworkers that influences the satisfaction with WFH and the motivation of employees (Welchans, 1995). Specifically, focusing on employee motivation as an outcome, it is expected that employees who work from home will profit more from leaders who provide support with fulfilling tasks, resolving conflicts, and offering guidance and feedback (Charoensukmongkol et al., 2016; Maertz et al., 2007). Therefore, the assumption is that leader support reduces the negative effects of working from home on employee motivation. This resulted in the following hypothesis:

> ***Hypothesis 4.*** *Leader support weakens the negative effect of working from home on employee motivation.*

As stated by the social exchange theory, employees will be more committed, motivated, and have higher intentions to remain in the organization when they perceive effort from the organization towards the employees (Gould-Williams & Davies, 2005). In this case, putting effort into the employees will be creating possibilities for social interaction with co-workers and the supervisor and support from the leader. According to the social exchange theory, more social interaction with co-workers as well as with supervisors and more leader support will lead to higher motivation of the employees. This leads to the expectation that social interaction will mediate the effect of WFH on the motivation of employees. Furthermore, it is hypothesized that leader support will weaken the negative effect of WFH on employee motivation.

Conceptual framework



Methods

This chapter discusses the method of this research. First, the research design will be explained. Subsequently, the sample of the study will be clarified. In this part, the reliability of the variables is tested and the scales used for each variable are discussed. Finally, a description of the analysis of the research will be provided.

Research design and procedure

The purpose of this research is to gain more insight into the relationship between 'Working from home' and 'Employee motivation' and the influence of 'Social interaction' and 'Leader support' on this relationship. To be able to achieve this, a quantitative approach is chosen for this study. A quantitative approach is chosen because quantitative research is most suitable to test relations and correlations between several variables (Myers, 2013; Bleijenbergh, 2016). This study is correlational, explanatory, and cross-sectional (Field, 2018). The prime objective of explanatory research is to get more insight into the causes of the occurrence of a specific phenomenon. Explanatory research helps to create more understanding of a situation or problem to be able to frame, elaborate, broaden or test a theory (Rahi, 2017). Cross-sectional research analyzes data that is collected at a single point in time (Wang & Cheng, 2020). Cross-sectional research is seen as an appropriate research method to study multiple relations, outcomes, and exposures (Wang & Cheng, 2020).

To obtain the data, online surveys are conducted using the platform 'Qualtrics'. The survey is constructed by using existing measurement items of each variable. Due to the sample that is adopted in this research, the survey is provided in Dutch as well as in English. Because most of the items originally were in English, parallel translation was used to translate the items to Dutch (Toepoel, 2016). As soon as the survey was constructed, a pilot test was conducted. A selection was made of 5 people that completed the survey and reflected on it. Based on their feedback, adjustments were made regarding the structure of the survey, amount of questions, and the length and clarity of questions.

Between May 10th and May 23th, the survey was put out by using volunteer sampling and particularly self-selection (Bleijenbergh, 2016). The survey was distributed via emails and personal approach. The online surveys were sent to employees in the network of the researchers (convenience sampling). Snowball sampling is used to achieve a greater sample size (Bleijenbergh, 2016).

Several ethical considerations are taken into account within this research. To include the current literature which contributed to this study, APA guidelines were used to refer to the literature. Next to that, to ensure the confidentiality of this study, all data obtained by the survey is anonymous and only shared with persons who are directly involved in this research (Ferreira & Serpa, 2018). Furthermore, there was full transparency about the purpose of the study towards the respondents. This was achieved by providing participants with the necessary information about the research. Also, it was possible for the respondents to quit the survey at any moment and permission was asked to use the data for academic research (Ferreira & Serpa, 2018). To be able to analyze the data properly, small modifications were made to the dataset.

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Data sources and sample

The population of interest within this research consists of working adults in the Netherlands that have faced a certain degree of working from home during the COVID-19 pandemic. The outcomes of the survey relate to a sample of 300 respondents. Only respondents who answered at least 60% of the questions in this study are taken into account in the analysis. Next to that, respondents need to be 18 years or older and have to work more than 12 hours per week. This resulted in a valid sample of 229 workers. Within the dataset, there is a wide variety of age. The ages range from 16 to 65 and have an average of 35.09 year (SD=11.05). The distribution of age is slightly positively skewed (Skewness=0.57) and slightly flatter (Kurtosis=-.67) compared to a normal distribution. The distribution of women-men is nearly equal. The dataset consists of 117 men (51.1%) and 112 women (48.9%). Furthermore, 84 of the respondents (36.7%) have filled in Master of science as the highest level of education that they have obtained. Besides, 46 respondents (20.1%) have filled in Bachelor of applied sciences and 30 respondents (13.1%) have filled in Intermediate Vocational Education (MBO) as their highest level of education. 19 respondents (8.3%) have filled in High school and also 19 respondents (8.3%) have filled in Master of applied sciences as their highest educational level. All other respondents filled in Bachelor of Science (7%), PhD (2.2%), or Other (4.4%). This results in a slightly negatively skewed distribution (Skewness=-.13) and flatter (Kurtosis=-1.15) than a normal distribution. Looking at the home situation of respondents, most of the respondents live alone or only with a partner. 73 respondents (31.9%) live with a partner and 69 respondents (30.1%) live alone. Moreover, 48 respondents (21%) live with a partner and children younger than 12 and 32 respondents (14%) live with a partner and children older than 12. The other respondents live alone with children younger than 12 (0.4%) or live alone with children older than 12 (2.6%).

This means that the distribution of home situation is slightly positively skewed (Skewness=.87) and steeper (Kurtosis=.53) compared to a normal distribution. The distribution of 'Working from home' is also measured within this study. Before the COVID-19 measures, 94 respondents (41%) filled in that they have never worked from home. 77 respondents (33.6%) have almost never worked from home, 54 respondents (23.6%) have sometimes worked from home, 3 respondents (1.3%) have worked most of the time from home and only 1 respondent (0.4%) has always worked from home. This distribution is positively skewed (Skewness=.57) and flatter (Kurtosis=-.44) than a normal distribution. Comparing this distribution to the working from home after the COVID-19 measures, a significant difference can be seen. After the implementation of the measures, only 35 respondents (15.3%) have filled in that they have never worked from home, 11 respondents (4.8%) have almost never worked from home, 47 respondents (20.5%) have sometimes worked from home, 87 respondents (38%) have worked most of the time from home and 49 respondents (21.4%) have always worked from home. This led to a negatively skewed distribution (Skewness=-.72) which is flatter (Kurtosis=-.52) compared to a normal distribution

Because different organizations are reached out for this study that operate in different industries and have different kinds of employees, a diverse pool of respondents appeared. A strength of this sample is the high diversity within the sample which increases the generalizability of the results of this study (Bleijenbergh, 2016). Another strength is the use of the self-selection approach to collect data. This ensures that the researcher has some degree of control over the respondents of the research (Bleijenbergh, 2016). The distribution of the survey is dependent on the people that are reached out to by the researchers and the degree to which they forward it to others in their network (snowball sampling). This is a limitation of this study because this makes it impossible to do any pronouncements about the response rate of the survey (Bleijenbergh, 2016; Myers, 2013).

Measures

The variables used in this research are 'Working from home', 'Employee motivation', 'Social interaction', and 'Leader support'. Based on the Cronbach's alpha the reliability of each variable is tested (Hair, Black, Babin, & Anderson, 2018). According to Field (2018), the Cronbach's alpha is a reliability coefficient and all values above 0.7 variables are considered reliable.

The dependent variable in this research is 'Employee motivation'. This variable is measured based on the scale of Janz et al. (1997). Four items are used to measure 'Employee motivation' via a seven-point Likert scale which builds up from (1) strongly disagree to (7) strongly agree. An example item is "I feel bad or unhappy when I discover that I have performed poorly on this job". The Cronbach's alpha of 'Employee motivation' is 0.56. This is not high enough. Therefore item 4, "My own feelings generally are not affected much one way or the other by how well. I do on this job", was removed from the scale. After the deletion of item 4, the Cronbach's alpha of 'Employee motivation' is 0.66. The Cronbach's alpha is still not above 0.7 but 0.66 is high enough to be able to execute the regression analysis.

The independent variable that is included in this study is 'Work from home'. This variable is measured by two items assessing the frequency of working from home. A five-point Likert scale is used from (1) never to (5) always. The items are "How frequently did you work from home before the current measures were introduced?" and "How frequently do you work from home since the current measures were introduced?". The same items were used in previous research (Pajic, Buengeler, Den Hartog, & Boer, 2021). Since there are only two items, no Cronbach's alpha could be computed. At least three items are needed to be able to calculate the Cronbach's alpha (Field, 2018). Within this study, different ways have been tested to incorporate 'Working from home' in the analysis. Attempts were made to use the mean of the two items, the difference between the two items and only using the second item. In the end, it was decided to only use the second item (from now on referred to as 'Working from home') for the analysis and use the first item as a control variable (from now on referred to as 'Working from home – item 1). It appeared to be the most accurate way to incorporate 'Working from home' in this study since this would reflect best on the current situation that employees have to deal with and corresponds best with the scoring of motivation by the respondents. It would have been interesting to look at the shift and compare the situation before and after the implementation of the COVID-19 measures. However, it was not possible anymore to gather data on employees' motivation before the implementation of the COVID-19 measures since the data was collected only after the measures were introduced. Therefore, this research is not focusing on the shift in 'Working from home' from before and after the COVID-19 pandemic, but on 'Working from home' in general.

In this research, the mediator is 'Social interaction'. 'Social interaction' is measured by twelve items and a Likert scale is used. The perceived cohesion scale of Bollen and Hoyle (1990) is used for social interaction with co-workers and the leader-member exchange scale of

Graen and Uhl-Bien (1995) is used for social interaction with the supervisor. In this research social interaction with co-workers and social interaction with the supervisor are jointly used, because in this study social interaction as a whole is investigated. Therefore, both scales are used in conjunction. Examples of the items are "I feel a sense of belonging to my work group" and "How well does he/she understand your job problems and needs?". The Cronbach's alpha of 'Social interaction' is 0.84 which means this scale is reliable.

The moderator that is taken into account in this study is 'Leader support'. 'Leader support' is measured via the scale of Eisenberger et al. (1986). Eleven items are used and a seven-point Likert scale which builds up from (1) totally disagree to (7) totally agree. One of the items is "My supervisor really cares about my well-being". 'Leader support' has a Cronbach's alpha of 0.94. This is > 0.7 which indicates that the scale for 'Leader support' is reliable.

Control variables

The control variables that are used in this research are 'Age', 'Gender', 'Home situation' and the first item of 'Working from home'. 'Age' is a control variable in this research, because previous research has shown that the motivation of employees differs between age categories (Hsu & Jones, 2012). 'Gender' is included in this study as a control variable, because according to the work of Ziaran, Fedorko, Gavurova, and Bačík (2021) there is a difference in the drives for a male or female employee that will lead to motivation. Therefore, it might be the case that 'Working from home' has an effect on 'Employee motivation' in a different way for male and female employees. The following scale was used to measure 'Gender': (1) male, (2) female, (3) non-binary, (4) other, and (5) prefer not to say. 'Home situation' is also included in this research as a control variable. The perception of employees about working from home is influenced by their home situation (Kniffin et al., 2021; Ramarajan & Reid, 2013). According to Kniffin et al. (2021), WFH caused many challenges for employees. These challenges vary depending on the individual family status (e.g. living alone; with young children; with others). Employees with young children might have to take care of their children and at the same time do their work which can lead to some challenges. These employees might have difficulties with the blurring boundaries between work and private (Ramarajan & Reid, 2013). For employees that live alone, it is expected that they are more likely to experience loneliness as a result of WFH. 'Home situation' is measured according to the following scale: (1) living alone, (2) living with a partner, (3) living with a partner and

children younger than 12, (4) living with a partner and children older than 12, (5) living alone with children younger than 12, (6) living alone with children older than 12. Also 'Working from home – item 1' is included as a control variable in this study. Since it is decided to only use the second item for the analysis, the first item is still included in this research as a control variable. This variable is measured according to a five-point Likert scale from (1) never to (5) always.

Statistical Analysis

The data that is collected via 'Qualtrics' is put into the statistical program Statistical Package for the Social Sciences 26 (SPSS) to be able to conduct the analysis. To test the validity of the scales of 'Employee motivation', 'Social interaction', and 'Leader support', a factor analysis was conducted. In that way, it can be tested whether the classification of the scales is correct (Field, 2018). This cannot be done for 'Working from home' because at least three variables are needed for each factor and 'Working from home' only has two.

First, the Kaiser-Meyer-Olkin (KMO) test is executed for 'Employee motivation'. The KMO test should be > 0.6 and Bartlett's test of Sphericity needs to be significant (< 0.05) (Field, 2018). For 'Employee motivation', the KMO test resulted in a score of 0.65 and Bartlett's test of Sphericity is significant ($p < 0.05$). Next to that, communalities after extraction are all sufficient (> 0.25) and vary between 0.29 and 0.54. Also, all factor loadings are high enough (> 0.4). The KMO test for 'Social interaction' has a value of 0.82 and Bartlett's test of Sphericity is significant ($p < 0.05$). Furthermore, communalities after extraction for 'Social interaction' are between 0.27 and 0.82 which means that these are sufficient (> 0.25) and factor loadings are all > 0.4. The KMO test for 'Leader support' resulted in a score of 0.94 and Bartlett's test of Sphericity is significant ($p < 0.05$). The communalities after extraction are also investigated for 'Leader support'. The communalities vary between 0.45 and 0.67 which is good enough (> 0.25). Next to that, factor loadings are also sufficient (> 0.4). The results from the factor analysis all meet the set requirements, which means that the scales of the variables in this study can be retained.

After the execution of the factor analysis, missing data and outliers are analyzed. If the missing data is <10%, missing data can be ignored. If missing data is above 10%, further investigation is needed to figure out if the missing data is random or if there is a specific cause of the missing data (Hair et al., 2018). Only the variables 'Social interaction' and 'Employee

motivation' have some missing data. However, for both variables, the missing data is < 10% which means that the missing data can be ignored. An outlier is an observation that has a standard deviation of >3. These observations need further inspection to establish if the observation(s) influence the results of the study (Hair et al., 2018). Looking at the boxplots, there are some outliers. However, these observations are representative of observations in the population. Therefore, the outliers are retained in the analysis (Hair et al., 2018). To analyze the data, a regression analysis is executed (Hayes, 2013). To ensure that the data is appropriate for a regression analysis normality and multicollinearity are tested. All variables had sufficient normality except for 'Leader support'. 'Leader support' needed to be transformed in order to have a Skewness that meets the requirements. Multicollinearity is tested based on the Tolerance or Variance inflation factor (VIF). The tolerance has to be higher or equal to 0.25 or the VIF has to be <10 (Hair et al., 2018). For all the variables, the VIF was <2 and the Tolerance >0.6 which indicates that the Multicollinearity is low enough (VIF<10, Tolerance >0.25). This means that all assumptions are met and missing data, outliers, and the reliability of the measures are analyzed. Subsequently, a correlation analysis and a regression analysis are conducted. To be able to test the hypotheses, model 5 within PROCESS is used in this research for the regression analysis (Hayes, 2013).

Analysis

This chapter contains the analysis of the data that is gathered via online surveys. First, a correlation analysis will be executed. After that, a regression analysis will be conducted. To be able to test the hypothesis, PROCESS model 5 will be used.

Correlation analysis

A correlation analysis has been executed to test the correlations between the variables and control variables that are included in this research. Therefore, the means, standard deviations, and correlations between the variables were identified for 'Working from home', 'Employee motivation', 'Social interaction', 'Leader support', 'Age', 'Gender ', 'Home situation' and 'Working from home – item 1' (Table 1). Pearson's correlation is used to show how the variables are related to each other (Field, 2018). The correlation coefficients of Pearson can have values between -1 (negative) and +1 (positive). The closer the correlation coefficient to -1 or +1, the stronger the relationship between the variables is (Field, 2018). In social sciences, a small correlation is considered as a correlation of 0.29 or lower. A correlation is considered as medium when the correlation is between 0.3 and 0.49 and a correlation equal to or higher than 0.5 is perceived as a high correlation (Field, 2018).

Looking at the correlations relevant to hypothesis 1, no significant correlation is found between 'Working from home' and 'Employee motivation'. Focusing on the correlations relevant for hypotheses 2a and 2b, a small negative correlation (Pearson's $r = -0.23$, $p < 0.01$) was found between 'Working from home' and 'Social interaction'. This is consistent with hypothesis 2a. However, no significant correlation was found between 'Social interaction' and 'Employee motivation'.

Furthermore, 'Leader support' has a small negative correlation (Pearson's $r = -0.23$, $p < 0.01$) with 'Employee motivation' and a high negative correlation significant at the 0.01 level (Pearson's $r = -0.51$, $p < 0.01$) with 'Social interaction'. Next to that, 'Age' is found to have a medium positive correlation (Pearson's $r = 0.41$, $p < 0.01$) with 'Working from home', a small positive correlation (Pearson's $r = 0.14$, $p < 0.05$) with 'Employee motivation' and a small negative correlation (Pearson's $r = -0.12$, $p < 0.05$) with 'Social interaction'. Also for 'Home situation' some significant correlations are found. A small positive correlation (Pearson's $r = 0.24$, $p < 0.01$) was found between 'Home situation' and 'Working from home', and a high positive correlation (Pearson's $r = 0.56$, $p < 0.01$) was found between 'Home situation' and 'Age'. For 'Working from home – item 1' a medium positive

correlation with ‘Working from home’ (Pearson’s r = 0.42, p < 0.01), a small negative correlation with social interaction (Pearson’s r = -0.14, p < 0.01), a medium positive correlation with ‘Age’ (Pearson’s r = 0.45, p < 0.01) and a small positive correlation with ‘Home situation’ (Pearson’s r = 0.25, p < 0.01). Conversely, ‘Working from home’, ‘Employee motivation’, ‘Social interaction’ and ‘Leader support’ do not have a significant correlation with ‘Gender’.

Table 1
Descriptive Statistics and Correlation coefficients

		M.	SD	1.	2.	3.	4.	5.	6.	7.	8.
1.	**Working from home**	3.45	1.30	1	-	-	-	-	-	-	-
2.	**Employee motivation**	5.94	0.70	0.05	(0.66)	-	-	-	-	-	-
3.	**Social interaction**	4.02	0.52	**-0.23**	0.12	(0.84)	-	-	-	-	-
4.	**Leader support**	0.35	0.14	-0.03	**-0.23**	**-0.51**	(0.94)	-	-	-	-
5.	**Age**	35.09	11.05	**0.41**	**0.14**	**-0.12**	-0.06	1	-	-	-
6.	**Gender**	1.49	0.50	0.07	-0.05	0.00	0.05	0.03	1	-	-
7.	**Home situation**	2.31	1.20	**0.24**	0.03	-0.00	-0.09	**0.56**	-0.00	1	-
8.	**Working from home – item 1**	1.86	0.85	**0.42**	0.04	**-0.14**	-0.04	**0.45**	-0.08	**0.25**	1

Note: Bold printed correlations are significant at the 0.05 level (one-tailed)
Bold printed and underlined correlations are significant at the 0.01 level (one-tailed)
Between brackets are Cronbach’s alpha values

Regression analysis

In this section, the results of the regression analysis are discussed. As mentioned before, PROCESS model 5 was used to test hypotheses 1, 2a, 2b, 3, and 4. First, the results regarding the direct relationship between ‘Working from home’ and ‘Employee motivation’ will be discussed. After that, the results relevant to the direct relationship between ‘Working from home’ and ‘Social interaction’ and the relationship between ‘Social interaction’ and ‘Employee motivation’ will be addressed. Subsequently, the results regarding the indirect relationship of ‘Working from home’ on ‘Employee motivation’ via ‘Social interaction’ will be discussed. Lastly, the interaction effect of ‘Leader support’ on the relationship between ‘Working from home’ and ‘Employee motivation’ will be addressed.

The explained variance of the model is R^2= 0.106 (p< 0.05) which means that the variance of 'Employee motivation' is explained by the model for 10,6%. 89,4% of the variance of 'Employee motivation' is explained by other variables outside the model. An R^2 of 0.106 indicates a medium explained variance (Field, 2018). The explained variance is not high. This can be caused by the fact that this research is investigating human behaviour. Human behaviour is difficult to explain because many intervening variables have an effect on the behaviour of human beings (Field, 2018). The human behaviour that is investigated in this research is employee motivation. Other variables that might have effect on the motivation of employees are for example work pressure, autonomy, possibilities for growth, stress and opportunities for learning and development (Janz et al., 1997).

Hypothesis 1 suggests that working from home has a negative influence on employee motivation. The results of the regression analyses show that 'Working from home' has an effect of c_1'= -0.22 on 'Employee motivation' (Table 2.1). This means that two employees that differ by one unit on 'Working from home' are estimated to differ by 0.22 units on 'Employee motivation'. The negative sign at c_1' indicates that those relatively higher in 'Working from home' are estimated to have lower employee motivation. In other words, the more people work from home the less motivation they have. Furthermore, this effect is statistically different from zero, t= -2.21, p= 0.028, with a 95% confidence interval (Table 2.1). This means that the effect of 'Working from home' on 'Employee motivation' is significant. Therefore, Hypothesis 1 "Working from home has a negative effect on employee motivation" is accepted.

Table 2.1
Process model 5 analysis

		Dependent variable: Employee motivation					
		Coeff.	**SE**	**t**	**p**	**LLCI [a]**	**ULCI [b]**
Intercept	i_1	6.79	0.68	9.92	0.000	5.44	8.14
Working from home (X)	c_1'	-0.22	0.10	-2.21	0.028	-0.42	-0.02
Social interaction (M)	b_1	0.05	0.11	0.49	0.625	-0.16	0.27
Leader support (W)	c_2	-3.40	1.02	-3.34	0.001	-5.41	-1.39
Interactie-effect (XW)	c_3	0.66	0.27	2.45	0.015	0.13	1.19
Age		0.01	0.01	2.39	0.018	0.00	0.03
Gender		-0.08	0.09	-0.88	0.383	-0.27	0.10
Home situation		-0.08	0.05	-1.62	0.107	-0.18	0.02

Working from home – item 1	-0.05	0.06	-0.75	0.452	-0.18	0.08
			R2=0.106			
			F=3.063, p<0.05			

Note: [a] LLCI: lower limit confidence interval, [b] ULCI: upper limit confidence interval

Looking at Hypothesis 2a, it is suggested that working from home has a negative effect on social interaction. The effect of 'Working from home' on 'Social interaction' a_1= -0.08 indicates that two employees who experience a level of 'Working from home' that differs by one unit are estimated to differ by 0.08 units on 'Social interaction' (Table 2.2). The sign of a_1 is negative, meaning those relatively higher in 'Working from home' are estimated to be lower in their social interaction. In other words, more working from home will result in less social interaction. This effect is statistically different from zero, t=-2.70, p= 0.007, with a 95% confidence interval from -0.14 to -0.02 (Table 2.2).This implies that the effect between 'Working from home' and 'Social interaction' is significant. Hypothesis 2a "Working from home has a negative effect on social interaction" is accepted.

Table 2.2
Process model 5 analysis

	Dependent variable: Social interaction					
	Coeff.	**SE**	**t**	**p**	**LLCI [a]**	**ULCI [b]**
Intercept	4.37	0.16	26.73	0.000	4.05	4.69
Working from home a_1	-0.08	0.03	-2.70	0.007	-0.14	-0.02
Age	-0.00	0.00	-0.85	0.398	-0.01	0.01
Gender	0.01	0.07	0.16	0.874	-0.13	0.15
Home situation	0.05	0.04	1.32	0.190	-0.02	0.12
Working from home – item 1	-0.04	0.05	-0.72	0.470	-0.13	0.06
			R2= 0.066			
			F= 2.957, p<.05			

Note: [a] LLCI: lower limit confidence interval, [b] ULCI: upper limit confidence interval

Hypothesis 2b suggests that social interaction has a positive effect on employee motivation. The effect of 'Social interaction' on 'Employee motivation' b_1= 0.05 indicates that two employees that differ by one unit on 'Social interaction' are estimated to differ by 0.05 units on

'Employee motivation'. The effect between 'Social interaction' and 'Employee motivation' is positive which indicates that those relatively higher in 'Social interaction' are estimated to have higher employee motivation. In other words, more social interaction would result in higher motivation for employees. However, this effect is statistically equal to zero, t= 0.49, p= 0.625, with a 95% confidence interval (Table 2.1). This means that the effect between 'Social interaction' and 'Employee motivation' is not significant. Therefore, Hypothesis 2b "Social interaction has a positive effect on employee motivation" is not accepted.

The indirect effect of -0.004 means that two workers who differ by one unit 'Working from home' are estimated to differ by 0.004 units on 'Employee motivation' as a result of the tendency for those who perceive to have lower social interaction, which translates into lower employee motivation. However, this indirect effect is statistically equal to zero as revealed by a 95% BC bootstrap confidence interval that includes zero (-0.032 to 0.016) (Table 2.3). This would imply that the amount and quality of social interaction do not have impact on the relationship between working from home and employee motivation. Therefore, Hypothesis 3 "Social interaction mediates the negative relationship between working from home and employee motivation" is not accepted.

Table 2.3
Process model 5 analysis

	Indirect effect of X on Y:			
	Effect	**BootSE**	**BootLLCI [a]**	**BootULCI [b]**
Social interaction	-0.004	0.012	-0.032	0.016

Note: [a] BootLLCI: lower limit bootstrap confidence interval, [b] BootULCI: upper limit bootstrap confidence interval

According to Hypothesis 4, it is expected that 'Leader support' will moderate the effect between 'Working from home' and 'Employee motivation'. The moderating effect is denoted by XW (Table 2.1). The regression coefficient for XW is c_3= 0.66 and is statistically different from zero, t=2.45, p= 0.015 (Table 2.1). This implies that the moderating effect of 'Leader support' on the relationship between 'Working from home' and 'Employee motivation' is significant. Thus, the effect of 'Working from home' on 'Employee motivation' depends on the support of the leader. In other words, two employees with an equal level of 'Working from home' and differ by one unit of 'Leader support' are estimated to differ by 0.65 units on

'Employee motivation'. This means that Hypothesis 4 "Leader support weakens the negative effect of working from home on employee motivation" is accepted.

To interpret the interaction effect, the Johnson Neyman output was used. As can be seen in Table 2.4, the interaction effect of 'Leader support' on the relationship between 'Working from home' and 'Employee motivation' is only significant ($p < 0.05$) if 'Leader support' is low or high. Medium 'Leader support' does not have a significant interaction effect. Moreover, we can observe that at very low levels of 'Leader support' the effect of 'Working from home' on 'Employee motivation' is negative (-0.20, t= -2.21, p=0.028) while at the highest level of 'Leader support' the effect of 'Working from home' is positive (0.25, t= 2.23, p= 0.027). This indeed supports the expectation that leader support will moderate the relationship between WFH and employee motivation such that leader support weakens the negative effect of working from home on employee motivation. However, although this effect was not hypothesized, we see that leader support had a negative relationship with job motivation.

Table 2.4
Process model 5 analysis

	Dependent variable: Employee motivation					
Leader support	**Effect**	**SE**	**t**	**p**	**LLCI [a]**	**ULCI [b]**
0.04	-0.20	0.09	-2.21	0.028	-0.38	-0.02
0.43	0.05	0.05	1.14	0.257	-0.04	0.14
0.74	0.25	0.11	2.23	0.027	0.03	0.48

Note: [a] LLCI: lower limit confidence interval, [b] ULCI: upper limit confidence interval

Furthermore, the regression coefficient for the effect of 'Age' on 'Employee motivation' is 0.01. This effect is statistically different from zero, t= 2.39, p= 0.018. This means that 'Age' turns out to be a significant predictor of 'Employee motivation' (Table 2.1). Finally, the regression analysis showed that 'Gender' as well as 'Home situation' and 'Working from home – item 1' cannot be seen as significant predictors for 'Employee motivation'.

Discussion

In this last chapter, a conclusion is given based on the findings, all hypotheses will be discussed and compared with the existing literature. Subsequently, the limitations of this research, recommendations for future research, and practical recommendations will be presented.

Summary of the study findings

This research aimed to contribute to the literature on working from home, employee motivation, social interaction, and leader support to extend the existing literature and tries to give more insight into the relationships between these variables. This study focused on the following main question; *"How does working from home affect employee motivation and to what extent does that depend on leader support?"*. To answer this question, a regression analysis was executed through PROCESS model 5 in SPSS.

Based on current research, this research expected that a higher level of working from home will result in lower employee motivation. The results from the correlation analysis and the regression analysis revealed that WFH does have a significant relationship with employee motivation. This has led to the confirmation of hypothesis 1 in which working from home was expected to have a negative influence on employee motivation. Moreover, hypothesis 2a is confirmed based on the results of this research. The results showed a significant negative relationship between working from home and social interaction. This is consistent with previous research which indicates that WFH has a negative effect on social interaction. Conversely, the results have led to the rejection of hypothesis 2b. Namely, we found no significant relationship between social interaction and employee motivation. However, it can be noted that albeit non-significant the direction shows, as expected by existing literature, a positive correlation. Hypothesis 3 suggests that social interaction has a mediating effect on the relationship between working from home and employee motivation. The results obtained from the analyses have revealed that the indirect effect of social interaction on the relationship between WFH and employee motivation was not significant. This means that hypothesis 3 is rejected. Looking at hypothesis 4, it was expected that leader support would moderate the relationship between working from home and employee motivation. According to the results of this study, the interaction effect of working from home and leader support on employee motivation is significant which resulted in the confirmation of hypothesis 4.

Finally, the explained variance of the model is not high (R^2= 0.106). This implies that the motivation of employees to a limited extent is explained by the variables that are included in the model. This can be the result of investigating employee motivation which is human behaviour. Many intervening variables have an effect on the behaviour of human beings which causes a difficulty in explaining it (Field, 2018). Therefore, a lot of variables that are not included in the model will influence employee motivation which results in a low variance explained by the model.

Theoretical implications

This study focused on the relationship between WFH and employee motivation and the role of social interaction and leader support in this relationship. There are already several studies about the impact of WFH on employees. These studies are mostly focused on the impact of WFH on the work-life balance of employees and the productivity of employees (Van der Lippe & Lippényi, 2020; Baker et al., 2007). However, limited research has been conducted on the impact on employee motivation. Kniffin et al. (2021) and Liu et al. (2021) already stated that more research is needed to examine the consequences of working from home for the motivation of employees. Next to that, more research about the consequences of mandatory and prolonged WFH, what happened during the COVID-19 pandemic, is crucial (Kniffin et al., 2021). Therefore, this research adds understanding to the literature about WFH and the COVID-19 pandemic by connecting it to the motivation of employees. The results of this research indicated that there is a significant effect between WFH and employee motivation. This is in line with existing literature which state that forced and permanently working from home caused many changes in the work environment which resulted in a decrease in the motivation of employees (Zamani et al., 2021; Khandelwal, 2020). For example, increased work-family conflicts, high dependency on the internet and unrealistic expectations lead to a higher stress level which will result in lower employee motivation. These results give more insight into the consequences of WFH on the motivation of employees and thereby contribute to the literature about working from home and create more understanding of how employee motivation can be sustained in a situation where WFH is mandatory.

Moreover, This research contributes to the literature about social interaction by connecting it to WFH and employee motivation. Current research has shown that social interaction decreases when employees work from home (Vyas & Butakhieo, 2021). Previous research also proved that social interaction influences the motivation of employees (Nakrošienė

et al., 2019). High quality and amount of social interaction with co-workers as well with the supervisor would result in higher motivation (Bollen & Hoyle, 1990; Klassen & Krawchuk, 2009; Breevaart et al., 2015; Martin et al., 2016). The outcomes of this study are not in line with previous research. As stated by Windeler et al. (2017), a certain level of social interaction is needed for employees to function well while WFH. However, the outcomes indicate that a decrease in social interaction does not significantly influence the motivation of employees. Also, the mediating effect of social interaction in the relationship between working from home and employee motivation appears not significant. This is different than expected based on the social exchange theory. According to the social exchange theory (Blau, 1964), social interaction will lead to increased employee motivation, as it is a way to show the effort of the organization towards employees. In this research, social interaction with co-workers and social interaction with the supervisor are jointly used. This might be the cause of the insignificant effect between social interaction and employee motivation and the insignificant mediation effect of social interaction. Using these two types of social interaction separately might lead to other outcomes compared with using them together. This research contributes to the literature about social interaction by connecting it to WFH and employee motivation.

Finally, this research contributes to the literature about leader support. The role of the leader appeared to be important for the motivation of employees (Welchans, 1995). Yet, scholars have not discussed the moderating role of leader support on the relationship between WFH and employee motivation. Therefore, this research adds insights to the current literature about leader support by linking it to WFH and employee motivation. This study confirmed that leader support has a significant effect on the relationship between WFH and the motivation of employees. This is in line with current research which states that leader support is crucial in motivating employees during a crisis (Khan et al., 2019; Soomro et al., 2020; Cicero et al., 2010). This is supported by the outcomes of this research since the effect of leader support on the relationship between WFH and employee motivation is significant. This outcome is also in line with the social exchange theory (Blau, 1964). This theory suggests that employees are more motivated when they perceive effort from the organization towards the employees (Gould-Williams & Davies, 2005). In this case, leader support can be seen as an effort from the organization towards the employees. According to the social exchange theory, leader support, as a moderator, will therefore help to reduce the negative effect of WFH on the motivation of employees.

Limitations

This research has several limitations that need to be taken into account. The cross-sectional method poses the main weakness of this research. All obtained data that is used in this research are conducted at a single point in time (Wang & Cheng, 2020). This results in a limitation for the generalization of the results because the moment of filling in the survey is a snapshot. This means that outcomes might be influenced by the way the respondent feels at that moment. A longitudinal study would therefore be more appropriate because data will then be obtained multiple times and at several moments in time (Field, 2018). Within this study, it was not possible to do a longitudinal study due to limited time. Therefore a cross-sectional method was used.

A second limitation is that surveys were distributed to employees in the network of the researchers. This method of convenience sampling is a form of non-probability sampling in which respondents are from that part of the population that is easy to access and available (Bleijenbergh, 2016). Therefore, this might result in a sample that is not representative of the population which makes it impossible to generalize the results of this sample to the total population. Moreover, this research used snowball sampling to get a higher sample size. This means that the distribution of the survey depends on the people that are reached out to and the degree to which they forward it to others in their network. This is a limitation of this study because this makes it impossible to do any pronouncements about the response rate of the survey. In addition, the sample size of this research is also a weakness of this research. The sample size of this study comprises 229 respondents. This might be a questionable basis to draw conclusions from that can be generalized to the whole population.

Thirdly, a limitation in this research is the definition of employee motivation. Existing research used a lot of different definitions for employee motivation. There is no unambiguous definition for employee motivation which could lead to differences. The chosen definition does have an impact on the research which might have influenced the outcomes of the research. Another definition could result in other items to measure employee motivation. In that case, it can result in other outcomes compared to this study.

The fourth limitation of this research is the use of social interaction with co-workers as well as social interaction with the supervisor are used. However, these two concepts are merged into one concept in this research namely social interaction. This could be a limitation of this research because the results showed that the mediating role of social interaction in the relationship between WFH and employee motivation was not significant. When social

interaction with co-workers and social interaction with a supervisor were separated, this could be different.

Finally, the measurements that were introduced because of COVID-19 were not that strict anymore during this research. As mentioned in the introduction, governments were obliged to force employees to work from home in order to reduce the spread of the virus. However, during this research, the measurements were already loosened in a way that employees were able to work at the office again but in a less frequent way than before the pandemic. This is a limitation of this study because this might have influenced the perception of the employees on their motivation. Employees might have other perceptions of their motivation as when they were required to fully work at home which has consequences for the outcomes of this research. Moreover, the way in which working from home is measured is simplistic. Only the amount of working from home before and after the implementation of the COVID-19 measures was questioned within the survey. Nothing was asked about the circumstances while working from home that could indicate the quality of the WFH. For example, questions about the workplace or work equipment were not included.

Future research

Despite the limitations of this research, this study could be the starting point for future research to further clarify the impact of working from home on employee motivation and the influence of social interaction and leader support on this relationship. Based on the results of this study and the limitations, several recommendations for further research can be considered. For future research, it is recommended to do a longitudinal study. In that case, data will be collected multiple times and at several moments in time (Field, 2018). This might lead to more generalizable results.

Furthermore, it is recommended for future research to look into the mediating effect of social interaction with co-workers and social interaction with the supervisor separately. Differentiating social interaction with co-workers and social interaction with the supervisor from one another might lead to different results compared to the results in this research which were based on the combined concept of social interaction.

Next to that, this research is only focused on the influence of leader support on the relationship between working from home and employee motivation. However, it is not tested if the leadership style that is applied by the leader has influence. Therefore, getting more

insight into the different leadership styles and their influence on the relationship between working from home and employee motivation would be a recommendation for future research.

Practical recommendations

In the introduction, it was stated that this study would be relevant in practice because the results of this research could be interesting for managers and organizations in general. Based on this research, recommendations could be given about how organizations need to deal with employees that work from home. The results of this study showed that WFH does have a significant effect on the motivation of employees. Therefore, it can be concluded that WFH plays a role in employee motivation which means that a high or low amount of working from home will make a difference in the motivation of the employee. For managers and organizations, this implies that WFH has to be taken into account when aiming for the optimization of employee motivation. First of all, it is important that employees have to be provided with appropriate resources to be able to work from home. Examples are a desk, an office chair, a properly working laptop and a good internet connection. The organization and managers need to make sure that their employees dispose of the right equipment to be able to function well while working from home. Furthermore, it is advisable to invest in a videoconferencing- and collaboration tool to enhance effective and efficient communication while working from home. Also, the launch of an online platform can be helpful to share knowledge and information among the whole organization.

Furthermore, the mediating role of social interaction is also not significant. This means that the amount of social interaction does not have an effect on the relationship between WFH and the motivation of employees. Managers and organizations, therefore, do not have to consider social interaction as an important factor in trying to reach the highest motivation possible among employees.

However, the moderating role of leader support in the relationship between WFH and employee motivation is proved to be significant. This implies that the support of the leader does have an effect on the relationship between WFH and the motivation of the employee. Managers and organizations can bear this in mind when they aspire to optimize the motivation of employees. It is important for managers and the organization to ensure high leader support because this will weaken the negative effect of working from home on employee motivation.

In order to achieve high leader support, managers need to make sure that employees feel appreciated by his/her supervisor, are involved in decisions related to himself/herself by the supervisor, get recognition for his/her efforts from the supervisor, and his/her values, goals, opinion and well-being are taken into account by the supervisor. For managers, it is, therefore, advisable to plan meetings with their employees that work from home on a regular basis in order to be aware of the situation of the employee, their challenges while WFH, and the possible needs of the employee to be able to remain their performance level and their well-being. This will help to create a feeling of support among the employees that work from home. Additionally, making time for informal meetings with employees will increase the perceived leader support of employees. Moreover, it is important to properly reward and acknowledge employees while working from home. This can be done in different ways. For example, regularly demonstrating appreciation towards your employees for their effort regardless of the results or sending them a gift at home. Also introducing a digital reward platform can be helpful. Such a platform could visualize the rewarding and appreciation of employees by using points, badges or a leaderboard. Next to that, training could be provided for managers to help them how they can support their employees while WFH.

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