Job Engagement within Self-Organizing Teams: The effect of Job Control and Social Support

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Preface

This thesis is written as part of the Master Strategic Management program at the Radboud University. The purpose of this research was to look into the relationship between self-organizing teams and job engagement in a more profound manner. This by looking at constructs that might affect this relationship by being predictors or explaining differences in job engagement. To conduct this research, quantitative data has been used, collected at a healthcare organization that works with self-organizing teams.

The reason I choose this particular topic was partly because of my previous experiences doing research in teams. In a previous study, the purpose was to create a High-Performance team from a group of people that did not knew each other but were forced to become a team by the organization. I found in that study that along with renewed job descriptions, the social side deemed to be particularly important predictors of becoming a High-Performance team. The social side is heavily revolved around trust and supporting each other. Without these two things, there was no foundation on which to build lasting working relationships.

This experience lured me into the direction of looking at teams and ways into improving them. And as it turned out, at Radboud University, there was already plan in motion to do research at an organization working with self-organizing teams. Furthermore, the plan was to work with a survey, which was something I did not have any experience with. More notably, I did not have any experience with conducting my own quantitative research. But that did not give me any doubts. On the contrary, I actually preferred to work with quantitative data as this would give me a chance to develop these skills as well.

What I learned is that it is difficult to end up with an adequate sample size for the analysis. After the first two days of sending out the survey, the number of respondents was 66, which I thought to be a good signal that we would only need a couple more days to reach our target. However, that number did not increase by the amount I thought and it took almost two months to reach an adequate sample size. While our research population was over 700 employees, we ended up with 177 respondents. This is still adequate, but not nearly as much as I thought we would get.

In the end, I was able to use the results of the survey to statistically analyze and interpret effect of job control and social support on job engagement within self-organizing teams. But as team members need social support, I also received support from my supervisor Lander Vermeerbergen. During the process of formulating the problem statement and research

question, he really challenged me and provided constructive feedback to improve the research but also to develop my skills as a researcher. I sincerely want to thank him for the feedback and guidance. I would also like to thank Laura Harkema, who was also doing research at the same organization with the same data set. She and I often worked and conversed with each other, which helped me structure my research a great deal. I am also thankful for the help and feedback my fellow students gave me and I hope I was able to return the favor. Finally, I would like to thank my parents and family for their support. Not only during the thesis process, but every step I took to get here. They have motivated me in so many ways for which I am forever grateful.

Abstract

The purpose of this research is to further understand the relationship between self-organizing teams and job engagement and to what extent certain characteristics of self-organizing teams have an effect on the level of job engagement. The results of this research can help organizations who work with self-organizing teams and are looking for ways to enhance job engagement. The existing literature suggested that job control (e.g. job autonomy and organizing authority) and social support would have a positive effect on job engagement (Humphrey et. al., 2007; Emerald Group, 2019). What lacks however is the effect of job control and social support have on job engagement within self-organizing teams, as previous research did not control for the context of teams (Mäkikangas et. al., 2016).

Teams who organize themselves have different names, self-organizing/self-managing/self-steering/self-directing/autonomous (Kräkel, 2017). They can be described as a team of individuals assembled to generate synergy towards problem-solving in areas of specialized knowledge, who provide flexibility and speed. The team has the authority and the autonomy to decide about the composition of the team, to choose between projects and how to plan and realize these projects. Teamwork implies that there is social support among team members (Eklöf & Ahlborg Jr., 2016). Social support can be defined as access to help and support from team members and a willingness to listen to problems and other job-related feedback from colleagues and managers. Although the level of job control and social support is high within self-organizing teams, it can differ between self-organizing teams, for instance due to interdependencies of tasks and communication obstacles (Boss et. al., 2021 ; Eklöf & Ahlborg Jr., 2016). Therefore, these characteristics of self-organizing teams have been chosen to study the impact on job engagement within self-organizing teams.

To assess if job control and social support have a significant effect on job engagement within self-organizing teams, a survey has been filled out by team members of self-organizing teams at a healthcare organization, which was then used to statistically test relationships. At first, it seemed that autonomy had a significant effect on job engagement, although it was small. But after including social support in the model, the significance of autonomy disappeared and social support had a significant effect on job engagement where an increase in social support would lead to an increase in job engagement. This effect was also small but it ended up being the only one significant as autonomy, organizing authority and the combining and interacting effect of job control (e.g. autonomy and organizing authority) and social support also did not result in significant effect, even when controlled for gender and job type.

This led to the conclusion that within self-organizing team, social support has a significant effect on job engagement and the level of autonomy and organizing authority does not. Organizations working with self-organizing teams who are looking to enhance job engagement should therefore not need to look at autonomy and organizing authority. They can look at social support, but the effect size of social support on job engagement was still small, bordering on medium.

Recommended directions for future research include looking at the differences between self-organizing teams and the originally closely supervised teams regarding the constructs of this research, conducting research across different industries to see if the results of this research are also applicable to these contexts and lastly to look at the job demands within self-organizing teams.

Key words: self-organizing teams; job control; autonomy; organizing authority; social support; job engagement; healthcare organizations; stepwise multiple regression analysis

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1. Introduction

The most used definition of job engagement is it being a positive, fulfilling, work related state of mind that is characterized by vigor, dedication and absorption (Schaufeli, 2018). Employees who are feeling higher levels of engagement are enthusiastic about their work and are subsequently completely immersed in their activities (Albrecht & Bakker, 2018). Engagement can differ between persons, across times and situations. But the common knowledge is that having engaged employees is imperative for organizations because it can lead to a competitive advantage (Albrecht & Bakker, 2018). Over the last couple of decades, job engagement has been getting a more prominent role on the healthcare HR-agenda, as healthcare professionals are frequently exposed to a number of job stressors that can decrease their work engagement (Fiabane et. al., 2012). These stressors include increasing cost pressures and the need for high quality of care while maintaining a safe environment for patients and staff (Shantz et. al., 2016). And specially for elderly care, the numbers of elderly people in need of care will grow the coming years while the number of healthcare professionals is decreasing (Actiz et. al., 2021). For healthcare professionals, feeling engaged at the workplace means an increase in the overall quality of care (Shantz et. al., 2016 ; Fiabane et. al., 2012 ; Wee & Lai, 2022). To increase job engagement for employees in the healthcare context, social support and job control are particularly useful (Shantz et. al., 2016 ; Fiabane et. al., 2012). Social support and the sense of being part of a community mitigates the effect of job stressors (Fiabane et. al., 2012). To increase individual engagement in the elderly care, organizations also need to focus on the level of job control (Foà et. al., 2020). Outside the context of healthcare, organizations introducing and implementing self-organizing teams also see an increase in employees' job engagement (Kräkel, 2017).

Having high levels of job control is an important intrinsic motivator that leads to an increased job engagement (Humphrey et. al., 2007 ; Pattnaik & Sahoo, 2021). Job control is defined as decision latitude: the employees' potential control over his or her tasks and conduct during the day (Karasek, 1979). Having organizing authority and job autonomy means being able to make decisions about the job, but also the ability to influence the team and company policies (Crescenzo, 2016). Especially in healthcare, decision making is a complex process where professionals have to consider numerous factors to meet both the client and family needs (Nibbelink & Brewer, 2018).

According to existing literature, social support is another predictor of job engagement (Fiabane et. al, 2012 ; Emerald Group, 2019). In the healthcare context, where professionals

experience constant stress due to pressures and changes, getting social support from being part of a community is a key element in engaging employees (Garcia et. al., 2016). Social support can be defined as the access to help and support from co-workers and a willingness to listen to problems and other job-related feedback (Eklöf & Ahlborg Jr., 2016). When employees receive little social support, they tend to experience higher levels of emotional strain, but more social support leads to more job engagement (Chang et. al., 2020 ; Woodhead et. al., 2016).

A context where employees have high job control and social support is the self-organizing team (Kräkel, 2017 ; Eklöf & Ahlborg Jr., 2016). Self-organizing teams are a hot topic in all kinds of businesses and organizations as companies have adopted them to improve motivation and quality of employees (Mussnug & Hughey, 1997). Organizations face increasingly more complex problems due to macro societal trends such as democratization, privatization, globalization, recession and labor discontent (Salem et. al., 1992). Modern healthcare is delivered by healthcare professionals who rely on effective teamwork to ensure effective and safe patient/client care (Weller et. al., 2014). A way to create collaboration is the self-organizing team (Bondas, 2018). Implementing self-organizing teams increases the organization's chance of success (van der Zwaan & Molleman, 1998). A team of individuals is assembled to generate synergy towards problem-solving in areas of specialized knowledge, and to provide flexibility and speed (Kräkel, 2017). Organizations implementing self-organizing teams see an increase in team member's job engagement (Blancett, 1994; Kräkel, 2017). This is due to the fact that implementing self-organizing teams means increasing individual job control (e.g. job autonomy and organizing authority) (Kräkel, 2017). These self-organizing teams originate from normal teams but differ in the fact that the team members control the process of planning and organizing, instead of the manager (Kulisch & Banner, 1993). This means that the team has the authority and the autonomy to decide about the composition of the team, to choose between projects and how to plan and realize these projects (Kräkel, 2017). Between self-organizing teams, the level of job control can differ due to organizations questioning whether granting teams complete autonomy would distract teams from the strategic objective (Boss et. al., 2021). Within self-organizing teams, teamwork implies that there is social support among team members (Eklöf & Ahlborg Jr., 2016). But for social support to exist, self-organizing teams need to have good workplace communication which can be limited by organizational politics, defensive reactions and lack of time (Eklöf & Ahlborg Jr., 2016).

Previous studies that have looked into job engagement have done so without looking at the context of the team (Mäkikangas et. al., 2016). Self-organizing teams are characterized by

high job control and social support (Kräkel, 2017 ; Eklöf & Ahlborg Jr., 2016). It has also been established that self-organizing teams have engaged team members (Blancett, 1994 ; Kräkel 2017). But is the relationship between self-organizing teams and job engagement mediated by job control and/or social support or are there other factors at play? Therefore this study will look into the effects of job control and social support on job engagement within self-organizing teams. If an employee has more job control, does he or she have a higher job engagement then his or her colleague who has less job control? Or maybe a higher level of social support has a significant effect on job engagement? Or maybe both constructs (e.g. job control and social support) interact to have an effect on job engagement. This thesis will look into these effects within healthcare organization De Waalboog. De Waalboog is a healthcare organization based in Nijmegen (De Waalboog, n.d.). The organization is specialized in complex elderly care and behavior problems.

Research question: Do job control and social support have a positive influence on employees' engagement within self-organizing teams?

The thesis project will be of a quantitative manner because to answer the research question, it is desired a have a large number of people give their opinions about job control, social support and job engagement (Vennix, 2019). By means of a web-based survey, healthcare employees at De Waalboog will provide information about their autonomy, organizing authority, social support and job engagement within self-organizing teams at De Waalboog. The data from the survey used in this thesis consists of 32 closed questions which employees are asked to answer on a Likert scale ranging from "Totally Disagree to "Totally Disagree". This survey is part of a larger study into self-organizing teams. This thesis will only look into autonomy, organizing authority, social support, engagement and two control variables (e.g. gender and job type). After all this data has been gathered, SPSS will be used to test several hypotheses and make statistical assumptions to see if job control and/or social support have a significant effect on job engagement within self-organizing teams at De Waalboog.

The contribution of this thesis to the existing knowledge will be a more detailed view on the relationship between self-organizing teams and individual job engagement. According to existing literature, the implementation of self-organizing teams within organizations results in a higher individual job engagement (Kräkel, 2017 ; Eklöf & Ahlborg Jr., 2016). The introduction of such teams enriches each employees' job description which results in higher commitment (e.g. engagement) (Evans et. al., 1997; van der Zwaan & Molleman, 1998). An important part of self-organizing teams is that they have the authority to make decisions

themselves (Kulisch & Banner, 1993). Because this autonomy is an important part of these self-organizing teams, the literature states that increased autonomy results in a higher job engagement (Malinowska et. al., 2018). However, previous studies that have looked into job engagement have done so without looking at the context of the team (Mäkikangas et. al., 2016). The theoretical contribution of this thesis will be focused on the effects job control and social support have on job engagement within self-organizing teams. Because existing literature already states self-organizing teams result in more motivation, commitment and higher job engagement (Blancett, 1994; van der Zwaan & Molleman, 1998), this thesis will focus on job control and social support within these self-organizing teams to research a possible mediating factor in the relationship between self-organizing teams and job engagement. If the data shows employees who have higher levels of job control also have a significant higher job engagement, the addition to existing literature would be that the level of job control mediates the positive effect between self-organizing teams and individual job engagement. Another contribution would be the possible mediating factor of social support and the interaction effect of job control and social support.

Besides the theoretical contribution, the thesis will also provide practical implications for healthcare organizations like De Waalboog, other organizations working with self-organizing teams and even governments. In the coalition agreement of the Dutch agreement, the Dutch government has stated that they want elderly people to live as long as possible in good health in their own home or a fitting elderly community (VVD et. al., 2021). The number of elderly people in need of care will grow the coming years (Actiz et. al., 2021). The Dutch government states that local elderly healthcare providers such as De Waalboog will play an important role in making sure that on a local level, support and healthcare is accessible for every elderly person in need of care (De Jonge, 2018). Since engaged healthcare employees means an increase in the overall quality of care, practical implications of this research will include whether job control and/or social support positively should be a point of interest in the job design of employees working within self-organizing healthcare teams (Shantz et. al., 2016 ; Fiabane et. al., 2012 ; Wee & Lai, 2022). Again, if the data suggests job control and/or social support having a positive significant effect on job engagement within self-organizing teams, the practical implication towards De Waalboog and other healthcare organizations could be to increase employees' job control within self-organizing teams in order to increase individual job engagement. Governments, local or national, could give incentives towards healthcare organizations who focus on job control as a way to increase job engagement. The same goes

for the different levels of social support the employees feel. If social support has a positive effect on job engagement, the practical implication would be to advice organizations to increase social support and governments to incentivize organizations focusing on social support for their employees.

2. Theoretical background

2.1. Job engagement

The most often used definition of work or job engagement in literature is work or job engagement being a positive, fulfilling, work related state of mind that is characterized by vigor, dedication and absorption (Schaufeli, 2018). Vigor refers to high levels of mental energy and resiliency while working (Schaufeli et. al., 2002). Dedication refers to the feelings of pride, meaningfulness, challenge and being enthusiastic about the work. Absorption refers to being fulling immersed in the work and even losing the sense of time while on the job. Individuals who are engaged are enthusiastic about their work and are completely immersed in their activities (Albrecht & Bakker, 2018). It can differ between persons, across times and situations. Job engagement is further characterized by qualities of working exceeding job requirements (Malinowska et. al., 2018). For organizations, it is imperative to have engaged employees/teams because studies have shown that engaged employees coincide with high levels of creativity, task performance and client satisfaction (Albrecht & Bakker, 2018). Furthermore, it is believed that employee engagement can provide organizations with a competitive advantage (Albrecht & Bakker, 2018). Organizations can create the needed conditions to increase employees' engagement by providing certain job characteristics while designing the job (Farndale & Murrer, 2015 ; De Spiegelaere et. al., 2015). While many studies have only focused on one characteristic of the job design, it is the joint effect of several characteristics that has become popular in predicting work engagement (De Spiegelaere et. al., 2015). These characteristics can be divided into job demands and job resources (Farndale & Murrer, 2015). Job demands are associated with mental strain such as burnouts and job resources are associated with job engagement. This thesis will look into certain types of job resources, namely job control and social support, as existing literature states they have a positive effect on job engagement (Shantz et. al., 2016 ; Fiabane et. al., 2012). This research will also look into their joint effect, as job design literature stresses the importance of the joint effects (De Spiegelaere et. al., 2015). Job resources are physical, psychological, social or organizational aspects of the job that help achieve work goals and/or stimulate personal growth and learning (Demerouti et. al., 2001). An engaged employee not only fulfils his or her daily tasks, but also shows concern for the company's future (Stankiewicz et. al., 2019). Furthermore, engaged employees are more inclined to help their colleagues (Albrecht & Bakker, 2018). This has shown to have positive effects on team performance as engagement crosses from one individual to the next, creating a ripple effect within the team.

Healthcare professionals are frequently exposed to a number of job stressors that can decrease their psychological health and work engagement (Fiabane et. al., 2012). These stressors include increasing cost pressures and the need for high quality of care while maintaining a safe environment for patients and staff (Shantz et. al., 2016). These factors have increased the interest in HR practices to make a difference. This has resulted in job engagement getting a separate definition for nursing professionals: "the dedicated, absorbing, vigorous nursing practices that emerges from settings of autonomy and trust and results in safer, cost-effective patient outcomes (Keyko, 2014). For healthcare employees, feeling engaged at the workplace or in their roles, means an increase in the overall quality of care (Shantz et. al., 2016 ; Fiabane et. al., 2012 ; Wee & Lai, 2022). In the healthcare system, job engagement can be seen as a potential avenue to not only enhance talent retention but also create a self-sustaining resource for employees and ensure high patient/client care standards (Wee & Lai, 2022). Therefore, job engagement is related to organizational outcomes (Keyko, 2014). Beyond these organizational outcomes, job engagement can be used to improve the quality of working life and to promote well-being among healthcare staff (Kanste, 2011).

Participation in decision making and opportunities for development are particularly useful in the healthcare context because they increase engagement (Shantz et. al., 2016). At the nurses' level, social support and a sense of community at work is associated with greater levels of engagement (Fiabane et. al., 2012). This is because the presence of social support and the sense of community mitigates the effect of job stressors. Healthcare organizations should therefore provide opportunities for social interaction (Fiabane et. al., 2012). This may include a team-based approach or multidisciplinary healthcare teams (Fiabane et. al., 2012). Within the elderly care practices, positive relationships and collaboration within the team are both important resources for work engagement (Foà, et al., 2020). This is mainly because working in elderly care can generate feelings for the practitioner alternating between emotional satisfaction and physical fatigue and frustration. These negative feelings stem from witnessing the decline and death of patients/clients, which promotes a high risk of stress/burnout, which increases the need for social support from co-workers (Foà et. al., 2020). Elderly care practitioners (e.g. the nurses) also deem the involvement in problem solving and job autonomy to be important predictors of work engagement (Foà, et al., 2020). To increase the nurses' individual engagement in the elderly care, according to Foà et. al. (2020), there is a need to strengthen the involvement individual professionals in the decision-making processes (e.g. increased job control).

2.2.Job control

Karasek defines his measure of job control as decision latitude: the employees' potential control over his or her tasks and conduct during the day (Karasek, 1979). He sees job control as a central characteristic of the working situation. Decision or organizing authority and job autonomy describes both the employees' ability to make decisions about the job, but also the ability to influence the team and company policies (Crescenzo, 2016). Moving job control down the organizational hierarchy and granting employees the ability to significantly affect outcomes enhances the feeling of worthiness and usefulness amongst employees (Pati & Kumar, 2011). While low job control has shown to be associated with adverse work outcomes such as burnouts, high job control can positively affect the employee's health and well-being (Taris et. al., 2005; Wheatley, 2017). Having high levels of job control as part of the employees' position in an organization is also an important intrinsic motivator that leads to an increased willingness to stay and increases motivation and engagement (Sengrupta & Dev, 2013 ; Humphrey et. al., 2007).

Organizing authority, which is the authority to make decision on the job, has been characterized as a highly coveted workplace resource because it is seen as a micro dimension of power (Schieman & Reid, 2008 ; Smith et. al., 1997). Power here relates to the control over resources, people and things (Wolf & Fligstein, 1979). However, having organizing authority is also associated with greater exposure to interpersonal conflict on the work floor, especially for younger males (Schieman & Reid, 2008). Having organizing/decision authority is important for healthcare professionals (Yamaguchi et. al., 2016). It is essential to enhance patient/client care outcomes as decisions made in healthcare can affect a patient's/client's health (Nibbelink & Brewer, 2018). Especially in healthcare, decision-making is a complex process and healthcare professionals have to consider numerous, potentially competing factors to meet both the client and family needs (Nibbelink & Brewer, 2018).

Autonomy can be described as the degree to which employees have the freedom, independence and discretion in scheduling the work and to determine the procedures used in the execution of said work (van Mierlo, et. al., 2006). Autonomy can be present in different aspects of an employee's job (Wheatley, 2017). The level of autonomy in the workplace has a positive effect on job engagement (Pattnaik & Sahoo, 2021). Furthermore, a higher team autonomy is related to a higher individual autonomy (Wheatley, 2017). That means if teams get more autonomy, individual job design capabilities also improve. However, individual autonomy can be different from team autonomy (Langfred, 2005). Individual autonomy can

differ among team members, as it is the freedom and discretion executing assigned tasks, which can be different among team members. Furthermore, team level autonomy means that decisions are being made collaboratively (Hoegl & Parboteeah, 2006). Research has shown that job autonomy is positively related with psychological well-being (Clausen et. al., 2021). This association indicates that higher levels of job autonomy are beneficial for the psychological well-being of employees (Wheatley, 2017). Moreover, increased job autonomy allows an employee to perceive their job as more important and less enjoyable tasks will be executed with high energy and effort (Malinowska et. al, 2018).

Within healthcare teams, increased job control may improve task design at the individual level, which has shown to increase team member well-being (van Mierlo et. al., 2006). Giving employees more job autonomy can increase their intrinsic motivation which leads to more energetic, enthusiastic and dedicated work by engaged employees (Malinowska et. al., 2018). Yamaguchi et. al. (2016) found out that professionals working in home healthcare experience higher levels of job control, especially autonomy. What sets home healthcare apart from hospital and other facility bound care is that home healthcare nurses work in their client's home and therefore mostly alone. This requires more independency and subsequently more autonomy (Yamaguchi et. al., 2016).

2.3.Social support

Social support can be defined as the access to help and support from team members and a willingness to listen to problems and other job-related feedback from colleagues and managers (Eklöf & Ahlborg Jr., 2016). Social support can either be structural or functional (Glazer, 2006). Structural support pertains to the mere presence of someone on one's life, where functional support refers to supportive actions taken by others. Interpretations or the perception of social support is affected by the culture of the organization and the local environment (Glazer, 2006). Having social support in the workplace is beneficial in terms of mental health, job satisfaction, withdrawal intentions and work-family conflicts (Chang et. al., 2020). This relationship is often mediated by rate of burnout (Dignam & West, 1988). The level of social support is directly associated with the rate of burnout, where higher levels of social support lead to a decrease in burnouts. This leads to an improvement in employee's mental well-being. Conversely, when individuals receive low support, they tend to experience greater levels of emotional strain (Chang et. al., 2020). The fact that social support has been suggested as a strategy for dealing with work-related stress is even more significant for healthcare employees as they appear to experience the highest levels of stress (Richman, 1989). Feeling part of a community (e.g. being

part of a work team) is found to be a key element in engaging healthcare professionals in their work where social support from the organization (e.g. from co-workers and leadership) stands out (Garcia-Sierra et. al., 2016). High social support is also important due to the healthcare industry continuous change and the pressures to add value to the organization (Gaynor et. al., 1995). This social support leads to an increase in healthcare professionals' job engagement (Fiabane et. al., 2012). Where high social support leads to more engagement, low social support can lead to disengagement, higher risk of burnout and increase nurses' intentions to leave the organization (Woodhead et. al., 2016). Furthermore, teams with high social support will devote more effort into the team because of the positive relations and connections, increasing engagement (Emerald Group, 2019). This is because the presence of social support mitigates the impact of stressors in the workplace (Fiabane et. al., 2012).

2.4.Self-organizing teams

A team can best be defined as a group of people working towards a common goal and its members interact with each other about best practices (Mussnug & Hughey, 1997). They encourage one another to reach their full potential. The use of teams has become a significant contributor to organization's success since the late 1990's (Appelbaum et. al., 1999). Teamwork is an essential part in providing healthcare to patients/clients because providing healthcare requires the cooperation of professionals who have multiple disciplines (Leggat, 2007; Weller et. al., 2014). Moreover, the International Council of Nurses code of ethics stipulates nurses engage in co-operative relationships (e.g. teamwork) with their coworkers in other fields (Kvarnström & Cedersund, 2006). Today's society where major changes come and go makes teams indispensable (Katzenbach & Smith, 1992). For healthcare organizations, services are increasingly under pressure from current and future pandemics (Martin et. al., 2022). This has made team-based care more important than ever. There is also a link between teamwork, individual behavior and overall performance (Katzenbach & Smith, 1992). The team brings in multiple skillsets to tackle difficult issues without undermining them.

Many organizations are changing their organization of work and are going to rely more on flexible teams (Kräkel, 2017). This shift is a consequence of increasingly more complex problems that organizations face and that require collaborative solutions (Wax et. al., 2017). Among these problems are macro societal trends such as democratization, privatization, globalization, recession and labor discontent (Salem et. al, 1992). On top of that, there are also micro-organizational problems like downsizing, high levels of absenteeism and employee turnover which results in decreasing productivity and quality. Former successful organization

structures such as an industrial structure where the chain of command is clearly defined and a focus on individual productivity are becoming irrelevant to cope with these problems (Blancett, 1994). A new type of solution to these complex problems is the implementation of work teams that direct themselves (Wax et. al., 2017). The production process or the service providing process is first redesigned into so-called whole tasks (de Sitter et. al., 1997). A team of employees is then assigned to these whole tasks in order to create a simple organization with complex tasks. These teams are referred to as self-directed groups or self-organizing teams (Kräkel, 2017). These teams generate synergy towards problem-solving in areas of specialized knowledge, provide flexibility and speed and an outcome that is greater than the sum of its parts (Feifer et. al., 2003). The basic concept of a self-organizing team is that even though no single employee possesses all the necessary skills, the team as a whole does possess the skills and abilities needed to perform the tasks (Salem et. al., 1992). A self-organizing team usually consists of five to fifteen employees, who produce an entire product or service instead of subunits (Salem et. al., 1992). This transition includes a stronger delegation of authority and autonomy to workers, who are allowed to decide the composition of teams, to choose between projects and how to plan and realize these projects (Kräkel, 2017). These self-directing team differ from traditional teams in that team members, rather than management, control the process of planning and organizing (Kulisch & Banner, 1993). Team members of self-organizing teams tend to make better use of information and as such are more motivated by feeling committed (e.g. engaged) to their work (Kräkel, 2017). A firm's top management is still responsible for the overall strategy, but the self-organizing teams have authority, autonomy and responsibility over the 'how' (Kulisch & Banner, 1993). However, between self-organizing teams, the level of job control can vary due to organizations questioning whether granting everyone complete autonomy might distract the team from its strategic direction (Boss et. al., 2021). Furthermore, the level of autonomy granted in self-organizing teams can also be limited due to the interdependency between colleagues both inside and outside the team (van der Zwaan & Molleman, 1998). Therefore although job control is high for employees within self-organizing teams, it does differ between organizations/teams.

Within self-organizing teams, members are taking on responsibilities of the former middle management (Hoda et. al., 2013). This causes the members to make their own work schedules, which increases commitment to the company. Being able to participate in the decision-making process increases employees' engagement, see Figure 1 (Farndale & Murrer, 2015). This type of decision-making is a central topic within self-organizing teams, where team

members have the autonomy and decision-authority (Kräkel, 2017). This shared leadership is another reason self-organizing team leads to increased job engagement, including other contextual factors like shared learning (Schreurs et. al., 2014). Most team members also tend to be more motivated caused by peer pressure instead of legal rules of the organization (Hoda et. al., 2013). An important feature of the self-organized team is to stimulate engagement among members (Stankiewicz et. al., 2019). Teamwork implies that there is social support among team members (Eklöf & Ahlborg Jr., 2016). And social support is positively related to individual engagement (see Figure 1) (Saks et. al., 2022). There are however differences between teams in regard to the level and effectiveness of social support (Eklöf & Ahlborg Jr., 2016). This is due to the fact that social support requires good workplace communication, which can be limited by organizational politics, defensive reactions and lack of time. When team members' skill base grows due to self-organizing, this improves communication between employees and their willingness to help each other (Evans et. al., 1997). This means that social support can grow and therefore job engagement increases (Evans et. al., 1997 ; Saks et. al., 2022).

Modern healthcare is delivered by healthcare professionals who rely on effective teamwork to ensure effective and safe patient/client care (Weller et. al., 2014). Linear thinking, fragmented systems and poor readiness for innovation in healthcare all need to change into collaboration and innovative mind-sets (Weberg, 2012). A way to create collaboration is the self-organizing team (Bondas, 2018). The authority to self-organize the design of the team, with stability over a certain time, and a mandate and mission might be the landmarks for success (Bondas, 2018). However, for a long time, healthcare organizations kept on using bureaucratic and hierarchical structures (Bondas, 2018). This means when implementing self-organizing teams, the team members are unaccustomed to design their own focus, structure and leadership. Studies did show that for organizations who implemented self-organizing teams, their patient care improved (Bondas, 2018). Bringing the decision-making authority closer to the provider furthermore improves the effectiveness of the decision-making (Kilpatrick et. al., 2014). Healthcare professionals working in these teams are positively associated with patient/client outcomes, efficient use of member's time, improved team satisfaction and decreased financial expenditures (Martin et. al., 2022 ; Kilpatrick et. al., 2014). When working in interdisciplinary teams, members need to reach a level of mutual understanding of each other's discipline in order to respond to the needs of the patient/client (Kilgore & Langford, 2009).

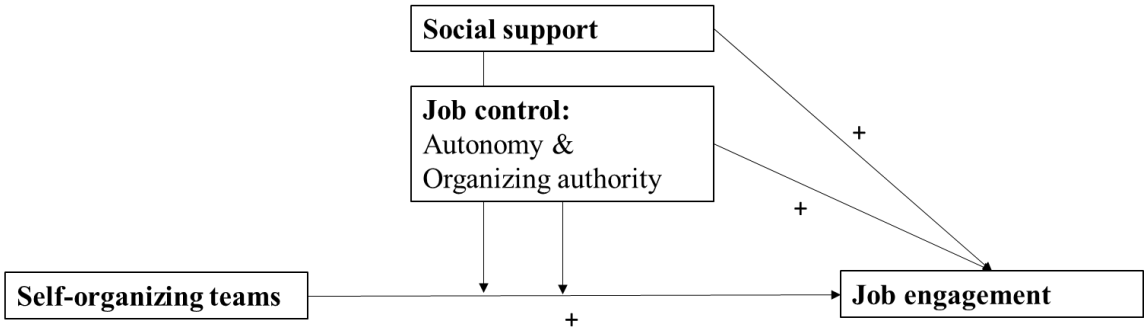

Figure 1: Theoretical Framework

2.5.Hypotheses

While existing literature states that having higher levels of job control results higher job engagement as visualized in Figure 1 (Malinowska et. al., 2018), little research has been done into the relationship between job control and job engagement within self-organizing teams (Mäkikangas et. al., 2016). An important feature of a self-organizing team is that the team members are responsible for and have decision authority (Kulisch & Banner, 1993). The first hypothesis of this research is:

H1: *Job control (e.g. autonomy and organizing authority) has a positive effect on engagement within self-organizing teams.*

Besides job control, this research also looks into the social support employees get from their team members. Team members rely on one another because they need each other's capabilities to complete tasks (Salem et. al., 1992). It is therefore assumed that team members would have high levels of social support and that it leads to an enhanced job engagement (Emerald Group, 2019).

H2: Social support has a positive effect on engagement within self-organizing teams.

With the third hypothesis, the research will look into the possible combined effect of job control (e.g. job autonomy and organizing authority) and social support on individual job engagement within self-organizing teams. At first, the joint effect of job control and social support on job engagement will be examined. The interaction effect of job control and social support will also be added to see if this interaction leads to different outcomes. After that, two control variables will be added to see if these suppress or alter the combined and interaction effect of job control and social support on job engagement. These control variables are gender and current job type. They are chosen because these are common control variables used in social and organizational studies (Le Blanc et. al., 2007).

H3: The interaction effect of job control (e.g. autonomy and organizing authority) and social support has a positive effect on engagement within self-organizing teams.

3. Methodology

3.1. Research design

The aim of this research is to statistically examine whether employees who have higher levels of job control and social support, also have higher levels of job engagement within self-organizing teams. The study is of a quantitative manner, because to answer the research question, it is desired a have a large number of people give their opinions about job control, social support and job engagement (Vennix, 2019). Because this study is about testing certain hypotheses that are theory driven, we look at empirical data to judge whether or not these statements are valid. Theoretical statements (e.g. hypotheses) are converted into a plan for making empirical observations. These observations are made using a survey. A survey can be described as empirical research that relates to a multitude of objects (Albinski, 1972). The objects in this research are the healthcare employees at De Waalboog in Nijmegen. The employees have filled out this survey, whereafter SPSS has been used to test significant effects and relationships between job control, social support and job engagement within self-organizing teams. There are several terms or formulations for self-organizing teams, such as self-directing/steering/organizing/autonomous (Kräkel, 2017). In this report, the term self-organizing is being used because in literature, it is the most used term. Because this thesis looks into different constructs (e.g. job control and social support) and their effect on job engagement, the study includes single causality and multiple causality (Vennix, 2019). This is done using SPPS and will be explained in the data analysis part.

3.2. Data collection

Data collection is done at De Waalboog. De Waalboog is a healthcare organization based in Nijmegen (De Waalboog, n.d.). The organization is specialized in complex elderly care and behavior problems. De Waalboog is located at five different places in the Nijmegen area and provides healthcare to 500 clients (e.g. elderly people). They do this with over 1,400 employees and volunteers. During this research project, the object of measurement are the employees in self-organizing teams giving care to the clients. This means the focus is not on for instance administrative employees or upper management.

The data collection process is conducted online using a written web-based survey form. Each employee has received an e-mail with the survey. The survey is introduced by a cover letter that includes the goal of the research, and that the research is completely anonymous. This is done to make participating in the research more appealing (Vennix, 2019). Because of the number of employees being part of the sample, but also due to the ease of use, the survey is

conducted using Qualtrics XM, which is a tool to help design, send and analyze surveys (Qualtrics XM, n.d.). Before the survey could be send to the health care professionals at De Waalboog, the questions had to be manually entered into the Qualtrics software. This part was particularly important, as a mistake in the routing of the survey or answering scale could lead to false data and consequently failed research.

The first invite to the employees at De Waalboog to participate in the research has been send on April 4th. The original deadline to fill out the survey was April 18th. Sadly, at the end of April, still not enough employees had filled out the survey. Because of that, a reminder was send using e-mail. At the end of May, the number of respondents who filled out the survey was 177, which is enough to use for the quantitative study given a ratio of observations to independent variables exceeds 20 : 1 (Hair et. al., 2019).

3.3.Data operationalization

The concepts from the theoretical framework have been operationalized using a survey with several indicators that together form the constructs job control, social support and job engagement. This is because it might not be clear to every person what is meant by a certain construct (Vennix, 2019). When asking employees what they mean by job engagement or social support, they might have different understandings of these constructs. Therefore the constructs have been operationalized using a survey. The data to be used for this research is part of a larger study about self-organizing teams in healthcare organizations and includes both open and closed questions. For the constructs used in this thesis, only the questions about autonomy, organizing authority, social support and engagement have been used, which are all closed questions. The questions have been comprised of several scales and can be seen in Appendix A. For each construct, the Cronbach's Alpha has been taken into consideration and factor analysis has been used. The Cronbach's Alpha is used to test if several items in the survey measure the same construct in order to combine these items into a single variable (Smits & Eldens, 2016). This is to measure the reliability of the survey items. To measure the validity of the survey items, a factor analysis is used (Field, 2018). Besides the aforementioned constructs, this thesis also includes two control variables to test if adding these control variables leads to different outcomes in effects job control and social support have on job engagement. Both questions, gender and current job type, were also closed questions. The entire survey is in Dutch. This is because the research population is Dutch and doing the survey in English could mean some respondents would not be able to fill out the survey.

The concept of job control has been operationalized into two different constructs: job autonomy and organizing authority. The reason autonomy and organizing authority were chosen as elements of job control was because these concepts were most often used in existing literature to define job control (Karasek, 1979; Wheatley, 2017; Kräkel, 2017). To test the level of autonomy, respondents are asked to rate themselves on nine different items using a five-point Likert scale ranging from "Totally disagree" to "Totally agree." An example of the indicators to operationalize autonomy is: "At my job I am able to decide how I plan my activities." These autonomy indicators (Tables 5 and 6 in Appendix A) come from the Work Design Questionnaire and have a Cronbach's Alpha of 0.902 (Gorgievski et. al., 2016). This Cronbach's Alpha value can be seen in Table 10, Appendix B, along with a table that shows that excluding a certain indicator would not lead to an increase in reliability. Furthermore, Cronbach's Alpha is higher than 0.7 which means the nine different items together measure the same construct (Smits & Eldens, 2016). When looking at the factor analysis output of these indicators, Table B12 shows the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity. The KMO value is 0.878 and therefore well above the minimum criterion of 0.5 which means the sample size is adequate for the factor analysis (Field, 2018). The Bartlett's test of sphericity needs to be significant the correlations between indicators is significant. Looking at Table B12 the p value for sphericity is <0.001 and therefore significant. Table B13 shows the component matrix, which is the factor extraction. This shows SPPS has extracted two components (e.g. factors). However, since all indicators have a minimum loading of 0.4 or more on component 1, and the Cronbach's Alpha is above 0.7, all autonomy indicators are combined into a single variable/factor. The nine indicators therefore are transformed into one variable that measures autonomy that is both reliable and has construct validity (Smits & Eldens, 2016; Field, 2018). The new variable is computed using SPSS by first adding up the answers to the different indicators and then taking the mean (Smits & Eldens, 2016).

Organizing authority is the second construct of job control. The construct is operationalized using five indicators from the book "Meten en Veranderen" (van Hootegem & Huys, 2014). Organizing authority is made up of five indicators such as: "I have influence on the decision being made by my department." These indicators are rated on a five-point Likert scale where "Totally disagree" is the lowest and "Totally agree" the highest. The Cronbach's Alpha of these scales is 0.742, see Table 14 in Appendix C. Table 15 in Appendix C, the item-total statistics, shows that excluding the bottom item increases the Cronbach's Alpha to 0.787. Since this increase is not big, and the original value already being >0.7, the bottom indicator is

not excluded from the study. And since the Cronbach's Alpha is higher than 0.7, that means the five indicators together measure organizing authority and can be combined to create a single variable (Smits & Eldens, 2016). Just like the construct autonomy, construct validity is also tested using the factor analysis and the output can be seen in Tables 16 and 17 in Appendix C. The KMO value is 0.778 and therefore above the threshold value of 0.5 (Field, 2018). Bartlett's Test of Sphericity is significant at a value of <0.001. SPSS has extracted one factor in the component matrix where each item has a loading of 0.4 or higher on the component (e.g. factor). This means all the indicators measure the same construct and can be combined to end up with a single reliable and valid variable that measures organizing authority (Smits & Eldens, 2016). The new variable is computed using SPSS by first adding up the answers to the different indicators and then taking the mean (Smits & Eldens, 2016).

The third independent construct is social support. The items used to measure social support (Sociale Ondersteuning) come from the article "Loneliness in the Workplace: Construct Definition and Scale Development" (Wright et. al., 2006). The social support consists of nine indicators. Respondents are asked to rate their opinion on social support using the same five-point Liker scale as the indicators which measure autonomy and organizing authority. An example of the indicators measuring social support is: "I often feel isolated when I am with colleagues." Because most indicators that measure social support are formulated that 'Totally Agree" would mean a lower level of social support, these indicators had to be mirrored (Field, 2018). After that, the Cronbach's Alpha according to the reliability statistics was 0.894, see Table 18 in Appendix D. Again this value is higher than 0.7 and therefore the items can be combined to create a single reliable variable that measures social support (Smits & Eldens, 2016). Like the construct organizing authority, is it possible to increase Cronbach's Alpha by excluding one indicator. However this increase is not that big, and the current value is >0.7 and therefore large enough to be reliable. To check the construct validity, a factor analysis is conducted and the output can be seen in Tables 20 and 21 in Appendix D. The KMO value is 0.859 and therefore higher than 0.5, which means the sample size is adequate for the factor analysis (Field, 2018). The Bartlett's Test of Sphericity is significant at a value of <0.001, which is needed for this test. Looking at the component matrix, SPSS has extracted two factors. However, every indicator has a loading higher than 0.4 on component 1. This means that all indicators can be combined to end up with a reliable variable that is also construct valid. The new variable is computed using SPSS by first adding up the answers to the different indicators and then taking the mean (Smits & Eldens, 2016).

The dependent concept of the theoretical framework is individual job engagement. The questions to measure engagement (Betrokkenheid) come from the UWES, which stand for the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2004). Again, there are nine indicators respondents are asked to rate their engagement towards their work and workplace using a five-point Likert scale. An example of one indicator is: "When I get up in the morning, I am excited to go to work." The Cronbach's Alpha for this scale is 0.889, see Table E22. This is also higher than 0.7 which means that the nine items can be combined to compute a variable that measures engagement (Smits & Eldens, 2016). To check the construct validity, a factor analysis is conducted and the output can be seen in Tables 24 and 25 in Appendix E. The KMO value is 0.871 and well above the threshold of 0.5. This means the sample size is adequate to conduct the factor analysis (Field, 2018). The Bartlett's Test of Sphericity is significant at a value of <0.001. SPSS has extracted one component (e.g. factor) from the data and every indicator has a minimum loading of 0.4 or higher in this component, see Table E25. Looking at the reliability and factor analysis, all nine indicators can be combined to create a single variable that measures engagement. The new variable is computed using SPSS by first adding up the answers to the different indicators and then taking the mean (Smits & Eldens, 2016).

3.4. Research Ethics

In science, key basics of research entail impartiality from the researcher, understanding that findings are not real until replicated and to write down all methods used in the research (Novack, 2006). Inadequate documentation of the research methods can limit the interpretation of the findings. This underscores the importance of the methodology chapter which is therefore been documented in a detailed manner. The data needed to conduct this research is dependent on the cooperation of the research population. As already mentioned in the data collection paragraph, the research population consists of healthcare employees. These employees have filled out an online survey, completely anonymously, where the employees are asked about their job and self-organizing authorities, social support and job engagement. This is therefore sensitive information which needs to be properly handled with. The first step to do this, is by using a confidentiality agreement which can be seen in Appendix L. Another important issue is that none of the employees are obligated to fill out the survey. Employees are informed through e-mail, due to the sample size and Covid-19 guidelines, about this research project and asked to fill out the online survey. In this introduction, the goal of the research is clearly stated and why it is important to collect data from employees filling out an online survey. It is clearly stated that no-one (e.g. colleagues of employees who filled out the survey or someone from the outside world) will ever see a filled-out survey. This is to ensure that the data is handled

professionally. If the employee does not want to be involved in this research, then he or she has the right to not partake. Furthermore, if the employee has filled out the survey and wants his or her data to be removed, then their request will be accepted. This is all in line with the APA Ethics Code (Smith D. , 2003).

Research in general leans on the integrity of all involved parties (Schuyt, 2019). That entails the above mentioned treating the research population and the data with respect, but also being honest, professional, critical and responsible. To pledge my integrity, I have signed the Research Integrity Form. To further prove my integrity, I have had no prior affiliation with De Waalboog or people who work at De Waalboog. And even during the research process, there has not been any direct contact with any respondent filling out the survey. In the theoretical concept chapter, information and knowledge from existing literature is used. To credit the researchers/authors of this knowledge, proper citing according to the APA 7th edition is applied (American Psychological Association, 2021).

3.5.Data analysis

The data is analyzed using IBM SPSS 28. SPSS is used because this research tests significant relationships between more than two populations (Field, 2018). The analysis starts with looking at the descriptive statistics to look at the sample size, mean and standard deviation. The method that is used to test the hypotheses formulated at chapter 2.6 is the multiple regression analysis with a significance alpha of .05. This is a standard alpha that is commonly used in regression analysis. In the general form of a regression model, the dependent variable (e.g. job engagement) is assumed to be a function of a set of independent variables in a population (Berry & Feldman, 1985). Multiple linear regression analysis is a technique used to analyze the relationship between a single dependent variable and several independent (Hair et. al., 2019). This thesis incorporates multiple independent variables and the relationship with only one dependent variable, which makes multiple regression the suitable method of analysis. In this study, the regression analysis is used to explain magnitude, sign and statistical significance of each independent variable for the effect on the dependent variable. The independent variables in a multiple regression are called predictors. The multiple regression also provides insight in the relationships among independent variables. This is important because the correlation between independent variables may make a certain independent variable redundant in explaining the dependent variable. In this thesis, the specific type of multiple regression that is used, is the stepwise multiple regression. This method of multiple regression is used to sequentially identify the possible effects job control and social support have on job

engagement. This is a commonly used technique in regression, as it allows the entry of predictor variables one step at a time (Thompson, 1989). It starts by adding the independent variables sequentially, followed by adding the control variables. The chosen control variables for this research are gender and current job types. These variables are chosen because of their common use in social and organizational studies (Le Blanc et. al., 2007). Besides the main effects of the construct, the multiple regression analysis also includes the interaction effect between job control and social support on job engagement. This is to check if the interaction effect between the independent variables might have an effect on job engagement (Field, 2018). The interaction variable has been computed by first centering the variables which is subtracting each response from the variable mean and then multiplying these centered values to end up with the interaction variable.

Multiple linear regression has a few assumptions that have to be met to appropriately conduct tests of statistical significance (Hair et. al., 2019). The sample size has to be large enough to generalize the results to the entire population. A common rule with multiple regression regarding sample size is that you need 20 observations per predictor (e.g. independent) variable. In this thesis, there are three predictor variables. Therefore the minimum sample size is 60 observations. At De Waalboog, a total of 177 healthcare employees have participated in the research which means that the sample size is more than large enough. The second assumption to be met is the multicollinearity between predictors. Looking at Table 26 at Appendix F, the correlation matrix between variables is used to check for multicollinearity between variables. The assumption is met if no independent variables have a correlation value greater than 0.7. In the correlation matrix in Table F26, it is clear that this assumption is met as there is no correlation between independent variables greater than 0.7. The third assumption is about the linearity of the phenomenon measured. This assumption is violated if there is a non-linear relationship between the independent variables and the dependent variable. These relationships have been plotted in a scatterplot matrix which can be seen in Appendix G. Each scatterplot in the matrix shows a linear relationship, looking at the linear line in the plots. This means that the assumption of linearity is met. Another important assumption is the independence of the error terms (e.g. residuals) (Field, 2018). This is tested by the Durbin-Watson statistic test and its value needs to be between 1 and 3 in order to meet this assumption of independence of the error terms. Looking at Table 27 in Appendix H, the Durban-Watson value is 2.013 and therefore this assumption is not violated. Also the variance of the error term has to be constant (e.g. test of homoscedasticity) (Hair et. al., 2019). To test whether the

variance of the error terms is constant, a scatterplot is created and can be seen in Appendix I. The assumption of constant variance of the error terms is violated if there is a clear pattern in the scatterplot. The scatterplot in Appendix I does not indicate a violation of this assumption, as there is no clear pattern in the plot. The distribution of the error terms also has to be normally distributed. This is also tested using a scatterplot which can be seen in Appendix J. This scatterplot also shows no violation of the assumption, as the dots are along the linear line. It is therefore accepted that the values of the error terms are normally distributed.

4. Results

Table 1 presents for each of the constructs, the means and standard deviations. Each variable has been measured using a five-point Likert scale ranging from "Totally disagree" to "Totally agree," see Appendix A. Each of the means lie between 3 and 4 where job engagement has a minimum value of 2.67 and a maximum of 5. Appendix K shows the frequency tables for each variable. It shows that there were six respondents scored each autonomy indicator with "Totally agree." Table 3 present the correlations between the constructs. Again this shows that there is no multicollinearity between variables as there is no value >0.7 (Field, 2018). But is also shows that the construct social support correlates the most with job engagement in comparison to autonomy and organizing authority.

Table 1: Means and Standard Deviations of the study variables

	N	Minimum	Maximum	Mean	Std. Deviation
Autonomy	176	2.00	5.00	3.4690	.60042
Organizing authority	176	1.40	5.00	3.6719	.58925
Social support	176	2.44	5.00	3.9059	.58567
Job engagement	176	2.67	5.00	3.8859	.50189
Valid N (listwise)	176				

Table 2: Intercorrelations among the study variables

	Autonomy	Organizing authority	Social support	Job engagement
Autonomy	-	.226	.204	.184
Organizing authority	.226	-	.321	.142
Social support	.204	.321	-	.324
Job engagement	.184	.142	.324	-

As mentioned in the methodology, a total of 177 employees at De Waalboog have filled out the survey, of which one respondent had missing values resulting in 176 usable responses. This data has been used to conduct a multiple regression analysis. On the next page, Table 3 presents the stepwise multiple regression analysis. The table is divided into five different models, each representing evidence that supports or disproves the hypothesized effect the predictor variables have on the outcome variable. Each model contains a different set of predictor variables, where model 1 and 2 present different predictors and models 3,4 and 5 are adding predictors to the previous set. This is the stepwise method discussed in the methodology.

Table 3: Stepwise Multiple Regression Coefficients table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	3.091*	.289		10.539	<.001
	Autonomy	.134*	.064	.160	2.101	.037
	Organizing authority	.090	.065	.106	1.384	.168
2	(Constant)	2.801*	.243		11.540	<.001
	Social support	.278*	.061	.324	4.520	<.001
3	(Constant)	2.493*	.319		7.825	<.001
	Autonomy	.100	.062	.120	1.615	.108
	Organizing authority	.018	.065	.021	.269	.788
	Social support	.251*	.065	.293	3.842	<.001
4	(Constant)	2.377*	.371		6.403	<.001
	Autonomy	.112	.065	.134	1.721	.087
	Organizing authority	.033	.070	.038	.468	.640
	Social support	.256	.066	.299	3.881	<.001
	Interaction Autonomy x Organizing authority x Social support	.074	.121	.052	.609	.543
5	(Constant)	1.647*	.466		3.536	<.001
	Autonomy	.100	.065	.120	1.536	.126
	Organizing authority	.074	.071	.086	1.038	.301
	Social support	.244*	.067	.287	3.671	<.001
	Interaction Autonomy x Organizing authority x Social support	.074	.120	.052	.616	.539
	Gender	.311*	.127	.175	2.445	.016
	Job type	.010	.007	.105	1.457	.147

*p<0.05

Table 4: Model summary Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error	F	Sig.
1	.211	.044	.033	.49343	4.027	.020
2	.324	.105	.100	.47616	20.428	<.001
3	.346	.120	.105	.47491	7.818	<.001
4	.349	.122	.101	.47578	5.935	<.001
5	.399	.160	.129	.46685	5.251	<.001

In Tables 3 and 4, the multiple regression analysis using the enter method with different blocks has been conducted to examine the relationship between job control, social support and job engagement to see if job control and/or social support have a significant effect on job engagement. Starting with the first model, which includes the predictors autonomy and organizing authority. This model is significant, $F = 4.027$, $p = .020$. This model explains 3.3% (Adjusted R Square = 0.033) of the variance in the outcome variable (e.g. job engagement). The model summary also shows a normal R Square of .044 but because this model includes multiple variables, the Adjusted R Square is more accurate as it controls for the complexity of the model (Field, 2018). To calculate the effect size of the model, Cohen's f^2 is used. To calculate this, the following equation has been used: Adjusted R Square / (1 – Adjusted R Square). The Cohen f^2 value for model 1 = 0.034 which is a small effect size. When looking at the coefficients table (Table 3), it is obvious that although the model is significant, not each predictor variable has a significant effect on job engagement. Only autonomy has a significant contribution at an alpha value of 0.05 with ($B = 0.134$, $t = 2.101$, $p = .037$). This means that every increase of 1 at autonomy, job engagement increases with .134. Organizing authority does not have a significant effect on job engagement ($B = .090$, $t = 1.384$, $p = .168$). Whether or not a predictor variable is significant can be seen by the '*' symbol behind the 'B.' The fact that this model is significant in explaining job engagement provides evidence in accepting the first hypothesis. The first hypothesis is whether job control (e.g. autonomy and organizing authority) has a positive effect on job engagement within self-organizing teams. This hypothesis can be accepted, however only for the predictor autonomy as this has a significant effect and organizing authority does not. Important to note is that this model does not include any other predictors that might influence the relationships in the model. Furthermore, the explained variance in job engagement is only 3.3% which is very low. But there still is a significant and positive effect on job engagement because the coefficient of autonomy is a positive number.

The second model shows the relationship between one predictor (e.g. social support) and one outcome variable (e.g. job engagement). This model is also significant at a F value of 20.428 and a significance of <.001. Because this model only includes one predictor variable, there is no need to differentiate between the R Square and the Adjusted R Square (Field, 2018). This model therefore looks at the R Square which is .105 which means that the predictor variable social support explains 10.5% of the variance in job engagement. The Cohen's f^2 value is .117 which is a small effect size bordering on a medium effect size. Looking at the coefficients in Table 3, social support has a significant effect on job engagement (B = .278, t = 4.250, p <.001). This means that every increase of 1 in social support leads to an increase in job engagement of .278. The second hypothesis can therefore be accepted. The second model shows that social support has a positive effect on job engagement within self-organizing teams. The model is significant and social support has a positive coefficient. The explained variance is still low at 10.5% but the effect is significant.

The third model is the regression where all the predictor variables have been included to measure the main effect each construct has on job engagement and how the predictors influence each other's effect on job engagement (Hair et. al., 2019). The predictor variables in the model are autonomy, organizing authority and social support. The model is significant, F = 7.818 and p <.001 (see Table 3). Because this model includes more than one predictor variable, the Adjusted R Square is used to measure explained variance of the outcome variable (e.g. job engagement) (Field, 2018). The Adjusted R Square of the third model is .105, which is 10.5%. Because the Adjusted R Square is the same as the R Square from the second model, that means Cohen's f^2 is also the same at .117 and therefore a small/medium effect size. Looking at Table 3, the coefficients, it is clear that only social support has a significant contribution to job engagement (B = .251, t = 3.842, p <.001). While autonomy was a significant predictor in model 1, in model 3 autonomy is not significant (B = .100, t = 1.615, p = .108). Organizing authority was already non-significant in model 1, but in model 3 this construct is even less significant (B = .018, t = .269, p = .788). Model 3 therefore shows that a model that includes all three predictor variables, only social support has a positive effect on job engagement within self-organizing teams. If social support increases with 1, then job engagement will increase with .251. This model further signifies that the second hypothesis is accepted.

The fourth model in Tables 3 and 4 includes all three predictor variables and their interaction. An interaction variable has been introduced to check whether the interactive effect of job control (e.g. autonomy and organizing authority) and social support has a significant

effect on job engagement. The overall model, see Table 4, is significant, $F = 5.935$ and $p < .001$. Because there are multiple variables included in the model, the Adjusted R Square is used to measure the regression (Field, 2018). The Adjusted R Square in model 4 is .101 which is 10.1%. The Cohen's f^2 value is .112 and therefore a small effect size bordering on medium. Looking at the coefficients in Table 3, only one predictor has a significant contribution to job engagement. This again is social support ($B = .256$, $t = 3.881$, $p < .001$). This means that an increase of 1 in social support leads to an increase in job engagement of .244. This model also shows that autonomy and organizing authority are non-significant predictors. Autonomy ($B = .112$, $t = 1.721$, $p = .087$) and organizing authority ($B = .033$, $t = .468$, $p = .640$). What was further included in this model is the interaction effect between autonomy, organizing authority and social support on job engagement. This interaction effect is non-significant ($B = .074$, $t = .609$, $p = .543$). This model provides initial evidence that the third hypothesis cannot be accepted because from the combination effect, only social support was found to be a significant predictor of job engagement within self-organizing teams, while autonomy and organizing authority were non-significant. Furthermore, the interaction effect was also found non-significant.

The fifth and final model of the regression analysis includes previous predictors and two control variables. The reasons for adding variables gender and job type can be seen in the methodology. The Adjusted R Square for the fifth model is .129 which leads to a Cohen's f^2 of .148 which is close to a medium effect size. Adding the control variables however did not change significance or directions of the relationships between the main predictors and job engagement. From the main predictors, still only social support has a significant effect on job engagement ($B = .244$, $t = 3.671$, $p < .001$). The second significant relationship in the fifth model is the control variable gender ($B = .311$, $t = 2.445$, $p = .016$). Looking at both the fourth and fifth model, this provides evidence into rejecting the third hypothesis. The combination effect of job control (e.g. autonomy and organizing authority) and social support and their interaction do not have a positive effect job engagement within self-organizing teams. Only social support has shown to have significant, positive predicting effect on job engagement within self-organizing teams. The control variables do not change the model or the effects.

5. Discussion

The results of the study show that within the self-organizing teams at De Waalboog, most team members experience high levels of job control (e.g. autonomy and organizing authority), social support. For instance autonomy, the lowest score was 2 and the highest was 5. This also is in line with existing literature, which states that job control and social support can differ between self-organizing teams (Boss et. al., 2021 ; Eklöf & Ahlborg Jr., 2016). In regard to the job engagement scores of this sample size, lowest score was 2.67 and the mean score was 3.8, which explains that most team members experience job engagement. The results of the study further provides evidence that within self-organizing teams, there is a significant positive relationship between social support and job engagement (e.g. social support has a positive effect on job engagement). In line with the existing literature from the theoretical background, social support can increase the job engagement employees have. This study has shown that people who gives higher scores to social support also score higher on job engagement. According to the literature, teams with high social support devote more effort into the team, increasing team member engagement (Emerald Group, 2019). Social support was said to be positively related to individual engagement (Saks et. al., 2022). Looking at the data in Table 4, this social support has explained 10.5% of the variance in job engagement and an increase in social support will lead to an increase in job engagement. The second hypothesis of the study was supported in every model of the regression analysis. Job control initially also showed to have a significant effect on job engagement where autonomy explained 3.3% of job engagement. While this percentage is low, it was still significant. But the significance of autonomy changed when social support was added to the model, see Table 3. This means that social support fully confounded the effect autonomy had on job engagement (Hair et. al.). This result adds on to the existing idea that increasing social support can lead to enhanced engagement, regardless of the job autonomy (van Yperen & Hagedoorn, 2003). This study also adds that self-organizing teams with team members who experience higher levels of social support, also experience more job engagement. While existing literature suggests that increased autonomy will lead to an increase in job engagement (Humphrey et. al., 2007), the data in this research shows that job autonomy has no significant effect on job engagement within self-organizing teams, even when controlled for gender and current job type. Only in the model where social support was not included did autonomy have a significant effect on job engagement within self-organizing teams. This provides evidence to the hypothesis that job control would have a significant positive effect on job engagement within self-organizing teams. But when social support was included into the model, the effect of job control on job engagement ceased being significant. Having organizing

authority in an organization was stated in the existing literature to be leading job engagement (Sengrupta & Dev, 2013). However, no model in the regression model showed organizing authority to have a significant positive effect on job engagement within self-organizing teams. To check if an interaction between job control and social support would lead to different outcomes in job engagement within self-organizing teams, the fourth and fifth model in Tables 3 and 4 show this interacting effect. However, this interaction also provided no significant effect. And when controlled for gender and job type, the effect of job control on job engagement within self-organizing teams did not change to a significant effect. With outcomes of the data, a conclusive answer to the research question can be given. The research question was as follows:

Do job control and social support have a positive influence on employees' engagement within self-organizing teams?

According to existing literature, both job control and social support should lead to a higher job engagement (Farndale & Murrer, 2015; Saks et. al., 1992). But looking at the results from the survey, only social support showed a significant effect that it would lead to a higher job engagement within self-organizing teams. While autonomy and organizing authority might lead to a higher job engagement, this relationship was not found to be significant within self-organizing teams. The statement in the research question can therefore be partially accepted. This leads to some theoretical contributions. As already mentioned, existing literature mostly looked at engagement without checking for the context (Mäkikangas et. al., 2016). The focus of this thesis was to conduct research about job engagement within self-organizing teams, and therefore controlling for the context. The first theoretical contribution is that social support is significantly positive related to job engagement within self-organizing teams. Especially within self-organizing teams, where team members already assumed to have social support (Eklöf & Ahlborg Jr., 2016), a positive relationship between social support and job engagement exists. Although the effect social support has on job engagement is small with a Cohen f^2 .117, it still is significant. This in contrast to the second theoretical contribution. While job autonomy and organizing authority are widely known to positively influence job engagement (Hoda et. al., 2013; Farndale & Murrer, 2015), within self-organizing teams this effect was not found to be significant. Although the model that only included job control as a predictor seemed to be significant, this effect disappeared when social support was added to the model, see Table 3. This study therefore adds to existing theory that within self-organizing teams, job control does not have a significant effect on job engagement. An increase in job control does not lead to a

significant increase in job engagement within self-organizing teams. A reason for that might be that team members in self-organizing teams already have a higher level of autonomy and that might lead to a non-significant result between job control and job engagement within self-organizing teams. Table 1 shows the means of autonomy and organizing authority are 3.5 and 3.7, which shows the respondents are already experiencing job control.

The results of this research also implicate practical contributions. First of all being that social support is a significant predictor of job engagement which means that job engagement can be enhanced by enhancing/improving social support. For organizations who work with self-organizing teams, promoting and preserving social support among team members is significant in enhancing individual job engagement. This practical implication might be even more significant for healthcare organizations in comparison to non-healthcare organization because the healthcare employees seem to experience to highest levels of stress (Richman, 1989). Another practical implication for organizations working with self-organizing teams is that autonomy and organizing authority as characteristics of job control do not have a significant effect on job engagement. In their quests to enhance job engagement, these organizations should not need to increase autonomy or organizing authority because these do not have a significant effect on engagement. A possible reason for this is that team members of self-organizing teams already have higher levels of autonomy and organizing authority in comparison to normal teams. And because of that statement, the results of this research should not be interpreted by organizations who do not work with self-organizing teams as these employees might not have the same level of autonomy and organizing authority as do members of self-organizing teams.

In the Dutch coalition agreement of 2021, the Dutch government has stated that they want elderly people to live as long as possible in good health in their own home or a fitting elderly community (VVD et. al., 2021). What this entails is that they want to increase the elderly care that is administered at home. Furthermore, the Dutch government wants to set up a so-called 'Healthcare network' in which physicians, physiotherapists, pharmacists and healthcare providers work together like a team (Rijksoverheid, n.d.). For healthcare organizations, this coalition agreement adds to the existing pressures to increase the quality of care while also keeping the cost of care in mind (Shantz et. al., 2016). To cope with these pressures, healthcare organizations need engaged healthcare employees as engagement lead to an increase in the overall quality of care (Shantz et. al., 2016 ; Fiabane et. al., 2012 ; Wee & Lai, 2022). Having job engagement on the corporate agenda is therefore important. The results of this research have pointed out that within self-organizing teams, only social support has a significant positive

effect on job engagement. To meet the statements on the coalition agreements while coping with the pressures regarding quality of care, healthcare organizations working with self-organizing teams should increase and promote social support within these teams to increase engagement. Local and national governments should also incentivize healthcare organizations to promote social support among members of self-organizing teams.

This thesis has focused on the relationship between job control, social support and job engagement within self-organizing teams. According to the existing literature, job control has a positive effect on job engagement (Farndale & Murrer, 2015). However, this thesis has looked into this relationship within teams, which previous literature did not control for (Mäkikangas et. al., 2016). There might be a difference in engagement between self-organizing teams and original closely supervised teams. Also, this research has only looked into two elements of job control in order to demarcate the research. According to existing literature, both autonomy and organizing authority are two of the most important elements in job control (Karasek, 1979; Wheatley, 2017; Kräkel, 2017). But there might be other elements of job control that do have a significant effect on job engagement. Furthermore, it is assumed that there are self-organizing teams at De Waalboog. No research has been done towards the extent to which the teams at De Waalboog are exactly self-organizing. Also, the data collection has not taken an intervention in combination with temporal depth into consideration. This research has stated that social support is positively related to job engagement. This is solely based on the predictive and explaining significance according to the regression analysis. Another limitation this research has not taken into consideration is the fact that self-organizing teams can become dysfunctional over time if teams become too rigid (Stewart et. al, 2011). Covid-19 could also have had a suppressing effect on this research because of social distancing ever since the beginning of the pandemic (Gupta & Dhamija, 2020). This could have had an influence on job engagement, especially for healthcare organizations.

Another limitation is the sample size. Although this study met the assumption ratio of more than 20 observations per independent variable (Field, 2018), the sample size could have been much larger if not for time constraints of the research. As already stated in the methodology chapter, the data collection process has had delay due to low response rate. Over 700 healthcare professionals were invited to participate, but in the end only 177 had filled out the survey. Possibly, if more people had filled out the survey, different results would come out of the regression analysis. On the contrary, if the sample size would be too large, almost every variable could end up being significant due to the size of the sample (Hair et. al., 2019). This

research was focused on the opinions of people. People might have different perceptions of when they feel to have much autonomy or social support. However, that difference should not lead to significant difference due to the sample size meeting the observation ratio (Field, 2018).

Future research should also address or make a distinction between normal teams (e.g. closely supervised) and self-organizing teams. This in order to measure possible differences in job control, social control and subsequently job engagement between these teams. This study was focused on self-organizing team, but it did not have a control group like a team which does not organize itself to observe possible differences. While autonomy and organizing authority did not have a significant effect on job engagement within self-organizing teams, in normal teams these effect sizes might be significant. To make this distinction in unit of analysis is important because previous research did not control for context of team (Mäkikangas et. al., 2016). Another interesting distinction would be between self-organizing teams across different industries to control for the industry. This research has been conducted at a healthcare organization. While this does not mean that results are not applicable in other industries, it certainly is interesting to see if there are any differences. That leads to the final proposal for future research, which is focusing on job demands. This research was focused on job control and social support. But according to existing literature, job demands are also associated with job engagement, but more through strain caused by high job demands (Karasek, 1979). That leads to the same relevance as this research, namely to what extent do job demands have an effect on job engagement within self-organizing teams.

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Appendix A

Survey

3.6 Autonomie 1

Table 5: Indicators Autonomy 1/2

	Helemaal mee oneens	Mee oneens	Niet oneens niet eens	Mee eens	Helemaal mee eens
1. In mijn baan is het mogelijk zelf te beslissen hoe ik mijn werk indeel	○	○	○	○	○
2. In mijn baan is het mogelijk zelf te beslissen in welke volgorde dingen gedaan worden op het werk	○	○	○	○	○
3. In mijn baan is het mogelijk om zelf te plannen hoe ik mijn werk doe	○	○	○	○	○
4. Mijn baan biedt mij de kans mijn eigen initiatief of oordeel te volgen in hoe ik mijn werk uitvoer	○	○	○	○	○
5. In mijn baan kan ik veel beslissingen zelf nemen	○	○	○	○	○
6. Mijn baan biedt mij in belangrijke mate zelfstandigheid om beslissingen te nemen	○	○	○	○	○

3.7 Autonomie 2

Table 6: Indicators autonomy 2/2

	Helemaal mee oneens	Mee oneens	Niet oneens niet eens	Mee eens	Helemaal mee eens
1. In mijn baan kan ik zelf beslissen welke methoden ik gebruik om mijn werk af te maken	○	○	○	○	○
2. Mijn baan biedt mij een behoorlijke mate van onafhankelijkheid en vrijheid in hoe ik mijn werk doe	○	○	○	○	○
3. Mijn baan biedt mij de mogelijkheid te beslissen hoe ik te werk ga	○	○	○	○	○

3.8 Organiserende taken

Table 7: Indicators organizing authority

	Helemaal mee oneens	Mee oneens	Niet oneens niet eens	Mee eens	Helemaal mee eens
1. Ik heb invloed op de beslissingen van mijn afdeling	○	○	○	○	○
2. Ik kan bij eventuele problemen mensen uit andere afdelingen inschakelen	○	○	○	○	○
3. Ik bepaal met anderen hoe de taken worden verdeeld ('wie doet wat?')	○	○	○	○	○
4. Ik ben mede verantwoordelijk voor de organisatie van het werk in ons team of afdeling	○	○	○	○	○
5. We bespreken regelmatig de resultaten van ons werk om te leren en te verbeteren	○	○	○	○	○

4.2 Sociale Ondersteuning

Table 8: Indicators social support

		Helemaal mee oneens	Mee oneens	Niet oneens niet eens	Mee eens	Helemaal mee eens
1.	Ik voel mij vaak in de steek gelaten door collega's wanneer ik onder druk sta op het werk	○	○	○	○	○
2.	Ik voel mij vaak vervreemd van mijn collega's	○	○	○	○	○
3.	Ik merk dat ik mezelf terugtrek van mijn collega's	○	○	○	○	○
4.	Ik voel vaak een emotionele afstand tegenover mijn collega's	○	○	○	○	○
5.	Ik voel mij tevreden over de relaties die ik heb met collega's	○	○	○	○	○
6.	In mijn team heerst een gevoel van kameraadschap	○	○	○	○	○
7.	Ik voel mij vaak geïsoleerd wanneer ik met mijn collega's ben	○	○	○	○	○
8.	Ik voel mij vaak afgesloten van collega's op het werk	○	○	○	○	○
9.	Ik ervaar een gevoel van leegte als ik aan het werk ben	○	○	○	○	○

4.3 Betrokkenheid

Table 9: Indicators job engagement

		Helemaal mee oneens	Mee oneens	Niet oneens niet eens	Mee eens	Helemaal mee eens
1.	Op mijn werk bruis ik van energie	○	○	○	○	○
2.	Als ik werk voel ik me fit en sterk	○	○	○	○	○
3.	Ik ben enthousiast over mijn baan	○	○	○	○	○
4.	Mijn werk inspireert mij	○	○	○	○	○
5.	Als ik 's morgens opsta heb ik zin om aan het werk te gaan	○	○	○	○	○
6.	Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig	○	○	○	○	○
7.	Ik ben trots op het werk dat ik doe	○	○	○	○	○
8.	Ik ga helemaal op in mijn werk	○	○	○	○	○
9.	Mijn werk brengt mij in vervoering	○	○	○	○	○

Appendix B

Reliability and factor analysis Autonomy

Table 10: Reliability statistics autonomy

Reliability Statistics

Cronbach's Alpha	N of Items
,902	9

Table 11: Item statistics autonomy

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Auto-1.1.	27,89	23,935	,596	,896
Auto-1.2.	27,93	23,277	,651	,892
Auto-1.3.	27,88	23,445	,665	,891
Auto-1.4.	27,76	23,336	,710	,888
Auto-1.5.	27,76	23,160	,665	,891
Auto-1.6.	27,62	23,508	,665	,891
Auto-2.1.	27,98	23,611	,620	,895
Auto-2.2.	27,81	22,815	,743	,885
Auto-2.3.	27,76	23,101	,728	,886

Table 12: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,878
Bartlett's Test of Sphericity	Approx. Chi-Square	879,890
	df	36
	Sig.	<,001

Table 13: Component matrix autonomy

Component Matrix

	Component	
	1	2
Auto-1.1.	,676	,411
Auto-1.2.	,727	,481
Auto-1.3.	,739	,409
Auto-1.4.	,783	-,180
Auto-1.5.	,747	-,502
Auto-1.6.	,746	-,515
Auto-2.1.	,704	,070
Auto-2.2.	,815	-,149
Auto-2.3.	,799	,054

Appendix C

Reliability and factor analysis organizing authority

Table 14: Reliability statistics organizing authority

Reliability Statistics

Cronbach's Alpha	N of Items
,742	5

Table 15: Item statistics organizing authority

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Orga-1.	14,87	5,352	,645	,640
Orga-2.	14,61	6,250	,437	,722
Orga-3.	14,58	5,817	,623	,656
Orga-4.	14,58	5,817	,605	,662
Orga-5.	14,80	6,655	,272	,787

Table 16: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,778
Bartlett's Test of Sphericity	Approx. Chi-Square	222,536
	df	10
	Sig.	<,001

Table 17: Component matrix organizing authority

Component Matrix

	Component 1
Orga-1.	,821
Orga-2.	,644
Orga-3.	,821
Orga-4.	,798
Orga-5.	,422

Appendix D

Reliability and factor analysis social support

Table 18: Reliability statistics social support

Reliability Statistics

Cronbach's Alpha	N of Items
,894	9

Table 19: Item statistics social support

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rev_Social_1	31,35	21,117	,707	,878
Rev_Social_2	31,20	20,920	,797	,870
Rev_Social_3	31,09	21,746	,735	,876
Rev_Social_4	31,09	21,711	,777	,873
Rev_Social_7	31,01	22,538	,769	,875
Rev_Social_8	30,99	22,415	,710	,878
Rev_Social_9	30,91	23,734	,592	,887
Social-5.	31,26	23,595	,428	,900
Social-6.	31,61	22,473	,485	,899

Table 20: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,859
Bartlett's Test of Sphericity	Approx. Chi-Square	969,666
	df	36
	Sig.	<,001

Table 21: Component matrix social support

Component Matrix

	Component	
	1	2
Rev_Social_2	,865	
Rev_Social_7	,847	
Rev_Social_4	,844	
Rev_Social_3	,816	
Rev_Social_8	,809	
Rev_Social_1	,785	
Rev_Social_9	,707	-,370
Social-6.	,537	,692
Social-5.	,481	,667

Appendix E

Reliability and factor analysis job engagement

Table 22: Reliability statistics job engagement

Reliability Statistics

Cronbach's Alpha	N of Items
,889	9

Table 23: Item statistics

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Engagement-1	31,16	16,429	,685	,873
Engagement-2	31,18	17,014	,598	,880
Engagement-3	30,86	15,899	,728	,869
Engagement-4	30,96	15,852	,707	,871
Engagement-5	31,30	15,578	,671	,875
Engagement-6	31,07	17,001	,611	,879
Engagement-7	30,67	17,147	,581	,881
Engagement-8	31,02	16,508	,577	,882
Engagement-9	31,27	16,071	,644	,877

Table 24: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,871
Bartlett's Test of Sphericity	Approx. Chi-Square	770,828
	df	36
	Sig.	<,001

Table 25: Component matrix job engagement

Component Matrix

	Component 1
Engagement-3	,803
Engagement-4	,785
Engagement-1	,766
Engagement-5	,759
Engagement-9	,725
Engagement-6	,693
Engagement-2	,687
Engagement-7	,669
Engagement-8	,667

Appendix F

Correlations matrix multiple regression

Table 26: Correlations matrix

Correlations	Combined measure engagement	Combined measure autonomy	Combined measure organizing authority	social support	Autonomy_Organ_Social
Job engagement	-	,184	,142	,324	-,102
Autonomy	,184	-	,226	,204	-,384
Organizing authority	,142	,226	-	,321	-,444
Social support	,324	,204	,321	-	-,284
Autonomy_Organ_Social	-,102	-,384	-,444	-,284	-

Appendix G

Scatterplot linearity of the phenomenon measured

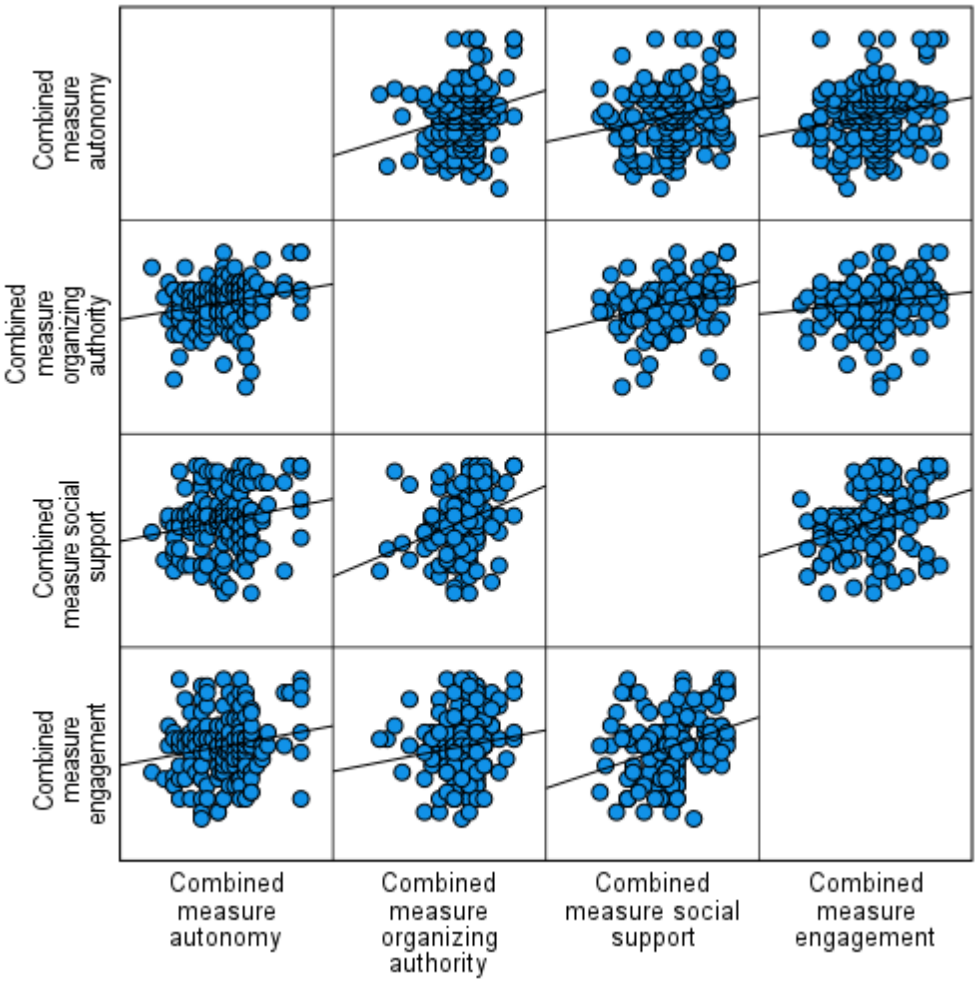

Figure 2: Scatter plot linearity constructs

Appendix H

Multiple regression model summary

Table 27: Model summary multiple regression model 5

Model	R	R Square	Adjusted R Square	Std. Error	F	Sig.	Durbin-Watson
5	.399	.160	.129	.46685	5.251	<.001	2.013

Appendix I

Scatterplot residuals

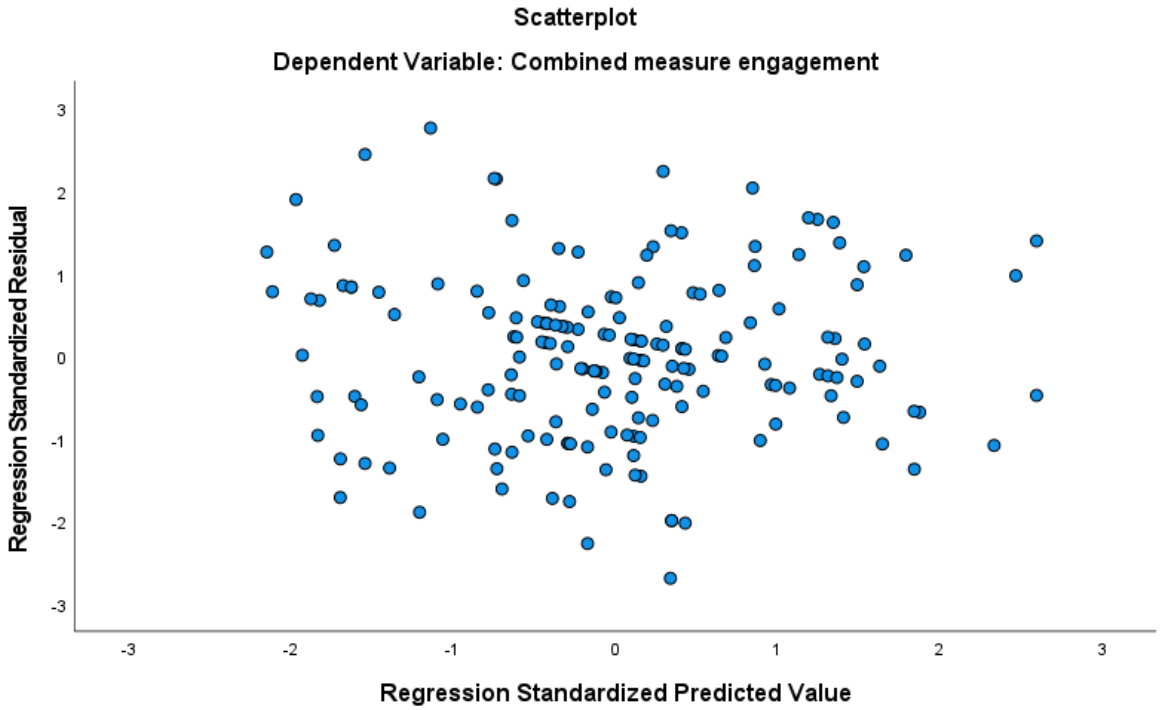

Figure 3: Scatterplot test of constant variance of error terms

Appendix J

Scatterplot normality error terms distribution

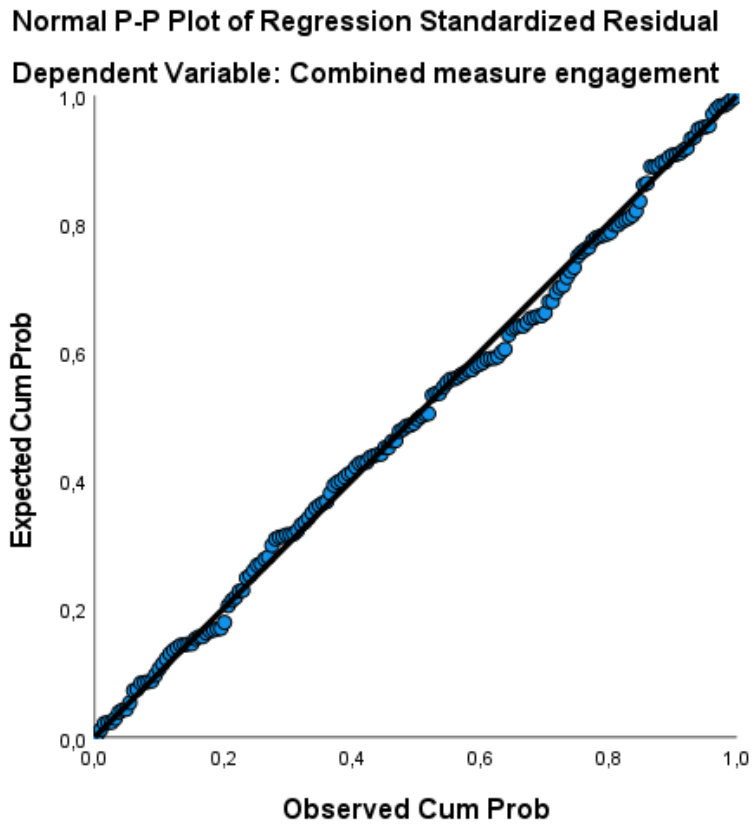

Figure 4: Scatterplot: distribution of the error terms

Appendix K

Frequency tables

Table 28: Frequency table autonomy

Autonomy					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	1	,6	,6	,6
	2,25	1	,6	,6	1,1
	2,33	2	1,1	1,1	2,3
	2,44	5	2,8	2,8	5,1
	2,56	7	4,0	4,0	9,1
	2,67	4	2,3	2,3	11,4
	2,78	9	5,1	5,1	16,5
	2,89	4	2,3	2,3	18,8
	3,00	15	8,5	8,5	27,3
	3,11	11	6,3	6,3	33,5
	3,22	2	1,1	1,1	34,7
	3,33	13	7,4	7,4	42,0
	3,38	1	,6	,6	42,6
	3,44	15	8,5	8,5	51,1
	3,50	1	,6	,6	51,7
	3,56	9	5,1	5,1	56,8
	3,67	11	6,3	6,3	63,1
	3,75	1	,6	,6	63,6
	3,78	16	9,1	9,1	72,7
	3,89	14	8,0	8,0	80,7
	4,00	18	10,2	10,2	90,9
	4,11	1	,6	,6	91,5
	4,22	4	2,3	2,3	93,8
	4,33	2	1,1	1,1	94,9

	4,67	2	1,1	1,1	96,0
	4,78	1	,6	,6	96,6
	5,00	6	3,4	3,4	100,0
	Total	176	100,0	100,0	

Table 29: Frequency table organizing authority

Organizing authority					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,40	1	,6	,6	,6
	1,60	1	,6	,6	1,1
	1,80	1	,6	,6	1,7
	2,00	1	,6	,6	2,3
	2,20	2	1,1	1,1	3,4
	2,60	4	2,3	2,3	5,7
	2,80	7	4,0	4,0	9,7
	3,00	8	4,5	4,5	14,2
	3,20	10	5,7	5,7	19,9
	3,40	22	12,5	12,5	32,4
	3,50	1	,6	,6	33,0
	3,60	18	10,2	10,2	43,2
	3,75	1	,6	,6	43,8
	3,80	28	15,9	15,9	59,7
	4,00	43	24,4	24,4	84,1
	4,20	15	8,5	8,5	92,6
	4,40	4	2,3	2,3	94,9
	4,60	4	2,3	2,3	97,2
	4,80	1	,6	,6	97,7
	5,00	4	2,3	2,3	100,0
	Total	176	100,0	100,0	

Table 30: Frequency table social support

Social support					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,44	2	1,1	1,1	1,1
	2,56	1	,6	,6	1,7
	2,67	2	1,1	1,1	2,8
	2,78	2	1,1	1,1	4,0
	2,89	3	1,7	1,7	5,7
	3,00	8	4,5	4,5	10,2
	3,11	4	2,3	2,3	12,5
	3,22	4	2,3	2,3	14,8
	3,33	6	3,4	3,4	18,2
	3,44	6	3,4	3,4	21,6
	3,56	8	4,5	4,5	26,1
	3,67	7	4,0	4,0	30,1
	3,75	1	,6	,6	30,7
	3,78	17	9,7	9,7	40,3
	3,89	21	11,9	11,9	52,3
	4,00	32	18,2	18,2	70,5
	4,11	7	4,0	4,0	74,4
	4,20	1	,6	,6	75,0
	4,22	5	2,8	2,8	77,8
	4,33	2	1,1	1,1	79,0
	4,44	3	1,7	1,7	80,7
	4,56	5	2,8	2,8	83,5
	4,63	1	,6	,6	84,1
	4,67	8	4,5	4,5	88,6
	4,75	1	,6	,6	89,2
	4,78	5	2,8	2,8	92,0

	4,89	7	4,0	4,0	96,0
	5,00	7	4,0	4,0	100,0
	Total	176	100,0	100,0	

Table 31: Frequency table job engagement

Job engagement					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,67	1	,6	,6	,6
	2,78	3	1,7	1,7	2,3
	3,00	9	5,1	5,1	7,4
	3,11	2	1,1	1,1	8,5
	3,22	6	3,4	3,4	11,9
	3,33	9	5,1	5,1	17,0
	3,38	1	,6	,6	17,6
	3,44	8	4,5	4,5	22,2
	3,56	10	5,7	5,7	27,8
	3,67	6	3,4	3,4	31,3
	3,78	14	8,0	8,0	39,2
	3,89	23	13,1	13,1	52,3
	4,00	33	18,8	18,8	71,0
	4,11	12	6,8	6,8	77,8
	4,22	8	4,5	4,5	82,4
	4,33	4	2,3	2,3	84,7
	4,38	1	,6	,6	85,2
	4,44	3	1,7	1,7	86,9
	4,50	1	,6	,6	87,5
	4,56	4	2,3	2,3	89,8
	4,67	5	2,8	2,8	92,6
	4,78	6	3,4	3,4	96,0

	4,89	3	1,7	1,7	97,7
	5,00	4	2,3	2,3	100,0
	Total	176	100,0	100,0	

Appendix L

Confidentiality agreement

Radboud University
Nijmegen, the Netherlands

Geheimhoudingsverklaring

De ondergetekende:

Naam: Willem Roefs

Geboortedatum: 01-02-1998

Woonplaats: Horst

Faculteit: Business Administration

Studie: Master Strategic Management

VERKLAART HIERBIJ HET VOLGENDE:

1) Ondergetekende weet dat hij/zij verplicht is om alle vertrouwelijke informatie, die hem/haar in het kader van zijn/haar studie gerelateerde werkzaamheden bij of in opdracht van de Radboud Universiteit ter kennis komt uitsluitend in het kader van zijn/haar studie gerelateerde werkzaamheden bij of in opdracht van de Radboud Universiteit te gebruiken en voor het overige geheim te houden. Onder vertrouwelijke informatie wordt verstaan: alle informatie, documenten en gegevens die niet reeds openbaar is/zijn.

2) De in lid 1 genoemde verplichting geldt ook na beëindiging van de studie gerelateerde werkzaamheden bij of in opdracht van de Radboud Universiteit.

3) De in lid 1 genoemde verplichting bestaat, voor zover niet anders is overeengekomen, niet tegenover collega's of anderen die medeverantwoordelijk zijn voor een goede uitoefening van de studie gerelateerde werkzaamheden, indien en voor zover zij zelf jegens de Radboud Universiteit tot geheimhouding verplicht zijn of zich daartoe verplichten.

4) Ondergetekende neemt tijdig en adequaat alle maatregelen die redelijkerwijze nodig zijn om ervoor te zorgen dat de vertrouwelijke informatie tegen verlies en/of ongeoorloofde toegang is beschermd.

5) Alle eigendomsrechten met betrekking tot door ondergetekende ontvangen vertrouwelijke informatie en daarop gebaseerde resultaten komen toe aan en blijven berusten bij de Radboud Universiteit.

6) Het is ondergetekende verboden op welke wijze dan ook vertrouwelijke informatie, of

kopieën hiervan, in bezit te hebben of te houden of te kopiëren, uitgezonderd voor zover en voor zolang dit in het kader van de studie gerelateerde werkzaamheden/opdracht is vereist, waarbij geldt dat het nimmer is toegestaan om vertrouwelijke informatie, of kopieën hiervan, ongeacht of het gaat om documenten of bestanden in welke vorm dan ook, op te slaan, te verwerken of bewerken, op een apparaat buiten, of op een netwerk anders dan, het netwerk van Radboud Universiteit.

7) Ondergetekende verplicht zich om alle in lid 1 genoemde vertrouwelijke informatie en andere op de studie gerelateerde werkzaamheden betrekking hebbende informatie, alsmede (digitale) kopieën en aantekeningen daarvan, zonder enig verzoek daartoe, bij het eindigen van zijn/haar studie gerelateerde werkzaamheden of de opdracht onmiddellijk aan de Radboud Universiteit te doen toekomen. Hieronder worden ook alle vormen van computerprogrammatuur en (digitale) gegevensdragers, tekeningen, bescheiden en/of goederen die op de werkzaamheden/opdracht betrekking hebben begrepen.

8) Ondergetekende is ermee bekend dat overtreding van enige gebods- dan wel verbodsbepaling in deze verklaring kan leiden tot beëindiging van zijn/haar studie gerelateerde werkzaamheden en/of een schadevergoedingsvordering, alsmede tot sancties door de wet daarop gesteld.

9) In geval van twijfel over de toepasselijkheid en/of uitleg van het hier bepaalde zal ondergetekende terstond en uit eigen beweging overleg met de Radboud Universiteit voeren, evenals in het geval dat hij/zij op enige wijze in een procedure wordt betrokken waarin hetgeen in deze verklaring is omschreven aan de orde (kan) komen.

10) Op deze verklaring is Nederlands recht van toepassing.

Datum en plaats: 09-03-2022 **Handtekening voor akkoord:**