The influence of nursing home structures on the quality of work among nursing home workers

A systematic review

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Abstract

The purpose of this research is to improve the quality of work among nursing home workers, by enhancing the understanding of the effect that structures have on the quality of work of nursing home workers. More specifically, in this research a systematic review has been conducted, which was used to explore the relation between two specific types of structures and elements of quality of work: the bureaucratic- and the flexible nursing home structure.

Nursing homes are not able to create a high quality of work when they implement a bureaucratic nursing home structure. The bureaucratic nursing home scores a high degree on the degree of functional concentration, the degree of operational differentiation, the degree of operational specialization, and the degree of separation between operational and regulatory activities. The high value of the parameters results in a structure in which nursing home workers have small and narrow operational tasks, without regulatory potential, and focused on multiple types of patients. Furthermore, nursing home workers perform all their tasks on their own, and thus perform their tasks in isolation. These bureaucratic structures negatively influence quality of work, due to several reasons. Bureaucratic nursing home structures: (1) increase job demands, as they increase the workload and time-pressures, (2) decrease job control, as they disable decision authority and intellectual discretion, (3) decrease social support, as they disable structural- and functional support, and (4) increase absenteeism and turnover, as they limit learning- and development opportunities, and limit the possibility to control stress conditions. As a result, a low psychological well-being and therefore a low quality of work will be created.

In contrast, nursing homes can create a high quality of work when they implement a flexible nursing home structure. The flexible nursing home structure scores low on the degree of functional concentration, the degree of operational differentiation, the degree of operational specialization, and the degree of separation between operational and regulatory activities. The low value of the parameters results in a structure in which nursing home workers have broad and complete tasks, contain full regulatory potential, and which focus on a specific number of patients instead of all patients. Furthermore, nursing home workers in a flexible nursing home structure do operate in teams, providing them with the opportunity to be part of the nursing home network. These flexible structures positively influence quality of work, due to several reasons. Flexible nursing home structures: (1) decrease job demands, as they decrease the workload and time-pressures, (2) increase job control, as they enable decision authority and

intellectual discretion, (3) increase social support, as they enable structural- and functional support, and (4) decrease absenteeism and turnover, as they provide learning- and development opportunities, and enable the possibility to control stress conditions. As a result, a high psychological well-being and therefore a high quality of work will be created.

This model extends the literature on organization structures and healthcare, by providing insight in how a structure should be designed in such a way, that a high quality of work is created among nursing home workers. Moreover, this research integrates the influence of several structural characteristics on multiple quality of work elements. Besides the literature contributions that this research provides, practical contributions are also provided. More specifically, by enhancing the understanding of the influence of the nursing home structure on quality of work among nursing home workers, this research will contribute to the government, civil society organizations, managers of nursing homes, and individual nursing home workers.

A recommended direction of future research is that future research should conduct research on the influence of nursing home structures on quality of work among nursing home workers in other countries, future research should try and focus on the influence of all structural characteristics (parameter) on the quality of work among nursing home workers, and future research should try and focus on determining the best process for building a flexible structure in nursing homes.

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Chapter 1. Introduction

The healthcare nowadays is under enormous pressure, as stated by Ernst Kuipers, Dutch minister of health:

‘’*More than 1.3 million people in healthcare work daily towards goals related toachieving accessible, affordable, and high-quality care. That is an extremely important achievement which we most definitely must cherish. But healthcare and the realization of the goals are under enormous pressure today, especially in nursing homes’’ (Rijksoverheid, 2022).*

The United Nations (2015) states that between 2015 and 2100 the proportion of the population older than 64 years in both the United States and Europe, will double relative to those aged between 15 and 64. In the United States the percentage of the population older than 64 will increase from 22 to 48 percent, while in Europe it will rise from 26 to 53 percent (The United Nations, 2015). Furthermore, the government expects that the largest part of the aging population will come to live in nursing homes (Willemse et al., 2014), and that the shortage of healthcare workers in the next ten years will be almost tripled (NRC, 2022; TROUW, 2022; NOS.NL, 2022). Because of the challenging and stressful job of healthcare professionals in general, burnout symptoms and dissatisfaction are already widespread among healthcare professionals (Dall’Ora et al., 2020). However, due to the increasing shortage of healthcare professionals in the nursing home sector, the pressure on professionals in nursing homes and therefore burnout numbers will raise even higher (Dall’Ora et al., 2020). Consequently, it will negatively impact the quality of work of nursing home workers. The low quality of work among nursing home workers will have disastrous effects for society, as the quality, affordability and accessibility of nursing homes cannot be solved without improving quality of work among nursing home workers (West, 2016). Several researchers suggest that structures that structures influence the quality of work of professionals in the healthcare sector (De Sitter, 1994; Achterbergh & Vriens, 2010; Achterbergh & Vriens, 2019; Christensen et al., 2009). Therefore, the aim of this research is to establish the relationship between structural characteristic of nursing homes and the quality of work of nursing home workers, by conducting a systematic literature review. More specially, a special type of systematic review will be conducted: a narrative synthesis (Popay et al., 2006). A narrative synthesis can be described as an approach to the systematic literature review and synthesis of findings from multiple literature studies, that relies foremostly on the use of words and texts to summarize and explain the findings of the synthesis of literature (Popay et al., 2006). By doing so, this research aims to provide an

extensive oversight of how the quality of work of nursing home workers can be improved. To realize the aim of this research, the following research question was developed:

'How do the structures of nursing homes influence the quality of work among nursing home workers?'

According to Achterbergh & Vriens (2019), quality of work expresses the degree of meaningfulness that jobs in organizations have. At the same time, quality of work also has to do with employees living a 'fulfilled life' while doing their jobs (Achterbergh & Vriens, 2010). Quality of work can be described by means of two elements of the work environment: job demands and job control (Karasek, 1979). Both elements have a high impact on the level of psychological strain of nursing home workers, and therefore, their well-being and the quality of their work. The model shows that psychological strain results not from either aspect of the work environment alone, but from the joint or interactive effects of two variables job demands and job control (Karasek, 1979). Furthermore, Johnson & Hall (1988) and Sargent & Terra (2000) claim that the quality of work is dependent on a third element; the degree to which workers experience social support (Johnson & Hall, 1988; Sargent & Terra, 2000). According to many studies, nursing homes can realize a high quality of work among nursing home workers, by reorganizing their internal structure in such a way that nursing home workers with high job demands, have sufficient job control, and experience a high degree of social support (Karasek, 1979; De Sitter 1994; Achterbergh & Vriens, 2019; Kuipers et al., 2020).

The internal structure of an organization refers to the way different tasks are organized (Ashby, 1958; Christis, 1988). A lot of nursing homes have their structure organized as a bureaucratic structure (Ulsperger & Knotternus, 2008; Christensen, 2009). A bureaucratic structure is a structure in which the complete care process consists of many different tasks, which are all split up into many small operational tasks (Gronouwe et al., 2022). Because the tasks are small, nursing home workers focus on only a small part of the operational process. Furthermore, the small tasks are all allocated to functional units, that consist of similar tasks. As a result, nursing home workers do not work in teams, but on their own (Huys et al., 1999). Moreover, regulatory potential is separated from the operational tasks, which means that nursing home workers cannot regulate their tasks on their own. Instead, in bureaucratic structures nursing home workers are dependent on the regulation of other nursing home workers (often a formal manager) (Huys et al., 1999; Achterbergh & Vriens, 2019). The regulatory tasks are also split up into multiple, small tasks, meaning that the nursing home workers performing the regulatory

tasks only regulate a small part of the operational process (Pugh et al., 1968). Because there are so many operational and regulatory tasks within a bureaucratic structure and those tasks need to be linked, bureaucratic structures can be described as a very complex network of tasks (de Sitter, 1994; Achterbergh & Vriens, 2019). Several researchers claim that these bureaucratic structures will lead to a low quality of work among nursing home workers, as these structures increase job demands, limit the ability of workers to exert job control, disable social support among workers and increase the possibility of absenteeism and turnover (Syed et al., 2017; Ulsperger & Knotternus, 2007; Tyler et al., 2006; Vermeerbergen et al., 2021; McGilton et al., 2014; Rai, 2013).

To enable nursing homes to create a high quality of work for their workers, many studies advice to create a proper and different organizational structure: a flexible structure (Dickson et al., 2006; Christensen et al., 2009; Achterbergh & Vriens, 2019; Kuipers et al., 2020). A nursing home with a flexible structure consists of several semi-autonomous parallel units. Each unit focuses on a specific type of patient (Benders et al., 2006; Sels, 1997). In these units, nursing home workers do not perform small tasks, with a small scope in functional departments. Instead, they perform broad tasks in semi-autonomous teams (Gronouwe et al., 2022; Moorkamp, 2018). In those teams, nursing home workers are responsible for the complete care process of a specific patient (e.g., patients with dementia or patients with ADL needs) (Nadler & Tushman, 1997). Additionally, these teams contain tasks which have the required regulatory potential to regulate the complete process, and which are not split up into small tasks (De Sitter, 1994). Instead, nursing home workers perform broad regulatory tasks which focus on the complete care process, resulting in the fact that nursing home workers are not dependent on other nursing homeworkers when it comes to regulation (Huis et al., 1999; Benders et al., 2006). Several researchers claim that these flexible structures will lead to a low quality of work among nursing home workers, as these structures increase job demands, limit the ability exert job control, disable social support among nursing home workers and increase the possibility of absenteeism and turnover (Vermeerbergen et al., 2021; Vässbo et al., 2019; Lubetkin et al., 2005; Choi et al., 2012; te Boekhorst et al., 2006).

This research contributes to the existing literature of organization structures in several ways. Firstly, this research enhances the understanding of how a nursing home structure should look like to create a high quality of work among nursing home workers. Secondly, several studies discuss the relationship between distinctive parts of the structure of nursing homes and the

quality of work of nursing home workers (Syed et al., 2017; Ulsperger & Knotternus, 2007; Tyler et al., 2006; Vermeerbergen et al., 2021; Vässbo et al., 2019; Lubetkin et al., 2005; McGilton et al., 2014; Choi et al., 2012; te Boekhorst, 2008; Rai, 2013). However, there is not yet integrated research of the relationship between the multiple characteristics of the nursing home structure of nursing homes and the quality of work among nursing home workers. To eliminate that gap, this research has linked multiple structural characteristics to the quality of work among nursing home workers. Furthermore, this research also contributes to existing healthcare literature. Some researchers showcased the relationship between the structure and one element of quality of work (e.g., job demands), instead of connecting the structure to all elements of quality of work (Syed et al., 2017; Ulsperger & Knotternus, 2007; Tyler et al., 2006; Vermeerbergen et al., 2021; Vässbo et al., 2019; Lubetkin et al., 2005; McGilton et al., 2014; Choi et al., 2012; te Boekhorst, 2008; Rai, 2013). In contrast, this research covers all quality of work elements. Furthermore,given the facts that the quality of work is highly related to quality of care (Asante et al., 2021; Johannessen et al., 2020) and that the realization of goals of nursing homes is dependent on the quality of work of nursing home workers (Albrecht, 2012), this research could contribute to current literature on quality of care and realization of goals in the healthcare sector.

Besides the literature contributions that this research provides, practical contributions are also provided. More specifically, by enhancing the understanding of the influence of the nursing home structure on quality of work among nursing home workers, this research will contribute to the government, civil society organizations, managers of nursing homes, and individual nursing home workers. Firstly, governments are due to the aging and shortage of healthcare personnel dealing with quality of work problems (Blatter et al., 2005; Maslach et al., 1996), and could use the structural insights of this research to solve the problem and create a high quality of work. Secondly, civil society organizations could use the insights to inform themselves how they in return should inform nursing homes how to create high quality of work. Thirdly, nursing home managers who are experiencing quality of work problems or who have just started a nursing home, could use the insights on how to enable a high quality of work. Fourthly, individual nursing home workers might benefit from this research. This research provides actors such as the government, civil society organizations (labor unions), and nursing home managers with the insights on how a flexible structure improves the quality of work among nursing home workers. As a result, those actors could implement the flexible structures and improve the quality of work among nursing home workers.

To conduct the systematic review and thus give an answer to the research question, the following research outline will be used: in chapter two, the theoretical framework will be presented. The theoretical framework will give insight into the definition of quality of work, the definition of an organizational structure, structural characteristics by means of parameters, and the effects of certain types of structures on the quality of work. Chapter three will give insight in the methods which were used to conduct this research. Chapter four will present the results, and thus an integrated oversight of the findings of included studies. The last chapter, chapter five, will give the conclusion and discussion of this research. In this chapter, the research question will be answered, the scientific and practical implications will be discussed, and the limitations of this research will be described.

Chapter 2. Theoretical background

In this chapter an oversight of the relevant theoretical concepts and their connections will be given. To do this chapter is divided into the following structure: in paragraph 2.1, a thorough description of the concept 'quality of work', will be given. In paragraph 2.2, an extensive description of the concept 'organizational structure' will be given, followed by an explanation of structural parameters which all reflect certain characteristics of the organizational structure. In paragraph 2.3, an explanation of two different types of organizational structures will be given, followed by an explanation of the connections between quality of work and the different types of structures.

2.1 Quality of Work

Quality of work can be defined as the extent to which a nursing job contains work-related elements that have the ability to create beneficial outcomes for employees, particularly psychological well-being (Holman, 2006). Quality of work expresses the degree of meaningfulness that jobs in organizations have. At the same time, quality of work also has to do with employees living a 'fulfilled life' while doing their jobs (Achterbergh & Vriens, 2010). De Sitter (1994), Karasek (1979) and Johnson & Hall (1988), together provided four elements that influence the quality work (see figure 3.1). De Sitter (1994) argued that there is one element by means of which one can measure the quality of work among employees: the degree of absenteeism and the degree of personnel turnover. To realize a high quality of work, organizational structures, and thereby organizational tasks, should provide employees with enough opportunities to learn, develop themselves, to feel involved with their work and the ability to deal with work-related stress (Achterbergh & Vriens, 2019). Furthermore, according to the Job Demand Control model of Karasek (1979) (see figure 2.1) there are two work-related elements that significantly impact the level of psychological strain of nursing home workers, and therefore the well-being and the quality of their work: job demands, job control (Karasek, 1979; Karasek & Theorell, 1990; Johnson & Hall, 1988). The model shows that psychological well-being or a psychological disorder (e.g., depression) result not from either aspect of the work environment alone, but from the joint or interactive effects of two variables job demands and job control (Karasek, 1979). Based on the two variables, Karasek (1979) designed four types of jobs. A job scoring high on demands and low on control is called a high strain job, which bears the highest risk reduced psychological well-being (Häusser et al., 2010). In

contrast, jobs scoring low on demands and high on control are called low-strain jobs. Those jobs have the lowest the possibility of reduced psychological well-being (Häusser et al., 2010). Furthermore, Karasek et al., (1979) also defined two other jobs: active and passive jobs. A job is defined as active, when job demands, and job control are simultaneously high. An active job entails that the employee will learn and develop new behavior. Subsequently, employees will be able to deal with the high job demands (Karasek, 1979). A job is defined as passive, when both job demands, and job control are simultaneously low.

However, although there is evidence of significant main effects of job control on levels of psychological well-being, the model fails to produce conclusive evidence of work control and job demand interactions in predicting employee well-being and thus a high quality of work (Dwyer & Ganster, 1991; Sargent & Terry, 2000; Terry, 1998; Spector, 1987). In the light of inconsistent support for Karasek's (1979) demands-control model, several researchers have considered the possibility that there might be a third variable, which subsequently moderates the effects of high work stress and low work control on the quality of work of employees (Sargent & Terry, 2000). In this vein, Johnson, and Hall (1988), and later Karasek and Theorell (1990), found that low levels of social support significantly influenced the negative impact of high job demands and low job control on psychological strain.

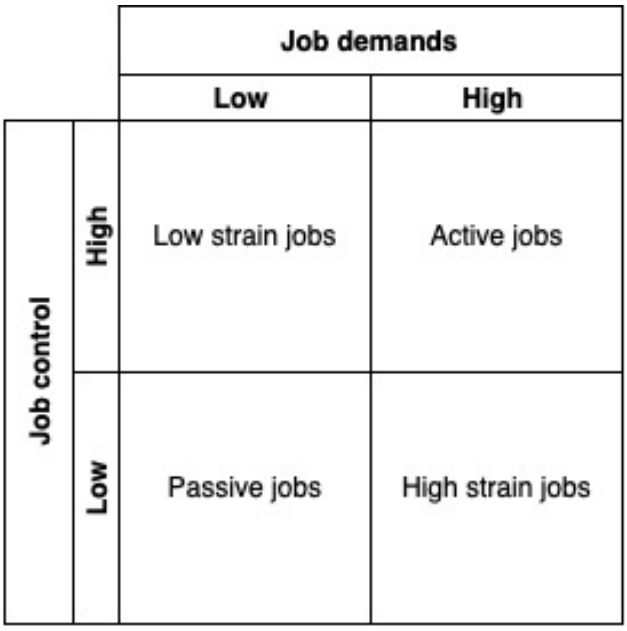


Figure 2.1 Job Demands Control model (Karasek, 1979)

2.1.1 Job demands

The element 'job demands' may be defined as physical, psychological, social, or organizational aspects of the job, that require sustained physical and/or psychological effort or skills, needed to complete the job (Visser et al., 2019; Bakker & Demerouti, 2007). Although job demands themselves are not necessarily negative, they may turn into job stressors when meeting those demands requires high psychological effort from which the employee has not adequately recovered (Meijman & Mulder, 1998). Therefore, these job demands are associated with both positive and negative psychological well-being (Bakker & Demerouti, 2007; Holman, 2006). Job demands are typically operationalized in terms of several quantitative aspects. This research will only focus on quantitative aspects such as 'workload' and 'time pressure' (van der Doef & Maes, 1999a; Karasek, 1985).

While job demands are known to be high in the healthcare sector, they can differ significantly between healthcare settings (Sargent & Terry, 2000). The demands among nursing home workers in nursing homes, are rising through the roof (Sargent & Terry, 2000). Due to a continuous increase of technological developments in the nursing home sector in the past decades, nursing home workers needed to learn many new and complicated things (Plaku-Alakbarova, 2018). As a result, job complexities and the workload of nursing home workers have increased significantly (Plaku-Alakbarova, 2018). Furthermore, we are now living in an era in which the aging of the population has increased tremendously (United Nations, 2015). The government expects that the aging of the population will continue to increase (TROUW, 2022; NRC, 2022; NOS, 2022), and that the largest part the aging population will come to live in nursing homes (Willemse et al., 2014). Due to the shortage, the workload and time pressure among nursing home workers will significantly increase (Maslach et al., 2020). Research has revealed that job demands such as a high workload and time pressures may lead to sleeping problems and exhaustion (Doi, 2005; Halbesleben & Buckley, 2004). As a result, impaired psychological well-being will be caused, leading to a bad quality of work among nursing home workers (Holman, 2006; Karasek, 1979; Bakker & Demerouti, 2007).

2.1.2 Job control

Job control (also termed decision latitude) can be defined as the extent to which an employee can control their tasks and general work activity (Häusser et al., 2010). When employees have more job control, they are better equipped to deal with, and regulate challenges arising from job demands (Van Hootegem & Amelsvoort, 2017). Therefore, job control could help to lower

strain (Karasek, 1979). Job control is typically operationalized in terms of two measurable indicators, namely: 'decision authority' and 'intellectual discretion' (Carayon, 1993; Karasek, 1979). Decision authority reflects the degree to which an individual has control in making decisions about the way a task is performed. Intellectual discretion reflects the degree to which an employee can use personal knowledge and skills in performing a task (Häusser et al., 2010; Del Pozo-Antunez et al., 2018). However, a lot of jobs do not have the job control to deal with job demands. Subsequently, jobs with high job demands and low job control, will induce stress among employees. This is because if no action can be taken, or if the individual must renounce its own other desires because of low decision latitude, it might leave employees with the feeling of inadequacy and powerlessness (Sargent & Terra, 2000; Karasek, 1979). A feeling of inadequacy and powerlessness may cause stress among employees, which will in return negatively affect the psychological well-being, and therefore the quality of work among employees (Bakker & Demerouti, 2007; Holman, 2006).

In the case of nursing home workers, where everyday decisions are made with, for, and on behalf of the elderly dependents to preserve their well-being or manage pain, decision making, and intellectual discretion are inherent to the nature of eldercare work (Kubicek et al., 2014). Many nursing home workers live for the people and have the desire to do everything within their power to improve the lives of nursing home patients (Kubicek et al., 2014). Therefore, it may be assumed that the extent of job control or freedom that nursing home workers have, may be one of the most important work characteristics of jobs in nursing homes as an important determinant of nursing home workers' psychological well-being and therefore, the quality of work (Schmidt and Diestel, 2011; Willemse et al., 2012). Conversely, research also shows that too much job control might not always be beneficial for nursing home workers (Kubicek et al., 2014). Job control is namely associated with increased planning requirements and problems with unpredictability and, in turn, may reduce nursing home workers' psychological well-being and quality of work (Korunka & Kubicek, 2013). Furthermore, when nursing home workers are for example making end-of-life decisions, they often perform the role of information brokers transmitting information to physicians, family members, or mediating in- between parties (Adams et al., 2011). The decision on how to communicate, what to say, and when to say it may put a huge responsibility on the nursing home workers (Kubicek et al., 2014). As a result, job control may become more constraining than valuable for nursing home workers (Kubicek et al., 2014).

2.1.3 Social support

Social support refers to the belief that one is valued, cared for, and loved by others in a their personal network, and in this case, their work context (Cohen & Syme, 1985; Cohen & Wills, 1985). Several researchers claim that employees who experiences a lot of social support would experience less job stress than someone who experiences little social support, independent of the demands and control inherent in the job (Calnan et al., 2004; Kalliath et al., 2006; Sargent & Terry 2000; Shimazu et al., 2005). This is because social support has a buffering effect in three different ways, (1) social support lowers the severity of stress factors (Albar Marin et al., 2005), (2) it buffers the undesirable effects of job demands, and (3) it decreases feelings of exhaustion (Bakket et al., 2000). As a result, a high social support is positively associated with psychological well-being (Bakker & Demerouti, 2007; Holman, 2006). Social support can generally be conceptualized into two broad factors: structural- and functional support (Cohen & Syme, 1985; Cohen & Wills, 1985). Structural support can be defined as the size of the social network and the degree to which a person subsequently is socially integrated in the network (Cohen & Syme, 1985). Functional support refers to the ways by which network members aid the individual through tangible assistance or through psychological and emotional buffering (Cohen & Syme, 1985). With functional support, a distinction can be made between 'co-worker support' and 'supervisor support' (Johnson & Hall, 1988). Co-worker support can be defined as the frequency with which an employee can turn to colleagues with his or her problems (Vermeerbergen et al., 2021). Supervisor support in turn, can be defined as the frequency with which an employee can turn to his superiors with his or her problems (Johnson & Hall, 1988). If the degree of social support in a work context is high, a job can be seen as a 'collective job', and if the frequency of social support is low, a job can be seen as a 'isolated job' (Johnson & Hall, 1988).

Furthermore, even a third distinction of functional support can be made. Studies of Prins et al., (2007) and Bakker et al., (2000) found that support of patients positively influenced quality of work among nursing home workers, as it decreases emotional exhaustion and depersonalization. Nursing home workers invest a lot of time and effort in the relationship between them and their patients, both emotionally and physically. When patients show gratitude and appreciation for the care that has been provided to them, it gives nursing home workers a feeling of satisfaction and gratefulness (Bakker et al., 2000) However, the opposite is also true. When nursing home workers have the feeling that their efforts are not appreciated, nursing home workers might feel very dissatisfied (Bakker et al., 2000).

Several studies found that a poor social support is one of the key factors associated with a poor psychological-wellbeing, and therefore, a low quality of work among nursing home workers (Michie & Williams, 2003; Hamaideh et al., 2008). According to these studies nursing home workers would have found it very helpful if they received more emotional support from supervisors, co-workers, or patients, as it would have helped them coping with stressful events (Michie & Williams, 2003; Hamaideh et al., 2008).

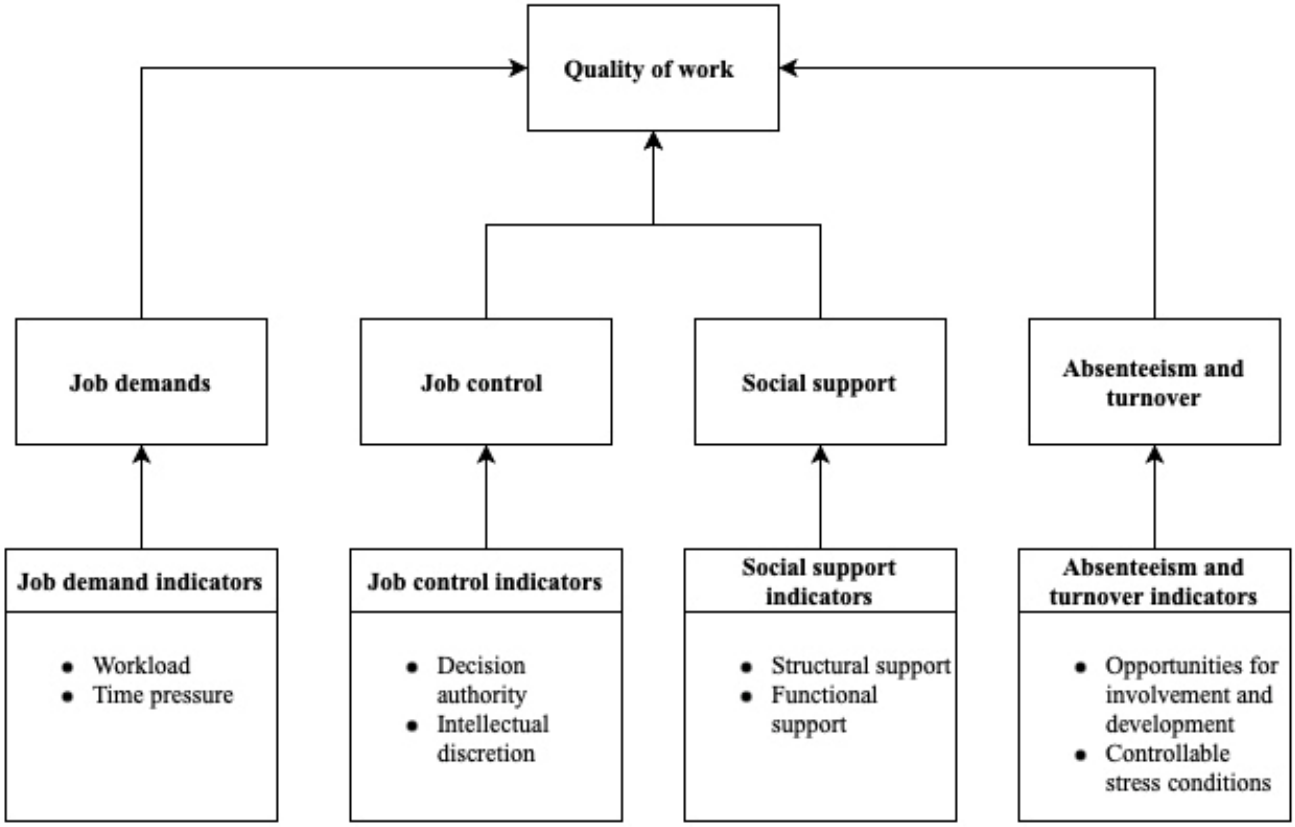


Figure 2.2 Quality of work

2.2 Organizational structure

2.2.1 Definition of an organizational structure

An organizational structure can be described as a network of interrelated tasks (Porter & Lawler, 1965; Ashby, 1958; Christis, 1988; de Sitter, 1994; Kuipers et al., 2020). Together, all the interrelated tasks enable the realization of the main organizational activity. Each task in a network, consists of certain set of activities which need to be performed by an employee (Weick, 1979; Mintzberg, 1980; Katz & Kahn, 1978). These tasks should be able to be assigned to a healthcare unit or a nursing home worker, who is responsible for realizing a certain set of

activities. A task, then, describes which operational unit or which professional should perform which set of sub-activities (Porter & Lawler, 1965; Gronouwe et al., 2022). To understand how activities are allocated to tasks, it should first be clear what an activity is and how it can be decomposed into sub-activities (Porter & Lawler, 1965; Gronouwe et al., 2022). For that, Ashby's concept of transformation will be used (Ashby, 1958). Ashby claimed that an activity consists of three parts: a begin state, a process, and an end state. An activity refers to the unity of these three parts, and highlights that there is some process causing the begin state to change into the end state. The three parts can be described by means of an example in the nursing home context: the main activity of a nursing home, describing the provisioning of care to patients consists of a begin state, patients who want to be provided with care and a desired end state, and patients who received the requested care. The process in nursing homes consists of all the activities needed to provide care (e.g., giving medicine), and should make sure that the care (the end state) is provided

Furthermore, an activity also has an important distinction: the difference between operational and regulatory activities (Ashby, 1958; Kuipers et al., 2020). The operational aspect refers to the activities realizing the end state (Argote & Fahrenkopf, 2016; Demetriou, 2000). For example, a nursing home worker who provides an elderly patient with medicine to make sure the patient becomes healthy again. The regulatory aspect refers to all activities enabling the smooth performance of these operational activities (Gray & Silbey, 2014). These activities are 'operational regulation', 'strategic regulation', and 'regulation by design' (Kuipers et al., 2020; Achterbergh & Vriens, 2019). Firstly, operational regulation reflects dealing with disturbances in the organizational processes, so that employees can continue to deliver their value (Demetriou, 2000). There might for example be a situation in which a nursing home worker tries to give medicine to a patient, but the patient aggressively refuses. This can be seen as a disturbance, as the nursing home worker cannot provide care (medicine) to an aggressively refusing patient. The nursing home worker must subsequently deal with the disturbance, by calming down the patient, so that care can be provided. Secondly, strategic regulation reflects the settlement of goals related to their primary processes (Gray & Silbey, 2014; Demetriou, 2000). An example could be the quality standards that a nursing home has set for their care processes. Thirdly, regulation by design. In order to perform primary processes, to deal with disturbances, and to set goals, certain organizational 'conditions' need to be regulated (Demetriou, 2000; de Sitter et al., 1997). At least three types of conditions can be discerned: 'human resources', 'technology', and an 'organizational structure' (de Sitter et al., 1997;

Achterbergh & Vriens, 2019). In this research, only the organizational structure as condition will be discussed.

2.2.2 Designing organizational structures

To elaborate on how nursing homes should design their structure, it's important to again look at the definition of an organizational structure. Given the fact that each task consists of several activities, an organizational structure can be described as a network of interrelated tasks (Christis, 1988; Ashby, 1958; de Sitter, 1994; Kuipers et al., 2020). Subsequently, the definition of designing of an organizational structure can be given: ''Designing a structure can be defined as the decomposition of the main organizational activity into various smaller sub-activities, an assembling of these sub-activities into tasks, and next, coordination (allocation to employees or persons) of the resulting tasks'' (Mintzberg, 1983). If a structure is 'properly' designed, this implicates that the tasks of all nursing home workers or units are defined and interconnected in such a way, that a high quality of work can be realized (Christis & Soepenberg, 2014; Kuipers et al; 2020; Karasek, 1979; Achterbergh & Vriens, 2009).

Each organizational structure can be described and designed by means of structural parameters (Gronouwe et al., 2022; de Sitter, 1994). These parameters capture relevant characteristics of the organizational structure and each of these parameters can have different values. Dependent on these values, the organizational has a certain form with certain characteristics (i.e., parallelized, or sequential) (Achterbergh & Vriens, 2019). Moreover, design parameters can also be used as normative points of reference. That means that an organization can diagnose the current structure by means of the desired values of the parameters. If the values aren't equal to the desired values, the structure should be redesigned in such a way that the desired values are met (Achterbergh & Vriens, 2019). There exist seven parameters grouped among three types of parameters, and each parameter can either score a low or a high value. The first group of parameters consists of parameters which describe the production structure, the second group of parameters consists of parameters which describe the control structure, and the third group of parameters consists of parameters which describe the relation between the production and control structure (Van Hootegem & Amelsvoort, 2017).

Each of the seven parameters will be described in the remainder of this section and are schematically presented in table 2.1. Furthermore, to enhance a deeper understanding of structural design in the context of nursing homes, each parameter will be coupled to a nursing

home example. As an example of a nursing home with either a low or a high parameter value structure, consider a nursing home which focuses on two types of patients: patients with dementia, and patients with just ADL (Activities of Daily Living) needs. Furthermore, the job of nursing home workers obviously consists of many tasks, but in this example only a few tasks will be used: administration, planning of care, maintenance of equipment, bathing patients, feeding patients, monitoring patients' health, and giving medicine.

Table 2.1 Organization structure parameters

Types of parameters	**Parameters**
Parameters describing the production structure	1. The degree of functional concentration 2. The degree of operational differentiation 3. The degree of operational specialization
Parameters describing the control structure	1. The degree of differentiation of regulatory activities into parts 2. The degree of differentiation of regulatory activities into aspects 3. The degree of specialization of regulatory activities
Parameters describing the relation between the production and the control structure	1. The degree of separation between the production and the control structure.

1. Parameters describing the production structure

a) The degree of functional concentration. The degree of functional concentration can be defined as the degree to which operational tasks are (potentially) related to all order types (Pugh et al., 1968; Moorkamp, 2018). A high degree of functional concentration means that all operational activities are potentially related to all orders (Pugh et al., 1968). Organizations with a high functional concentration have functional departments in which tasks are grouped based on the resemblance in task or activity (Mintzberg, 1980). In the context of the nursing home example, all the tasks would be grouped into different departments (e.g., bathing, cooking, wound care, administration). Furthermore, each department then is responsible for each type of patient, which means that nursing home workers will perform their tasks for each type of patient

(e.g., for both dementia and ADL patients) (Jacobs & van Amelsvoort, 2001). In such contexts, patients enter one department, after which they move on to other departments (Jacobs & van Amelsvoort, 2001). To improve the understanding of a high functional concentration, figure 2.3 has been added below. As can be seen in the figure, different types of patients go through the same nursing homework process. The nursing home processes is then performed by several functional units (e.g., bathing, cooking, wound care, administration).

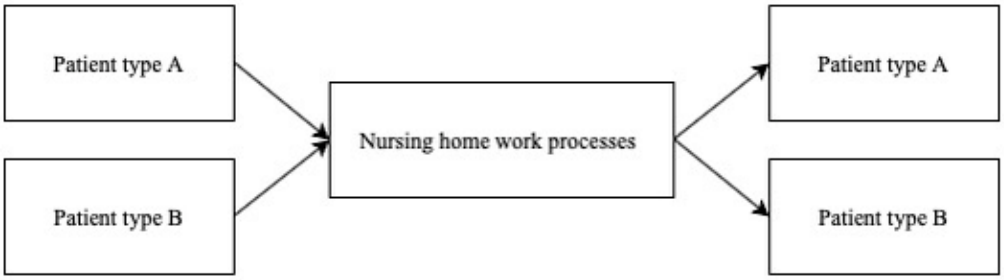


Figure 2.3 High degree of functional concentration

In contrast, a low degree of functional concentration reflects a structure in which operational tasks are not coupled to all order types, but only to one or a few of them (Gronouwe et al., 2022; Pugh et al., 1968). Organizations with a low degree of functional concentration form organizational units which have their own employees and equipment dedicated to their own order type (Gronouwe et al., 2022; Pugh et al., 1968). In the context of the nursing home example, the nursing home will not have functional departments (bathing, cooking, wound care, administration) which are responsible for every patient type. Instead, they will have departments which each have their own nursing home workers and equipment, dedicated to a specific type of patient (e.g., either dementia or ADL patients) (Moorkamp, 2018). To improve the understanding of a low functional concentration, figure 2.4 has been added below. As can be seen in the figure, different types of patients go through different nursing homework process. The nursing home processes are performed by teams, which focus on one type of patient.

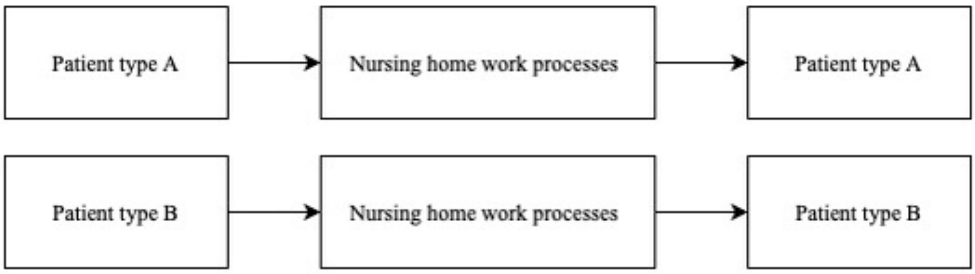


Figure 2.4 Low degree of functional concentration

b) The degree of differentiation of operational activities. The differentiation of operational activities refers to the differentiation into production, preparation, and support activities (Pugh et al., 1968; Lloria, 2007). Production activities are activities that realize the desired end state of a certain product (e.g., bathing patients, feeding patients, monitoring patients' health, and giving medicine) (Kuipers et al., 2020). Preparation activities are the activities required to make all the necessary material, tools, and information available for the production activities (e.g., planning of care for patients). Support activities are activities which are not directly tied to orders but help to realize and connect the two other operational activities which are directly tied to producing output (e.g., maintenance of equipment necessary to treat patients) (Kuipers et al., 2020). Organizations with a high degree of differentiation of operational activities, reflect activities which are grouped into separate production, preparation, and support tasks (Achterbergh & Vriens, 2019; Kuipers et al., 2020). In the context of a nursing home example, it would then mean that production activities such as feeding patients, preparation activities such as planning and support activities such as maintenance, all become separate tasks. In contrast, organizations with a low degree of differentiation of operational activities, reflect preparation, and support activities are not separated which are not separated into different tasks.

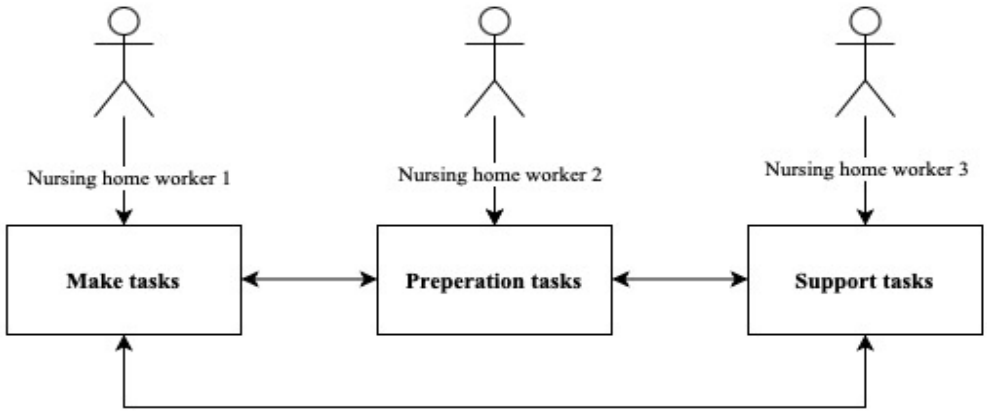


Figure 2.5 High degree of operational differentiation

In contrast, in organizations with a low degree of differentiation of operational activities, have production, preparation, and support activities integrated in tasks (Achterbergh & Vriens, 2019; Kuipers et al., 2020). In the context of a nursing home example, it would then mean that production activities, such as feeding patients, preparation activities such as the planning of healthcare and support activities such as maintenance of care equipment, are integrated into one task.

Figure 2.6 Low degree of operational differentiation

c) The degree of specialization of operational activities. The degree of specialization of operational tasks, refers to the degree to which operational tasks are focused on only a small part of the complete operational process (Lloria, 2007; Moorkamp, 2018). Organizations with a high degree of specialization reflect processes which are split up into sub-activities. Subsequently, these sub-activities are allocated to separate tasks. This means that employees can only perform and focus on a small part of the complete operational process (Lloria, 2007; Kuipers et al., 2020). In the context of the nursing home example, nursing home workers will perform only a small part of the complete nursing home process.

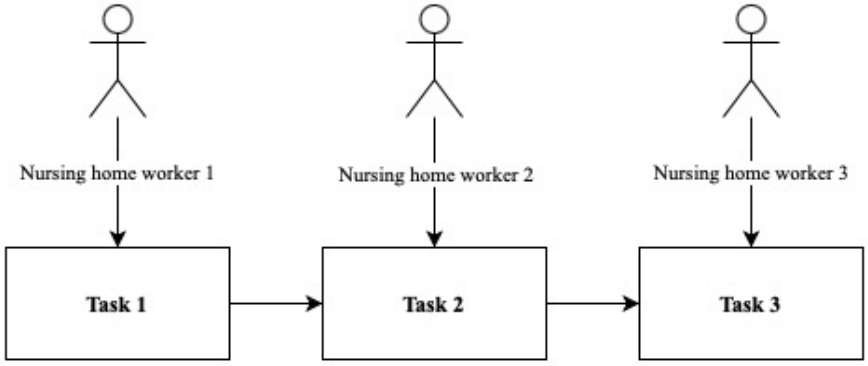


Figure 2.7 High degree of operational specialization

In contrast, organizations with a low degree of specialization of operational tasks, focus on the complete operational process. This means that an employee can perform the complete operational process (Lloria, 2007; Moorkamp, 2018). In the context of the nursing home example, nursing home workers do not just perform a small part of the complete nursing home process. Instead, they are responsible for the complete nursing home process.

Figure 2.8 Low degree of operational specialization

2. Parameters describing the control structure

a) The degree of differentiation of regulatory activities into parts (Halevy et al., 2011; Moorkamp, 2018). The degree of differentiation of regulatory activities into parts refers to the degree to which the sub-activities monitoring, assessing, and acting are allocated to different tasks (De Sitter, 1994). Firstly, to perform monitoring, employees need a set of indicators which define what should be monitored (Ittner et al., 1997). Examples of indicators for employees are quality indicators (quality of a product or service) or quantity indicators (number of products). Therefore, monitoring can be defined as the gathering of information with respect to these indicators (Ittner et al., 1997). In the context of a nursing home, nursing home workers should for example monitor the health and well-being of patients by means of indicators. Examples of indicators are checking blood pressure, checking the breathing frequency, and checking the body temperature. Based on the information gathered during the monitoring phase, the second activity can be conducted: assessment (Boyne & Walker, 2002; Ittner et al., 1997). An assessment is the comparison of the indicator values with norm values and a judgement with respect to their difference (Kaplan, 2002; Boyne & Walker, 2002). In the context of a nursing home, nursing home workers could for example compare the blood pressure of a patient with the norm value of blood pressure. And finally, acting refers to measures which are undertaken to make sure that a problematic difference between actual and desired values on the indicators is removed in such a way that indicators reach their desired value (Kaplan, 2002; Boyne & Walker, 2002). In the context of a nursing home, there could be a situation in which a nursing home workers finds out after monitoring and assessing, that the blood pressure of a patient is way too high. A nursing home worker could then take corrective measures to ensure that the blood pressure lowers back to the desired norm value.

An organization has a high degree of differentiation of regulatory activities, if the monitoring, assessment, and acting activities are allocated to different tasks (Kuipers et al., 2020; Achterbergh & Vriens, 2019). In the context of the nursing home example, it could for example mean that activities such as monitoring the value of blood pressure, assessing if the value of the blood pressure is according to the norm value, and taking corrective actions if the level deviates from the norm value.

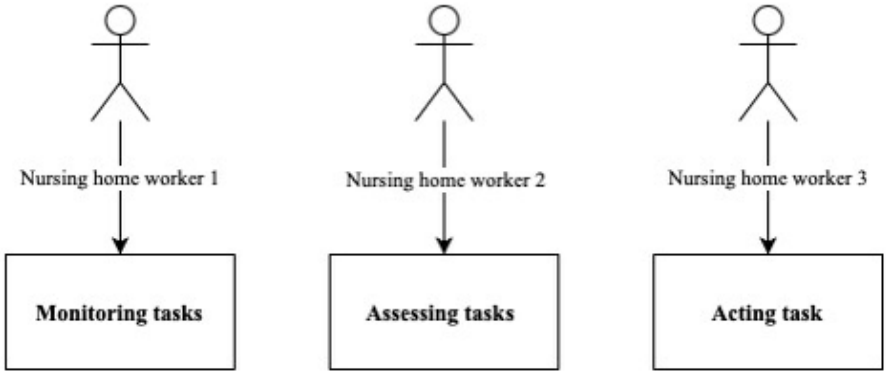


Figure 2.9 High degree of differentiation of regulatory activities into parts

In contrast, an organization has a low degree of differentiation of regulatory activities, if there is no separation between monitoring, assessing and regulatory activities. Instead, those activities are grouped into one task (Kuipers et al., 2020; Achterbergh & Vriens, 2019). In the context of the nursing home example, it could for example mean that one task consists of monitoring the value of blood pressure, assessing if the value of the blood pressure is according to the norm value, and taking corrective actions if the level deviates from the norm value.

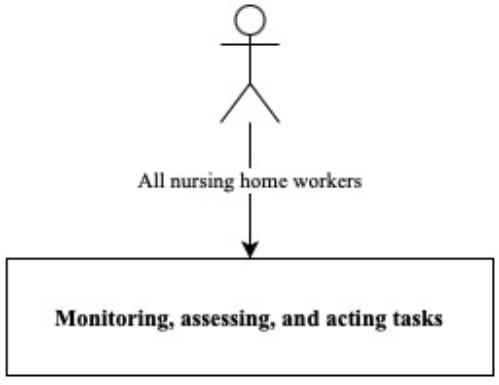


Figure 2.10 Low degree of differentiation of regulatory activities into parts

b) The degree of differentiation of regulatory activities into aspects (Moorkamp, 2018). The degree of differentiation of regulatory activities into aspects refers to whether operational regulation, strategic regulation and regulation by design are allocated separate tasks or whether operational regulation, strategic regulation and regulation by design are grouped into the same tasks (De Sitter, 1994). An organization with a high value of differentiation of regulatory activities assigns different forms of regulation are assigned to different tasks. In the context of the nursing home example, strategic decisions (e.g., goal setting), regulation by design and operational regulation are then not part of the tasks of a nursing home worker (Kuipers et al., 2020). Instead, the management performs the regulatory activities.

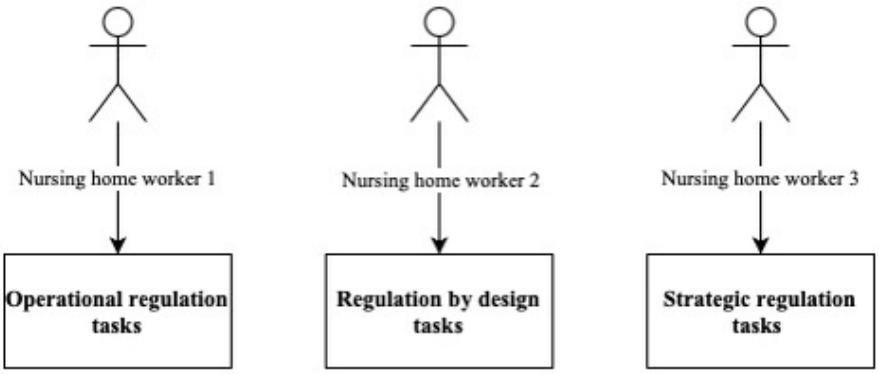


Figure 2.11 High degree of differentiation of regulatory activities into aspects

In contrast, a low value of the degree of differentiation of regulatory activities into aspects entails that a task contains all three forms of regulation (Kuipers et al., 2020; Achterbergh & Vriens, 2019). In the context of the nursing home example, each nursing home worker has the capacity to make their own strategic decisions, to perform regulation by design and to regulate their own operational activities.

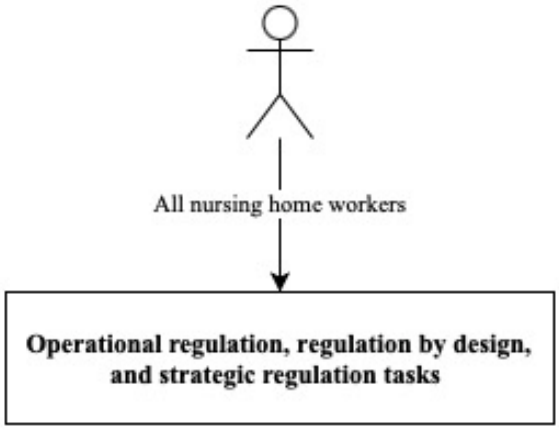


Figure 2.12 Low degree of differentiation of regulatory activities into aspects

c) The degree of specialization of regulatory activities (Moorkamp, 2018). The degree of specialization of regulatory tasks, refers to the degree to which regulatory tasks contain only a small part of the complete regulatory process (Rommel et al., 2010). A high degree of specialization of regulatory activities entails the scope of regulatory activities becomes smaller (Kuipers et al., 2020; Achterbergh & Vriens, 2019). Regulatory activities then regulate a smaller part of the complete operational process (Rommel et al., 2010). In the context of the nursing home example, it means that nursing home workers focus on only a small part of the regulation of the operational nursing home process. An example could be that nursing home workers only focus on monitoring the blood pressure, instead of focusing on all the other indicators, such as the breathing frequency.

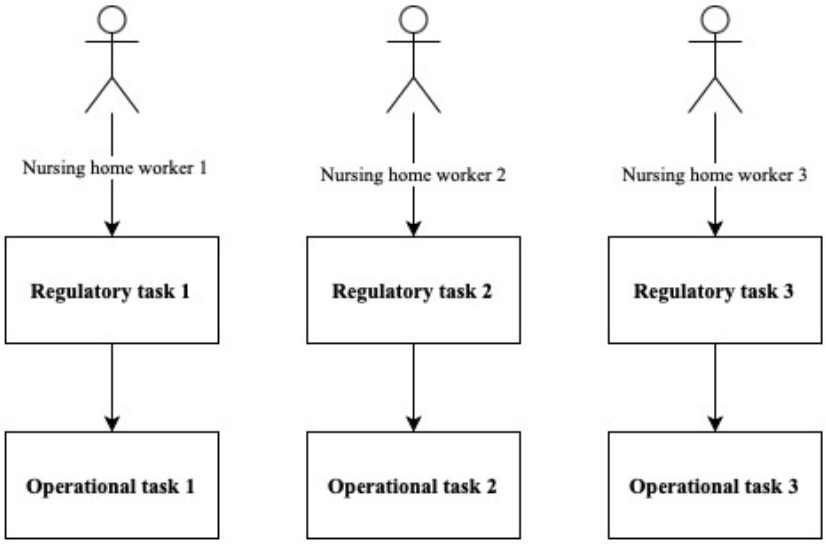


Figure 2.13 High degree of regulatory specialization of regulatory activities

In contrast, a low degree of specialization of regulatory activities entails that regulatory tasks have a broader scope in terms of a larger part of the operational process or a larger number of regulators under supervision (Kuipers et al., 2020; Achterbergh & Vriens, 2019). In the context of the nursing home example, it means that nursing home workers focus on the complete regulation of the operational nursing home process. An example would then be that nursing home workers monitor all the possible health indicators.

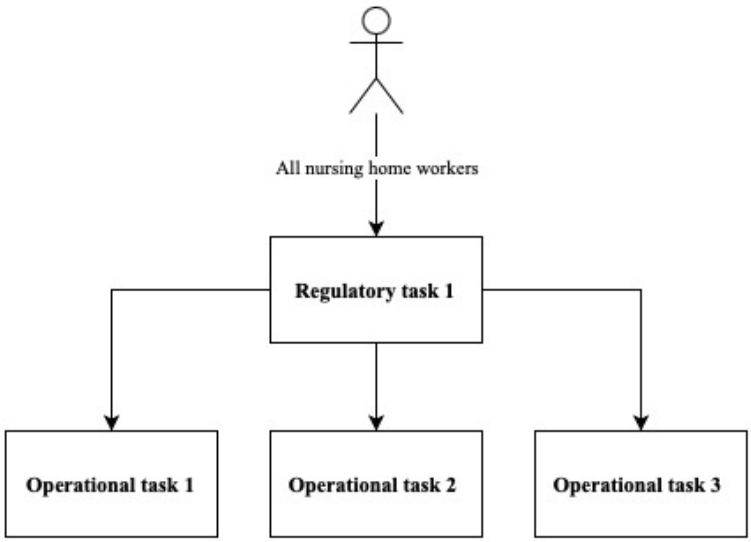


Figure 2.14 Low degree of regulatory specialization of regulatory activities

3. *Parameters describing the relation between the production and control structure.*

The degree of separation between operational and regulatory activities (Pugh et al., 1968; Huys et al., 1999). The degree of separation of between operational and regulatory activities refers to the degree to which regulatory and operational activities are allocated to different tasks (Pugh et al., 1968). A high value of this design parameter leads to structures in which regulatory activities are stripped from operational tasks (Huys et al., 1999). In these type of structures, regulatory tasks contain as few regulatory activities as possible (Moorkamp, 2018). In the context of the nursing home example, an example would be that nursing home workers who have made a mistake in their daily tasks, do not have the ability to correct these mistakes by themselves. Instead, another nursing home worker needs to correct the mistake for them.

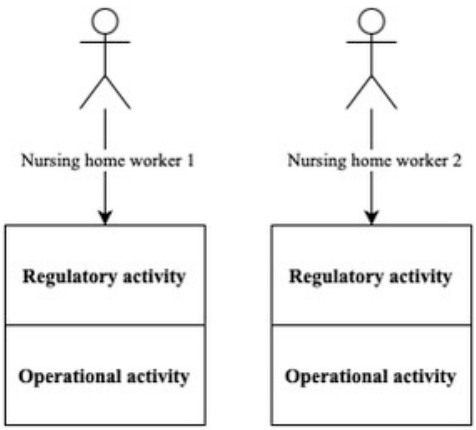


Figure 2.15 High degree of separation between operational and regulatory activities

In contrast, a low value on this design parameter leads to structures which consist of tasks, which are not stripped away from their regulatory potential. Instead, operational, and regulatory tasks are grouped into tasks and are thus integrated as much as possible (Kuipers et al., 2020; Achterbergh & Vriens, 2019). In the context of the nursing home example, nursing home workers can correct their own mistakes, and thus do not need to wait on another nursing home worker to correct their mistake.

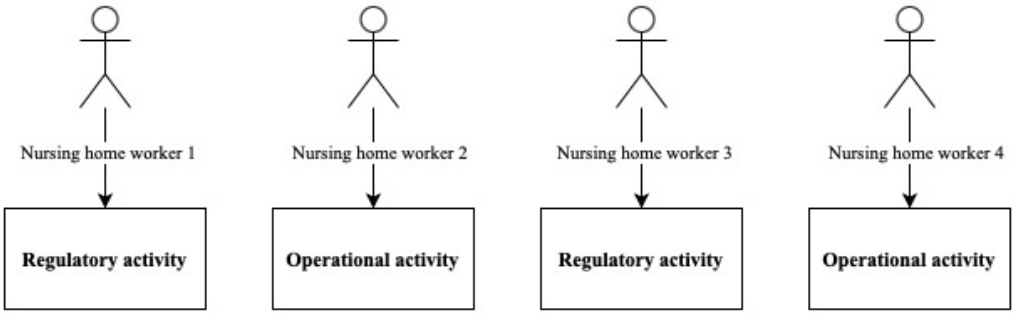


Figure 2.15 High degree of separation between operational and regulatory activities

2.3 Organizational structures and quality of work

Given the importance of the quality of work in nursing homes, several studies have been trying to determine how to improve the quality of work of nursing home workers in nursing homes (Ausserhofer et al., 2016; Vermeerbergen et al., 2017; Verbeek et al., 20212). A concept that should ensure a better quality of work and that has therefore attracted more attention over the years is the concept 'small scale nursing home' (Auserhofer et al., 2016). Therefore, a lot of studies have tried to show the positive effect of small-scale nursing homes on the quality of work of healthcare professionals, by looking at the difference in effect that large- and small-scale nursing homes have on the quality of work (Ausserhofer et al., 2016; Vermeerbergen et al., 2017; Verbeek et al., 2017). The goal of most of the studies was to show that small-scale studies significantly improved the quality of work of healthcare professionals. However, these studies claim different outcomes regarding the quality of work (Vermeerbergen et al., 2017). Although the most studies, including the studies of Loe & Moore (2012) and Te Boekhorst et al. (2008), found that small-scale nursing homes scored significantly higher on quality of work significantly compared to large-scale nursing homes. Some studies however, observed no differences between small-scale and large-scale nursing homes (Vermeerbergen et al., 2017).

In fact, the studies of de Rooij et al., (2012) and Verbeek et al., (2012) even found that small-scale nursing homes resulted in poorer work and health outcomes compared to large-scale nursing homes. Given the importance of quality of work for the accessibility, quality and affordability of healthcare, the outcomes of the studies of Ausserhofer et al., (2016), Loe & Moore (2012), Te Boekhorst et al., (2008), de Rooij et al., (2012), Verbeek et al., (2012) and Vermeerbergen et al., (2017), it raises the question of what exactly caused the most small-scale nursing homes to score higher on quality of work than large-scale nursing homes, while other small-scale nursing scored the same on quality of work as large-scale nursing homes or even scored lower on quality of work than large-scale nursing homes. We know for a fact that a proper structure results in a high quality of work (Karasek, 1979; de Sitter, 1994; Christensen, 2009; Achterbergh & Vriens, 2019; Kuipers et al., 2020). Therefore, the differences outcomes in different studies on quality of work, may be explained by structural differences between the different nursing homes.

2.3.1 Bureaucratic organizational structures

Several researchers have been discussing what a bureaucratic organizational, or a high-parameter value structure as Achterbergh & Vriens (2019) name it, structure exactly entails (Huys et al., 1999; Mintzberg, 1980; Weber, 1947; Scott, 1981; Kuipers et al., 2020). They all, claim that a bureaucratic structure can be best explained by means of its characteristics. Firstly, a high level of differentiation of operational tasks. This means that making, preparation, and support activities are all allocated to different tasks (Huys et al., 1999). Secondly, a high degree of functional concentration. In a bureaucratic structure, the highly differentiated tasks are grouped into functional departments which are all related to different order types (Huys et al., 1999). Thirdly, a bureaucratic structure is characterized by a high degree of operational specialization. All the tasks necessary to realize outputgoals are highly specialized (Weber, 1947; Kuipers et al., 2020). As a result, employees will have very small, short, cycled tasks, performing only a small part of the complete care process (Van Hootegem & Amelsvoort, 2017). Fourth, to reduce uncertainty due to individual differences in performance, a nursing home worker should perform each task in accordance with a set of rules (Scott, 1981; Weber, 1947; Kuipers et al., 2020).

Fifth, in a bureaucracy, nursing home workers are positioned within a hierarchical regulation structure, reflecting in a situation in which, among other things, the production and the control structure are separated (Huys et al., 1999). As a result, employees do not have the potential

to regulate their own tasks. Instead, they are dependent on a hierarchy of regulators (Pugh et al., 1968). Meaning that the task of every employee is supervised by a supervisor with a higher rank, and thus more authority (Huys et al., 1999). Those supervisors adopt a very closed attitude when it comes to consulting with those employees in rank, which results in a situation in which organizations have nothing to contribute regarding de decisions to be made about the goals of nursing homes (Mintzberg, 1980; Weber, 1947; Scott, 1981). Furthermore, this hierarchy of regulators consists of regulatory tasks which are highly differentiated and highly specialized as there are different tasks for operational regulation, strategic regulation, regulation by design, monitoring, assessing, and acting and these regulatory tasks are decomposed into small tasks with a very limited regulatory potential (Achterbergh & Vriens, 2019; Kuipers et al., 2020). In such bureaucratic or high-parameter value structures, elderly patients enter one department, after which they move on to other departments (Jacobs & van Amelsvoort, 2001). According to de Sitter (1994), these bureaucratic or high parameter value structure in nursing homes, result into lots of relationships between tasks or nursing home workers and thus a very complex network of tasks, as these tasks need to be coordinated with each other to realize the goals of nursing homes.

As an example – inspired by Achterbergh & Vriens (2019) – of a nursing home structure coherent with the bureaucratic structure, consider a nursing home which is hierarchical, functionally concentrated, and bureaucratic. In such a structure nursing home workers see a lot of patients in a short amount of time. Such structures contain the following characteristics: (1) nursing home workers would perform small tasks related to all types of care elderly patients (e.g., dementia patients or ADL patients). Nursing home workers would then focus on specific tasks such as putting on compression stockings or administration of how patients are feeling. (2) Operational, preparatory, and support activities are assigned to different tasks, meaning that planning for material or ordering medicine is performed by not be part of the task of a caregiver. (3) Regulatory tasks and operational tasks are separated. For example: nursing home workers who provide care are not able to deal with disturbances on their own. If an elderly patient falls, they need to call a nursing home worker responsible for regulation to come and help the fallen patient. (4) Strategic regulation, operational regulation, and regulation by design are allocated to different nursing home workers. Strategic regulation is performed by the CEO, operational regulation by direct supervisors, and regulation by design is by specific nursing home workers.

2.3.1.1 Bureaucratic organizational structures and quality of work

Several researchers claim that bureaucratic structures, or high-parameter value structures, negatively influence the quality of work among employees (Karasek, 1979; de Sitter, 1994; Christensen, 2009; Achterbergh & Vriens, 2019; Kuipers et al., 2020). The low quality of work in such structures is caused by multiple and complex factors, which all have to do with the high parameter values of such structures. Bureaucratic structures score a high value on the production structure parameters: functional concentration, separation, specialization, and differentiation of operational and regulatory activities (de Sitter, 1994). A high degree of those parameters on the production structure will result in short cycled, uninteresting, and repetitive operational tasks, which focus on a small part of the operational process. Consequently, the first negative impact that bureaucratic structures have on the quality of work, is that they limit the involvement of employees in the network of the organization (Häusser et al., 2010; Karasek, 1979; Kuipers et al., 2020). Employees will be so detached from the process that they will have trouble with understanding what the final output or the goals of their organization are, leaving employees with the feeling of being uninvolved in the organization (Achterbergh & Vriens, 2019).

Bureaucratic structures also score high on parameter 'the degree of separation between operational and regulatory activities', which limits the regulatory potential of employees (de Sitter, 1994; Kuipers et al., 2020). Consequently, the second negative impact that bureaucratic structures have on the quality of work is that they lower decision authority among employees. When problems (disturbances) occur, they are dependent on another regulator in their network to solve their problem. Moreover, as mentioned in the section 2.3.1, bureaucratic structures are characterized by a complex network of tasks because of the high values on the of the parameters (Kuipers et al., 2020; Achterbergh & Vriens, 2019). Complexity is created through a high number of relations between tasks and variety of these relations. The high number of relations and variations of these relations will cause many disturbances. These disturbances limit the ability of employees to realize their intended output (e.g., a product or service) (Achterbergh & Vriens, 2019). However, employees do not have the required job control to deal with disturbances, as employees lack decision authority to regulate disturbances and continue the realization of output. Moreover, because employees experience a lot of problems and can't solve those problems, they experience a high workload and a lot of time-pressure. Consequently, the third negative impact that bureaucratic structures have on the quality of work is that they employees who face a lot of problems and are unable to solve them, as employees

will experience a lot of job-related stress, resulting in a low psychological well-being and a low quality of work (Häusser et al., 2010; Karasek, 1979; de Sitter, 1994; Christis, 1998).

Furthermore, bureaucratic structures score a high value on the control structure parameters: the degree of differentiation of regulatory activities into aspects, the degree of differentiation of regulatory activities into parts, and the degree of specialization of regulatory activities (de Sitter, 1994). A high degree of those parameters will result in short cycled, uninteresting, and repetitive regulatory tasks, which focus on a real small part of the operational process. The small regulatory tasks of employees will lead to a lack of overview of the complete operational process. Subsequently, the fourth negative impact that bureaucratic structures have on the quality of work is that combination of a low score on the parameters mentioned in this paragraph, and a low score on the parameter 'the degree of separation between operational and regulatory activities', will limit opportunities for employees to learn and develop themselves. If employees would have full regulatory potential, they would be able to experiment which their regulations. Employees do not now beforehand what the effect will be of their regulations, however experimentation will learn them which regulatory actions work, and which don't. However, such small tasks, derived from their regulatory potential, do not challenge nor enable employees to experiment new ways of doing, thereby severely constraining their learning and development potential. Furthermore, low scores on the combination of parameters also limit the ability of employees to mobilize employees to their best ability and utilize their best skills regarding the performance of a task (Achterbergh & Vriens, 2010). As a result, the fifth negative impact that bureaucratic structures have on the quality of work is that tasks in bureaucratic structures disable intellectual discretion. The absence of intellectual discretion, and less learning and development opportunities will negatively affect the quality of work among employees (Häusser et al., 2010; Karasek, 1979; Achterbergh & Vriens, 2019).

Because of the high parameter values on the parameters of both the production- and the control structure, the sixth negative impact that bureaucratic structures have on the quality of work is that bureaucratic structures disable both the structural- and the functional social support (Karasek, 1979; Johnson & Hall, 1988; Kuipers et al., 2020). This is due to the small, repetitive tasks with a small cycle time. The first small task related consequence on social support is that carrying out such tasks, do not require the active participation of employees in a social, job-related network. The second consequence is that such tasks cause a lack of overview and therefore inability of employees to see what they are contributing to. As a result, both structural

and social support will be limited, as employees won't have the feeling that they are socially integrated in the network and they don't know or aren't able to turn to their co-workers or supervisors when they experience problems (Johnson & Hall, 1988; Cohen & Syme, 1985; Cohen & Wills, 1985). Employees who experience little social support will face a lot of work-related stress, resulting in a low psychological well-being and a low quality of work (Calnan et al., 2004; Kalliath et al., 2006; Sargent & Terry 2000; Shimazu et al., 2005).

2.3.2 Flexible organizational structures

Dickson, Resick, and Hanges (2006) define a flexible organization, or the low parameter value structure as Achterbergh & Vriens (2019) call it, as a type of organization which is characterized by minimal division of labor and the opposite of the bureaucratic organizational structure. The behavior of nursing home workers in a flexible structure, is directed by means of a shared set of values and goals, rather than instructions and rules (Dickson et al., 2006). This means that the authority for decisions in organic structures compared to bureaucratic structures, is nearer the lower levels of the corporate structure and the upward messages were merely some sort of report indicating what results had occurred and which decisions had already been decided at those lower levels (Dickson et al., 2006). A flexible organization structure can be best defined by its characteristics, as several researchers named various characteristics of flexible structures (Benders et al., 2006; Sels, 1997; Huys et al., 1999; Dickson et al., 2006; Achterbergh & Vriens, 2019; Kuipers et al., 2020; de Sitter, 1994).

Firstly, parallelization. In a flexible structure, varied order flows are parallelized into more homogeneous sub order flows (Benders et al., 2006; Sels, 1997). Each order flow is directed to a specific order type (e.g., dementia patients or ADL patients), which means that the degree of functional concentration within such structures is low (Benders et al., 2006; Sels, 1997). Within each flow, the levels of differentiation and specialization of operational activities should be as low as possible, resulting in nursing teams in which nursing home workers have broad tasks and will be responsible for the complete care process (Huys et al., 1999). Ideally, one nursing team should be responsible for the complete output of the order flow (Sels, 1997). However, sometimes the complete production or service process is too complex for one team to handle (Kuipers et al., 2020). Subsequently, and this is also the second characteristic, segments (teams within flows) should be created (Sels, 1997; Benders et al., 2006). Just as the older flows, those segments should be as independent as possible and tasks should be low in both the degree of differentiation and specialization (Kuipers et al., 2020; Sels, 1997). Thirdly, nursing home

workers have a high regulatory capacity (Kuipers et al., 2020). Within the order flows, there exist a low degree of separation between the control and production structure, resulting in tasks with both operational and regulatory capacity (Huys et al., 1999). As a result, team(s) and nursing home workers within the order flows have the required regulatory potential regulate their own care process, instead of being dependent on a hierarchy of regulators (Jewczyn, 2010; Weber, 1947). Lastly, in each flow and segment, the degree of regulatory specialization and differentiation should be as low as possible (Achterbergh & Vriens, 2019). Due to low levels of differentiation of regulation into parts and aspects, employees in teams can perform all the necessary regulatory activities: monitoring, assessing, and adjusting, and strategic-, operational- and design regulation (Kuipers et al., 2020; Achterbergh & Vriens, 2019).

As an example – inspired by Achterbergh & Vriens (2019) – of a nursing home structure coherent with the flexible structure, consider a nursing home in which nursing home workers are responsible for a few clients each day for whom they perform all nursing home tasks. Such a nursing home has the following characteristics: (1) The degree of specialization, functional concentration, and differentiation of operational activities are low. Therefore, nursing home workers operate in teams, which are responsible for the complete care process (2) Those teams are tied to one type of patient (e.g., patients with dementia). In those teams nursing home workers ara able to perform all nursing home activities, and they are able to perform operational, preparing and planning activities. This means that nursing home workers have tasks which contain providing care activities such as putting on compression stockings, but also the preparation of materials and the planning of patients leaving and entering the nursing home. (3) There is a low degree of separation between operational and regulatory tasks, which means that nursing home workers for example do not have to call a regulator when they see that an elderly patient tripped. Instead, they can help the patient themselves. (4) Team members are responsible for strategic regulation, operational regulation, and regulation by design themselves, meaning that team members for example can set goals for their teams such as quality of care.

2.3.2.1 Flexible organizational structures and quality of work

Several researchers claim that these flexible structures, or high-parameter value structures, positively influence the quality of work among employees (Karasek, 1979; de Sitter, 1994; Christensen, 2009; Achterbergh & Vriens, 2019; Kuipers et al., 2020). There are several reasons explaining why a flexible structure positively influences the quality of work among employees,

and all reasons have to do with the low values on the parameters. Because of the low values of all the parameters that flexible structures have, employees in bureaucratic structures always work in teams. Those teams contain tasks which are very broad and coherent, focus on the complete operational process, have full regulatory potential, and are connected to the output of the organizational process. Because of that, employees are better enabled to detect disturbances and deal with them, as employees can observe and interpret the effect of these corrections in specific circumstances and adjust these actions if needed (Morgan, 1986; Anand & Daft, 2007). As a result, the first positive impact that flexible structures have on the quality of work is that they provide learning and development opportunities. Employees will be involved in a process of experimenting, constantly trying out new ways to realize their output the best way possible (Morgan, 1986; Anand & Daft, 2007). Subsequently, if development is seen as the accumulation of knowledge, the flexible structure is highly suitable as it provides employees with knowledge throughout the experimentation (Achterbergh & Vriens, 2019).

Furthermore, because of low high values on the parameters, are not characterized by a complex network of tasks (Kuipers et al., 2020; Achterbergh & Vriens, 2019). Therefore, there will be a low number of relations between tasks and variety of these relations. The low number of relations and variations of these relations will limit the possibility of disturbances to occur, thereby limiting the probability of job-related stress and increasing the possibility of a high quality of work (Häusser et al., 2010; Christis, 1988; Karasek, 1979; Achterbergh & Vriens, 2019). Furthermore, employees in such structures do have the required decision authority to deal with disturbances, resulting in an even lower possibility of job-related stress (Häusser et al., 2010; Karasek, 1979). Flexible structures positively influence employees' ability to exert job control, as flexible structures enable both decision authority and intellectual discretion (Häusser et al., 2010; Karasek, 1979; Kuipers et al., 2020). In broad tasks, with a large scope, there are enough opportunities for employees to mobilize and utilize their skills regarding the performance of a task (Achterbergh & Vriens, 2010), resulting in a higher intellectual discretion. A higher intellectual discretion will increase the job control of employees, and as a result, positively affect the quality of work (Häusser et al., 2010; Karasek, 1979). Moreover, employees do have the required decision authority, and therefore the required job control, to deal with disturbances (problems), as employees have enough decision authority to regulate disturbances and continue the realization of output. If employees would face problems, they are now able to solve them. As a result, the probability that employees will experience a lot of job-

related stress and therefore a poor psychological well-being and quality of work, significantly decreases (Karasek, 1979; de Sitter, 1994; Christis, 1998).

Flexible organizational structures and their low parameter values also enable involvement and both structural- and functional support (Karasek, 1979; Johnson & Hall, 1988; Kuipers et al., 2020). This is due the fact that in flexible structures, healthcare employees are part of a team. Every team has a joint responsibility for both the operational output and the regulations regarding the realization of the output. As a result, both structural and social support will be significantly high, as employees will have the feeling that they are socially integrated in the network, and they are able to turn to their co-workers or supervisors when they experience problems (Johnson & Hall, 1988; Cohen & Syme, 1985; Cohen & Wills, 1985). Furthermore, the complete responsibility for the realization of the team output, presents opportunities for employees to be involved in a network with other employees associated with the team output (Achterbergh & Vriens, 2010). Employees who experience a high degree social support and involvement will face less work-related stress, resulting in a low probability of poor quality of work among employees (Calnan et al., 2004; Kalliath et al., 2006; Sargent & Terry 2000; Shimazu et al., 2005).

3. Method

3.1 Methodology

In this subsection, the methodology of this research will be discussed. The most appropriate research method for realizing the purpose of this research, is systematic review. More specially, a special type of systematic review will be conducted: a narrative synthesis (Popay et al. 2006). ‘’A narrative synthesis refers to an approach to the systematic review and synthesis of findings from multiple studies that relies primarily on the use of words and text to summarize and explain the findings of the synthesis’’ (Popay et al. 2006, p. 5). That is because the goal of this research is to provide an integrated oversight of the relationship between the complete structure of nursing homes and the quality of work. A systematic review is defined as a review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyze data from the studies that are included in the review (Ahn, 2018).

3.2 Search strategy

In this section, the search strategy for the included studies will be elaborated. Firstly, articles were selected based on the configuration from search terms (appendix A) in two electronic databases: PubMed and Web of Science. These databases were chosen because they allow for extensive search through use of queries and are large databases. Both PubMed and Web of Science were searched in by means of a configuration of terms. Each search configuration consisted of a combination of three terms (see appendix A): the first search term was a synonym for “nursing home”, the second was a synonym for “organizational structure”, and the third term was related to “job demands”, “job control” or “social support”. After the two databases were explored, a total number of 27317 configurations had been found. After scanning all the configurations, hundred twenty articles were selected. Secondly, the titles and abstracts of the selected articles were reviewed. After doing so, an initial selection of thirty-one studies was made. Thirdly, the initial selection of articles has been read in depth, resulting in a list of seven eligible studies. Fourthly, by examining the key terms of the initially selected articles, three additional articles were selected. One article was selected through scanning the reference lists of the earlier selected articles, the other two articles were selected through searching articles in Google Scholar based on the key terms. Lastly, the articles where critically appraised on their quality by using the CASP tool and the Quality Assessment Tool described in chapter 3.4 and shown in figures 3.1 and 3.2. The critical appraisal results are shown in the appendix, and the

critical appraisal itself did not result in a withholding from any of the selected studies, as any observed shortcomings did not invalidate the study findings. As a result, the final review included ten articles. To graphically illustrate the search strategy, figure 3.1 was added below.

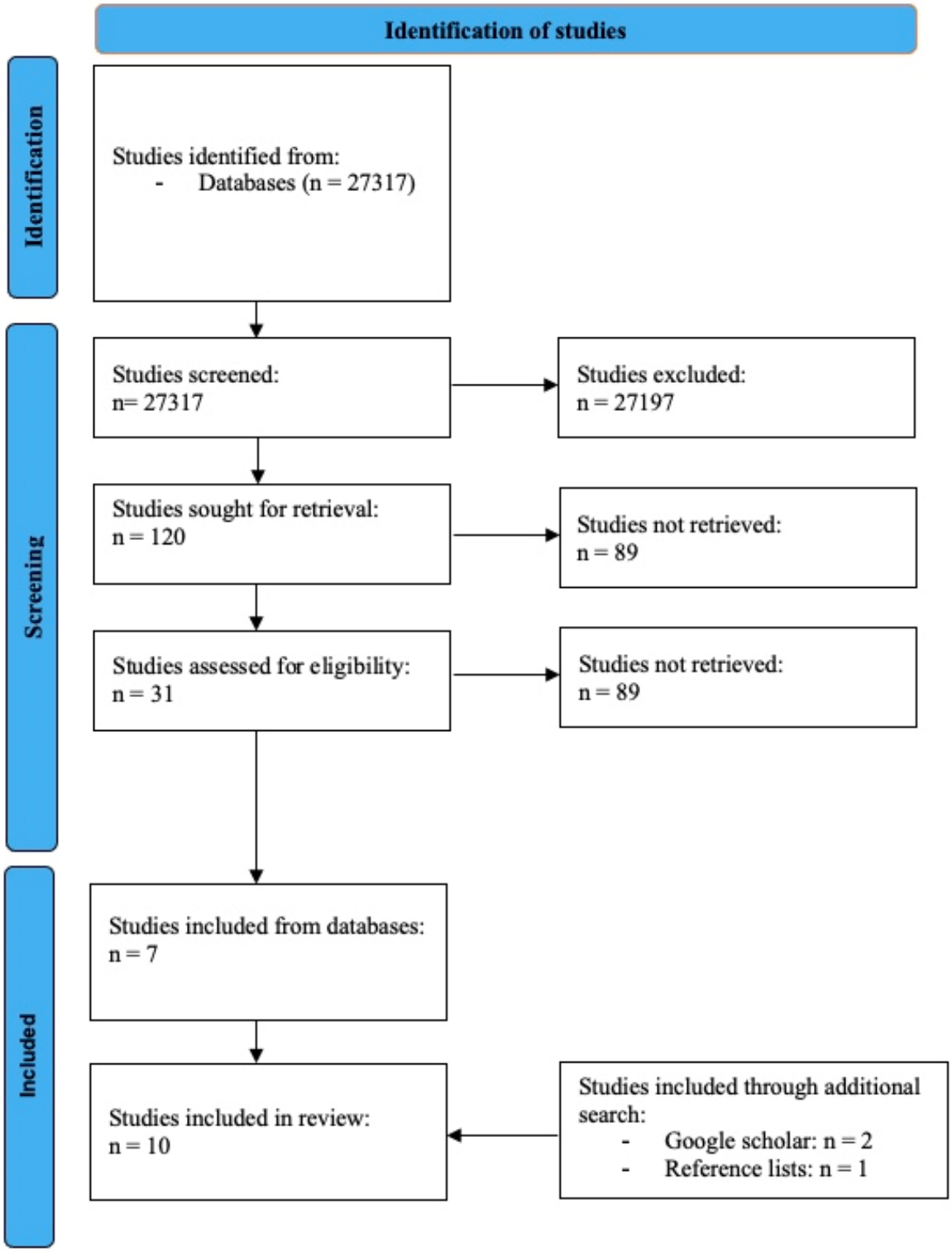


Figure 3.1 Search strategy

3.3 Inclusion and exclusion criteria

This subsection will discuss the inclusion and exclusion criteria. The inclusion and exclusion criteria will be informed by the research question of this research. For articles to be incorporated in this research, they need to meet the inclusion criteria. Articles which did not meet the inclusion criteria, or met the exclusion criteria, were excluded from this research. Both the inclusion and exclusion criteria can be found in the table below. To be incorporated in the review, studies needed to meet the two following inclusion- and exclusion criteria:

Table 4. Inclusion- & exclusion criteria

Inclusion criteria	**Exclusion criteria**
Articles that are published in academic journals	Articles that are not published in academic journals and textbooks
Literature which focuses on the relation between structural aspects and quality of work in the context of nursing homes	Literature which doesn't explicitly explore the relationship between structure and quality of work in nursing homes
Literature written in English	Literature which is written in another language than English or Dutch
Both qualitative and quantitative studies	

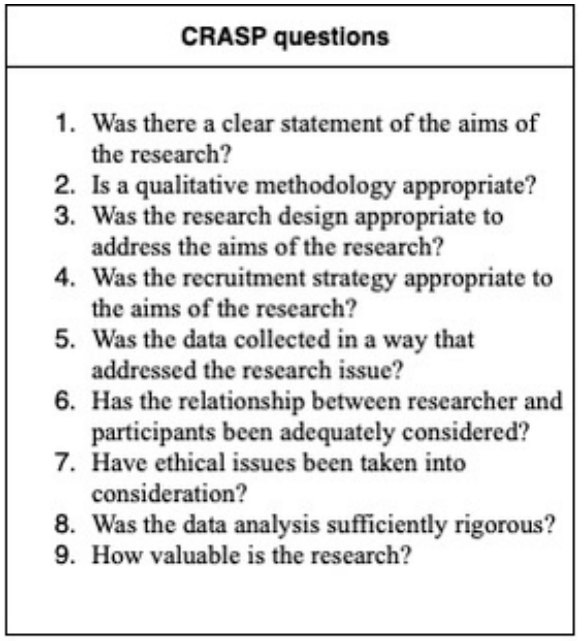
3.4 Analysis method: quality assessment and data extraction

3.4.1 Quality assessment

This systematic review will consist of both quantitative and qualitative scientific articles. Therefore, to accurately appraise the scientific articles on their quality, both quantitative and qualitative appraisal tools will be needed. The quality appraisal for qualitative scientific articles will be based upon the CASP tool (Long et al. 2020). The CASP tool is a generic tool for appraising the strengths and limitations of any qualitative research methodology (CASP, 2022). The tool has ten questions that each focus on a different methodological aspect of a qualitative study, which can be seen in figure 3.1 (CASP, 2022). The questions posed by the tool ask the researcher to consider whether the research methods were appropriate and whether the findings are well-presented and meaningful (Long et al. 2022). Furthermore, the quality appraisal for quantitative scientific articles will be based upon the 'Quality Assessment Tool for Quantitative

Studies', which can be seen in figure 3.2 (Thomas et al. 2004). In its essence, this assessment tool enables the appraisal of quality of scientific articles in a wide range of health-related topics. To assess the quality of a scientific article, the Quality Assessment Tool uses several factors (Thomas et al. 2004). Once the assessment is fulfilled, each examined practice receives a mark ranging between "strong," "moderate," and "weak" in eight categories: (1) study design, (2) analysis, (3) withdrawals and dropouts, (4) data collection practices, (5) selection bias, (6) invention integrity, (7) blinding as part of a controlled trial and (8) cofounders (Thomas et al. 2004).

Figure 3.1 CRASP questions (Long et al., 2017 ; CRASP, 2022).



CRASP questions

1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Was the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. How valuable is the research?

Figure 3.2 Quality Assessment Tool for quantitative studies

Questions/ Categories	**Weak**	**Moderate**	**Strong**
1. Study design			
2. Analysis			
3. Withdrawals and dropouts			
4. Data collection practices			
5. Selection bias			

6. Invention integrity			
7. Blinding as part of a controlled trial			
8. Confounders			

3.4.2 Data extraction

The findings of the selected studies were extracted in a manner, which is based on the systematic review from Vermeerbergen et al. (2017). They extracted the findings from the selected studies in two stages, using standardized data-extraction forms. In the first stage, several study characteristics are collected. These characteristics include (1) whether the studies had a quantitative, qualitative, or mixed-method approach, (2) the number of measurement occasions, (3) the data collection method, (4) the number of participants, (5) the participants' professions, (6) the participants' mean age, and 7) the gender distribution among participants (Vermeerbergen et al. 2017).

In the second stage of data extraction, data and therefore findings will be extracted from the selected literature. To do so, the findings will be integrated in the text in the results section. Due to the heterogeneous nature of the quality of work dimensions (e.g., job demand) used, meta-synthesis of qualitative studies or a meta-analysis of quantitative studies were not possible (Vermeerbergen, 2017). For this reason, the findings are reported, by using a narrative review approach (Vermeerbergen et al. 2017). With this narrative review approach, each parameter will be linked to quality of work outcomes.

3.5 Research ethics

When it comes to the research ethics of a systematic review, researchers should reflexively engage with a variety of ethical issues, as there might be different interests and opinions among people involved in and affected by the research (Suri, 2020). Researchers performing a systematic review, need to make sure that they pay great attention to how perspectives of authors and research participants of original studies are represented in a way that makes the missing perspectives visible (Suri, 2020). Subsequently, it's important that researchers systematically reflect upon how various publication biases and search biases may influence

their findings (Suri, 2020). Throughout the review process, the researcher must make sure that he or she stays reflexive about how their own subjectivity is influencing, and being influenced, by the review findings. As a result, purposefully informed selective inclusivity should come the guideline for critically accessed decisions in the review process. Furthermore, with communicating the insights gained through the review, systematic reviewers must enable high transparency to maximize an ethical impact of the research findings (Suri, 2020).

Table 4. Included studies and their characteristics

Authors (Year)	**Country of study**	**Study purpose**	**Methodology**	**Participant information**	**Studied outcomes**
Syed et al., (2017)	Canada	Finding out how hierarchies and task orientation is experienced by staff of long-term care facilities	Qualitative, in-depth interviews	Participants: 167 registered nurses, registered practical nurses, personal support workers, dietary aides, recreation therapists, families, privately paid companions, students, and volunteers	Bureaucratic structure & job demands
Ulsperger & Knotternus (2007)	-	Employing the Structural Ritualization Theory (SRT) to analyze the occupational rituals shaping the daily lives of staff in nursing homes	Qualitative, literary ethnography	-	Bureaucratic structure & job control

Tyler et al., (2006)	United States	An Exploration of Job Design in Long-Term Care (LTC) Facilities and its Effect on Nursing Employee Satisfaction	Both quantitative and qualitative, three stage model: linear hierarchical modelling, mixed-effects regression analysis & ethnographic interviews	Participants: managerial staff from twenty LTC facilities including: director of nursing, assistant director of nursing, assistant director of nursing, staff development coordinator, and the unit managers	Bureaucratic structure, job demands & social support
Vermeerbergen et al., (2021)	Flanders	Considering how senior nursing home managers tasked with balancing resident and worker interests manage tensions using work design	Qualitative, comparative case study: secondary, observational, interview and focus group data were collected	Participants: 93 care workers & nursing home managers	Bureaucratic- and flexible structure, job demands, job control, social support, absenteeism & turnover
Vässbo et al., (2019)	Australia, Norway & Sweden	Illuminating the meaning of working in a person-centered way as experienced by staff in nursing homes	Qualitative, in-depth interviews	Participants: 29 health care employees from three nursing homes	Flexible structure, job demands, job control, social support, absenteeism & turnover
Lubetkin et al., (2005)	United States	Identification of variables that predict job-satisfaction of social workers in	Quantitative, survey	Participant: in 2002 a total of 1495 nursing staff employees completed the	Flexible structure & job demands

		long-term care, using data from a satisfaction survey administered in 2002 and 2004, before and after the implementation of a large-scale organizational change program		survey and in 2004, a total of 1234 nursing home employees completed the survey	
McGilton et al., (2014)	Canada	Understanding factors that influence nurses' intention to remain employed at their current job	Qualitative, focus group discussion & directed content analysis	Participants: 41 licensed long-term-care nurses	Job demands, job control, absenteeism & turnover
Choi et al., (2012)	United States	Examining relationships between aspects of the nursing practice environment and job satisfaction among registered nurses in nursing homes	Quantitative, two-level hierarchical linear modelling	Participants: 863 in 283 skilled nursing facilities in New Jersey	Flexible structure, job demands, absenteeism & turnover
te Boekhorst et al., (2008)	The Netherlands	Determining the differences in job characteristics of nursing staff in group living homes and their influence on well-being	Quantitative, multilevel linear regression analysis	Participants: 183 professional caregivers in group living homes and 197 professional caregivers in	Flexible structure & social support

				traditional nursing homes	
Rai (2013)	The United States	The study investigated the influence of role conflict, workload, centralization, and formalization on job satisfaction of long-term care staff	Quantitative, regression analysis	Data was collected as part of a larger project that included nine long-term care facilities located in different parts of a southern state in the United States. There was a total of 363 staff members who completed the questionnaire	Bureaucratic structure, job demands & social support

4. Results

In the introduction of this research, the research question of this research was described as: *'How do the structures of nursing homes influence the quality of work among nursing home workers?'.* To provide a complete and coherent answer to the research question, this chapter presents the most important outcomes from the studies included in the review, which are used in chapter five, where the conclusion is formed. The included studies contained both quantitative and qualitative findings, all reflecting the relationship between the nursing home structure and quality of work of nursing home workers. Since none of the studies included used terms included in the theory from chapter two, the theory of chapter two will be used to add further depth to the study findings. Furthermore, it is important to mention that there were no studies included nor found which covered the relationship between control structure parameters and quality of work. As a result, the results section covers the relationship between the following parameters and quality of work: (1) the degree of functional concentration, (2) the degree of differentiation of operational activities, (3) the degree of specialization of operational activities, and (4) the degree of separation between operational and regulatory activities.

After in depth reading of the included quantitative and the qualitative articles, it soon became clear that nursing homes can be best characterized based on its type of care, as types of care influence the structure of a nursing home. There are two types of care: 'task-oriented care' and 'patient-oriented care'. Subsequently, there are two types of care structures that stem from the two types of care in nursing homes: 'the bureaucratic nursing home structure' and 'the flexible nursing home structure'. Therefore, the first section of this chapter, section 4.1, gives a description of the two different types of nursing home structures. Subsequently, the latter of this chapter will present the findings from the included articles, by dividing the results into two sub-sections: section 4.2 and section 4.3. Section 4.2 showcases the relation between a bureaucratic nursing home structure and the elements of quality of work, by coupling the results of the included studies with the theory from chapter two. Section 4.3 showcases the relation between a flexible nursing home structure and the elements of quality of work, by just as in section 4.2, coupling the results of the included studies with the theory from chapter two. Important to note is that 4.2 and 4.3, are organized in such a way that each parameter is coupled to quality of work outcomes.

4.1 Bureaucratic- & flexible nursing home structures

Firstly, bureaucratic nursing home structures. Before going into detail about the definition it's important to understand of what type of care the bureaucratic nursing home structure stems from. The bureaucratic nursing home structure stems from 'task-oriented care' (Syed et al., 2017; Tyler et al., 2006; Vermeerbergen et al., 2021). According to Syed et al., (2017) patient-oriented nursing home care can be defined as care which primarily concern is the completion of tasks, without taking the individual needs of elderly patients into account. Subsequently, a bureaucratic nursing home structure is reflected by high parameter values, as several researchers have shown that such a nursing home structure scores high on the structural parameters: the degree of functional concentration, the degree operational differentiation, the degree operational specialization, and the degree of separation between operational and regulatory tasks (Syed et al., 2017; Ulsperger & Knotternus, 2007; Vermeerbergen et al., 2021; Tyler et al., 2006). The high values on the degree of functional concentration, operational differentiation and operational specialization are translated into a strict division of tasks and a strict hierarchy (Syed et al., 2017; Ulsperger & Knotternus, 2007). Tasks are allocated between nursing home workers based on skill, education, or job classification, and are furthermore highly formalized (Syed et al., 2017; Ulsperger & Knotternus, 2007). As a result, nursing home workers are working according to a schedule that breaks down care work into small and narrow tasks, exclusively for specific nursing home workers (Syed et al., 2017; Tyler et al., 2006).

Also, nursing home worker tasks are focused on all patients, instead of focusing on a specific number of patients (Syed et al., 2017; Tyler et al., 2006). Subsequently, one nursing home worker could for example be administering the medication use for all patients, while another nursing home worker could provide care treatments such as wound care for all patients (Tyler et al., 2006). Furthermore, regarding the high separation between regulatory and operational tasks among nursing home workers, it could be stated that nursing home workers work in a strict regulatory hierarchy (Ulsperger & Knotternus, 2007). Such a hierarchy displays centralization in decision making, stripping away regulatory potential from nursing home workers (Vermeerbergen et al., 2021). This means that there are divisions between nursing, resulting in several layers of regulatory hierarchy (Ulsperger & Knotternus, 2007). As a result, nursing home workers have no regulatory potential to deal with disturbances or problems in their work (Ulsperger & Knotternus, 2007; Vermeerbergen et al., 2021). In conjunction, in bureaucratic structures, nursing home workers do not work in teams. Instead, nursing home

workers operate in isolation in such structures, experiencing exaggerated workload, high work intensity and work that occurs in assembly-line fashion (Syed et al., 2017).

Secondly, flexible nursing home structures. Before going into detail about the definition it's important to understand of what type of care the flexible nursing home structure stems from. The flexible nursing home structure stems from 'patient-oriented care'. Patient-oriented care nursing home care can be defined as care that sees the individual patient as the main priority of nursing home care to be achieved by nursing home workers, by means of systematic and comprehensive nursing home care, coordinated by continuously responsible nursing home workers (Vassbø et al., 2019). Subsequently, the flexible nursing home structure is reflected by low parameter values, as several researchers have shown that such a nursing home structure scores low on the structural parameters: the degree of functional concentration, the degree of operational differentiation, the degree of operational specialization, and the degree of separation between operational and regulatory tasks (Lubetkin et al., 2005; Vassbø et al., 2019; Choi et al., 2012; Vermeerbergen et al., 2021; te Boekhorst et al., 2008). The high score on the degree of functional concentration, operational differentiation and operational specialization is translated into a structure in which nursing home workers coordinate and cooperate with each other in teams to get work done (Vässbo et al., 2019). Furthermore, the tasks in flexible nursing home structures could be described as tasks in which nursing home workers have the delegation of the responsibility and accountability for the total work done in nursing homes (Vassbø et al., 2019). As a result, nursing home workers have so-called 'universal tasks' (Vermeerbergen et al., 2021). In such tasks, instead of splitting for example an administration task and a care task among multiple nursing home workers, both tasks will be integrated into one task (Vassbø et al., 2019). Furthermore, with respect to the separation between operational and regulatory tasks and in contrast with the bureaucratic nursing home structure, flexible nursing home structures have no regulatory hierarchy. As a result, nursing home workers have the full regulatory potential to regulate their own work (Choi et al., 2012; Vermeerbergen et al., 2021; Vässbo et al., 2019).

4.2 Bureaucratic nursing home structures & quality of work

Both the quantitative and qualitative results in this section are presented by linking structural parameter to quality of work outcomes. Firstly, some studies claimed that the high degree of functional concentration, the high degree of operational specialization and the high degree of operational differentiation of tasks that such structures, negatively influenced the quality of

work (Rai, 2013; Syed et al., 2017; McGilton et al., 2014; Tyler et al., 2006). The studies of Syed et al., (2017) and Rai (2013) both concluded that nursing homes with bureaucratic nursing home structures, with their high parameter values, increased the job demands workload and time pressure. Subsequently, the high job demands increased stress among nursing home workers (Syed et al., 2017). The high values on those parameters, in combination with time schedules, resulted in nursing home workers constantly finding themselves in situations in which they were forces to trade-off certain nursing home tasks over others (Syed et al., 2017). One nursing home worker for example, cited:

"It's frustrating but you must try because as I said after working here for years you must make your priority. But I am not afraid to. I try to make my judgement which is more important. We have priorities. We must always tell them (management) that we have 28 residents, and every resident has needs. Some more than others, so as a staff I must make my priorities. Who needs me more than someone else, you know? But the time is the problem. We don't have the time anymore. And even with the feeding you see, you must put them in the table like, you know. Like assembly line. But you must improvise. As I said, you know, it's not right. This is what I said to them (management). It's inhuman." (Syed et al., 2017, p. 9).

All the nursing home workers reported that they had a really strong desire to fulfill all the tasks according to their work schedule, as they all found their work important and meaningful (Syed et al., 2017). This had nursing home workers constantly rushing their tasks to adhere to the time schedule, resulting in time-stress and a high workload among nursing home workers (Syed et al., 2017). As a nursing home worker for example cited:

'And then I'm rushing through my residents to help them so we can get to dinner and all this and, you know, time constraints and all that kind of stuff it can be quite frustrating. You know, this is not a factory. This is not a factory job. It's not an assembly line. I can't be running around like a monkey. It's just too much for me and I was just running around and getting too stressed." (Syed et al., 2017, p. 9).

However, if nursing home workers wouldn't manage to carry out the tasks within the posted times, they were still inevitably forced to trade off certain tasks over other tasks (Syed et al., 2017). As a result, nursing home workers needed to trade off certain tasks over others, leaving nursing home workers with a feeling of unhappiness and stress (Syed et al., 2017).

Consequently, a low psychological well-being among nursing home workers was created, as a lot of nursing home workers felt dissatisfied, stressed out, or even burned-out (Tyler et al., 2006; McGilton et al., 2014).

The studies of Tyler et al., (2006) and Rai (2003) reported that because of the high value on the three parameters, nursing homes with bureaucratic structures do also not ensure social support among nursing home workers. Prior to the interviews Tyler et al., (2006) conducted, they observed the nursing home workers while they were working and at the beginning of the observations it immediately became clear that nursing home workers worked in isolation and there was a high division of labor present in the nursing home. One nursing home worker was for example administering all the medication, while another nursing home worker provided all treatments (e.g., wound care) (Tyler et al., 2006). Nursing home workers were working by themselves, and subsequently, little to no interaction with resident nor other employees took place (Tyler et al., 2006). For the nursing home workers, it subsequently meant structural support, and thereby social support was not present in the nursing home, as nursing home workers were not socially integrated in the network. Moreover, functional support also wasn't present among nursing home workers, as nursing home workers did not experience co-worker nor supervisor support (Tyler et al., 2006). As a result, the bureaucratic structures disabled functional support, and thereby social support, among nursing home workers (Tyler et al., 2006).

Furthermore, the studies of Tyler et al., (2006) and Syed et al., (2017) claimed that because of the high value on the three parameters, bureaucratic nursing home structures also disabled functional support in another way. During their interviews they conducted, it became apparent that nursing home workers found the isolation caused by the bureaucratic structure the worst part of their jobs, as they missed the interaction and support with and from their residents (Tyler et al., 2006). A study of McGilton et al., (2014) supported the statement of Tyler et al., (2006), that no nursing home worker-patient interaction could be problematic, as they stated that interaction with elderly residents is the primary reason nursing home workers choose to work in a nursing home. As one nursing home worker for example cited:

''It's rewarding because you know you're doing something to improve their lives'' (Tyler et al., 2006, p. 141).

Or as another nursing home worker stated:

''I think what makes me stay is the residents that compliment me and praise me. That's what really counts to me, making a difference with them'' (Tyler et al., 2006, p. 141).

Consequently, a low psychological well-being among nursing home workers was created, as a lot of nursing home workers felt dissatisfied, stressed out, or even burned-out (Tyler et al., 2006; McGilton et al., 2014).

Secondly, the studies of McGilton et al., (2014), Vermeerbergen et al., (2021), and Ulsperger & Knotternus (2007), concluded that another feature of the bureaucratic nursing structure negatively influenced the quality of work among nursing home workers: the high degree of separation between operational and regulatory tasks. The studies of McGilton et al., (2014) and Ulsperger and Knotternus (2007), mentioned that a high degree on the parameter caused decreased the decision authority among nursing home workers. Nursing home workers mentioned that did not have the control over the way they performed their tasks, instead, control over their tasks was located at the management (McGilton et al., 2014). Nursing home workers had limited autonomy and freedom to carry out care practices tailored to the unique needs of each elderly patient (McGilton et al., 2014). As a result, nursing home workers constantly had the feeling that they were not able to provide what was needed to achieve a high quality of care, leaving nursing home workers with the perception that they rarely left the workplace with a feeling of accomplishment and/or pride (McGilton et al., 2014). The nursing home workers in the nursing home felt that their work, in which they had no regulatory potential but needed to follow decisions of someone higher in the hierarchy, promoted institution-like performance of daily nursing home tasks (McGilton et al., 2014). Moreover, problems could cause stress among nursing home workers. Therefore, problems should be solved. However, because nursing home workers are not able to deal with problems and they are not able to control stress conditions (McGilton et al., 2014).

As one nursing home worker for example expressed:

''You know it's funny…they (the management) don't want a nursing home like an institution, but we have so many regulations that it feels like an institution. Because we must follow them all. So, you might as well be working in an institution.'' (McGilton et al., 2014, p. 921).

Consequently, nursing home workers had a lot of stress, frustration, and dissatisfaction with their work. Some nursing home workers even ended up with a burnout, thereby severely damaging their psychological well-being (McGilton et al., 2014). Many nursing home workers therefore mentioned something very leading:

''We can't keep going like this.'' (McGilton et al., 2014, p. 922).

Furthermore, the study of Vermeerbergen et al., (2021) stated that a high value on the parameter in bureaucratic structures, lessen the intellectual discretion among nursing home workers. The study of McGilton et al., (2014) stated the same as Vermeerbergen et al., (2021), however, their research of provided more explanation on the same statement (McGilton et al., 2014). As previously mentioned, they concluded that bureaucratic structures negatively impact the decision authority of nursing home workers, as such structures place the regulatory potential with the management instead of the nursing home workers, thereby reducing the control that nursing home workers have over their work (McGilton et al., 2014). Consequently, bureaucratic nursing home structures place constraints on creative thinking, the use of knowledge and expertise, professional judgement, and flexibility in responding to the individual needs of elderly patients among nursing home workers, thereby severely constraining the intellectual discretion of nursing home workers (McGilton et al., 2014). Moreover, McGilton et al., (2014) mentioned that bureaucratic structures limit the opportunities for nursing home workers to learn and develop themselves, as nursing home workers which are disabled from their regulatory potential, are not challenged nor enabled to experiment new ways of doing.

4.3 Flexible nursing home structures & quality of work

Both the quantitative and qualitative results in this section are presented by linking every structural parameter to quality of work outcomes. Firstly, some studies claimed that the low values on the degree of functional concentration, the degree of operational specialization and the degree of operational differentiation of tasks that such structures, positively influenced the quality of work (Lubetkin et al., 2005; Vassbø et al., 2019; Choi et al., 2012; Vermeerbergen et al., 2021). A study of Vassbø et al., (2019) reported that because on the low parameter values that flexible structures have, they increase structural support, and therefore, social support. Vassbø et al., (2019) stated that working in teams, provides nursing home workers with the opportunity to create relationships with fellow nursing home workers. Nursing home workers

strongly emphasized how important the relationship with their colleagues were for them, as it is because of those relationships, nursing home workers experienced a feeling of being seen, needed, and supported, which in return gave them satisfaction and meaning in their work (Vassbø et al., 2019). Moreover, relationships among nursing home workers were even more important in situations where nursing home workers felt an adequacy deficiency in care provisioning (Vassbø et al., 2019). This is because nursing home workers had a shared understanding and concern or the care of elderly patients, which in return enabled them to consult each other on how to best deal with specific situations (Vassbø et al., 2019). Consequently, Vassbø et al., (2019) concluded that flexible nursing home structures led to positive feelings such as fulfilment, meaning, and joy from interactions with their colleagues. As a result, nursing home workers experienced a high psychological well-being. As one nursing home worker for example cited:

'' I feel better when we work the way we do here. I experience less stress and pressure, even though the formal requirements are the same. It is positive for all, I think. We work all day here, and there is much more peace. It does something to the staff. I feel that the atmosphere it creates leads to that we have a satisfactory team relationship''. (Vassbø et al., 2019, p. 5).

Or as another nursing home worker cited:

''The experience of being acknowledged, understood, supported, and confirmed by the team could change a miserable and rather hard day into a feeling of being fortunate and happy at work: 'It's more pleasant to go to work when we recognize and see each other. Otherwise, I would not have continued to work here for as long as I have.'' (Vassbø et al., 2019, p. 4).

Furthermore, Vassbø et al., (2019) reported that nursing homes with flexible structures and their low value on the mentioned parameters, also enable social support in another way. As previously stated in section this section, flexible structures require nursing home workers to work in teams. As a result, they enable functional support in nursing homes (Vassbø et al., 2019). Because of those teams, nursing home workers are enabled to experience co-worker support (Vassbø et al., 2019). In such teams, nursing home workers constantly need to collaborate, leading to a situation in which nursing home workers can turn to colleagues to discuss things or to ask for consultation during informal meetings and their shifts (Vassbø et al., 2019).

Secondly, several researchers have drawn conclusions about the relationship between the low value on the parameter 'the degree of separation between operational and regulatory tasks' that flexible structures and the quality of work among nursing home workers (Lubetkin et al., 2015) Vermeerbergen et al., 2021; Choi et al., 2012; Vassbø et al., 2019; te Boekhorst et al., 2008). A study of Lubetkin et al., (2015), claimed that nursing home structures significantly increase stress control among nursing home workers. Lubetkin et al., (2015) stated that flexible structures enable autonomy because of the low degree of separation between operational and regulatory tasks. When regulatory tasks are included in operational tasks of nursing home workers, nursing home workers have the autonomy to make their own decisions in their care work and could solve problems on their own (Vermeerbergen et al., 2021). As a result, the stress conditions were more controllable among nursing home workers is higher in nursing homes with flexible structures (Lubetkin et al., 2005; Choi et al., 2012). Ultimately, more control resulted in satisfaction and reduced stress among nursing home workers, thereby facilitating psychological well-being (Lubetkin et al., 2005). Studies of Vermeerbergen et al., (2021) and Choi et al., (2012) reported similar results, claiming that greater regulatory control over the care process resulted in reduced job-related stress and increased job satisfaction among nursing home workers.

The study of Vermeerbergen et al., (2021) also reported that due to the low value on the parameter the degree of separation between operational and regulatory tasks, nursing homes with flexible structures positively influence decision authority among nursing home workers (Vermeerbergen et al., 2021). To further elaborate the previous statement, Vermeerbergen et al., (2021) stated that nursing home workers in such structures have – as they call it – universal working roles. Such roles can be best defined as roles which involve the responsibility for all the complete care process, and thus all the care tasks for residents living within their nursing home (Vermeerbergen et al., 2021). Within such tasks, nursing home workers have the autonomy to carry out the tasks the way they want to and based on the specific needs of the elderly patients (Vermeerbergen et al., 2021). Moreover, a study of Choi et al., (2012), reported similar findings, as they also concluded that flexible nursing home structures enable decision authority among nursing home workers, due to an integration of operational and regulatory activities in the same tasks. They stated that nursing homes with flexible structures enable self-governance. Self-governance provides nursing home workers with the opportunity and responsibility to exert authority over the way they provide care to their elderly patients, by

enabling nursing home workers to be involved in decisions reflecting policies, practices, and nursing work protocols (Choi et al., 2012).

Moreover, the study of Vassbø et al., (2019) stated that because of the low value on the parameter the degree of separation between operational and regulatory tasks, increased intellectual discretion and learning- and development opportunities among nursing home workers. The complete tasks of nursing home workers in flexible structures resulted in intellectual discretion and thereby more job control, as being responsible for the complete care process required nursing home workers to use all their skills and competences to complete their tasks (Vässbo et al., 2019). Furthermore, the teams of nursing home workers in flexible structures, allowed nursing workers to learn new skills and competences and as a result, increase learning- and development opportunities (Vässbo et al., 2019). This is because teams enable communication between nursing home workers (Vässbo et al., 2019). By for example sharing with colleagues how they performed their tasks, nursing home workers were provided with the opportunity to learn from each other's experience and knowledge. Hence, the collective agreement resulted in lots of learning and development opportunities, and a strengthening of the collective knowledge regarding nursing homework. As one nursing home worker for example mentioned:

''We cooperate with the care tasks to perform care in the best possible way. So, if I fail, maybe someone else can try. 'Playing' on each other's talents and ask the ones who have succeeded, what and how did you do, that is often just what is needed.'' (Vässbo et al., 2019, p.5).

The study of te Boekhorst et al., (2008), reported that because of the low value on the parameter, flexible structures enable co-worker support. They found that high levels of control meant that nursing home workers shared responsibility for everything that was going on in the nursing home, with just a few colleagues. Consequently, it seems likely that interactions with fellow nursing home workers revolve around the around their responsibilities in the nursing home (e.g., care of patients) and thus increase co-worker support (te Boekhorst et al., 2008). Furthermore, the study of Vassbø et al., (2019), reported that because of the low parameter value nursing homes with a flexible structure also enable structural support. As mentioned earlier in this section, flexible structures contain broad tasks, which focus on the complete care process (Vassbø et al., 2019), This allowed nursing home workers to be more connected and create a bond with elderly patients. As a result, nursing home workers experienced structural

support, as they had the feeling, they were part of a community and were fully socially integrated in the nursing home network (Vassbø et al., 2019). Subsequently, multiple nursing home workers stated that:

''They enjoyed working in nursing homes because of the social relational aspects of work and the possibilities of getting to know the residents well through long-term relationships. For many, working with older people in a nursing home was a choice that reflected their values and beliefs. The resident staff relationships could become family-like friendships, where the residents and staff showed an interest in each other as persons and were described as sources for experiencing meaningfulness.'' (Vassbø et al., 2019, p. 4).

Or as another nursing home worker stated:

''I'm not just there to help with patients with their ADLs and get them prepared for the day or put them back to bed. There is more to it by creating a community or a family sort of feeling'' (Vassbø et al., 2019, p. 4).

Lastly, the study Lubetkin et al., (2005) claimed that because of the low value on the parameter 'the degree of separation between operational and regulatory tasks', job demands decreased significantly. Because nursing home workers experienced had the regulatory potential to deal with tasks, they could directly deal with problems. Subsequently, nursing home workers did not need to wait on others to come and deal with their problems, nor stress about their time schedule. Consequently, nursing home workers experienced a way lower workload and less time pressure (Lubetkin et al., 2005).

5. Conclusion and discussion

In this chapter, the research question of this research will be answered. In chapter 1 of this research, the following research question was stated: *"'How do the structures of nursing homes influence the quality of work among nursing home workers?*'' The answer on this research question, and thereby this research itself, is a very important and prominent one. Because of the fact that between 2015 and 2100 the proportion of the population older than 64 years will double relative to those aged between 15 and 64 (The United Nations, 2015), the expectation of the government hat the largest part of the ageing population will come to live in nursing homes (Willemse et al., 2014), and because of the expectation of the government that shortage of healthcare workers will be almost tripled in the next ten years, nursing home workers will be under enormous pressure and they will experience a concerning low quality of work (NRC, 2022; TROUW, 2022; NOS.NL, 2022; Dall'Ora et al., 2020).

A thorough and extensive review of the included studies resulted in a coherent overview of the influence of nursing home structures on the quality of work among nursing home workers. The magnitude and content of these structures imply that there are characteristics of nursing home structures which either positively or negatively influence the quality of work among nursing home workers. Before a conclusion of the findings is given, it is important to note that not all the structural parameters of chapter two were reflected in the included studies, nor other studies. The included articles show the influence of either a high or a low score of the parameters: functional concentration, operational differentiation, operational specialization, and the separation between operational and regulatory activities, on the elements of quality of work. The parameters differentiation of regulatory activities into parts, differentiation of regulatory activities into aspects and degree of specialization of regulatory activities, were not reflected in the included articles. Therefore, no statements could be made with respect to the influence of the latter parameters on the elements of quality of work.

5.1 Conclusion

Many studies have shown that there are two types of care which are most frequently chosen within nursing homes, task-oriented care, and patient-centered care. These types of care reflect two types of nursing home structures, which were used in this research to answer the research question. The task-oriented structure reflects the bureaucratic nursing home structure, while the

patient-centered structure reflects the flexible nursing home structure. The bureaucratic nursing home structure is reflected by high parameter values, as such structures score high on the degree of functional concentration, the degree of operational differentiation, the degree of operational specialization, and the degree of separation between operational and regulatory activities. The high value of the parameters results in a structure that provides nursing home workers with small and narrow operational tasks performed in assembly-line fashion, which focus on all nursing home patients, and contain no regulatory potential. Furthermore, nursing home workers in a bureaucratic nursing home structure do not operate in teams. Instead, nursing home workers perform all their tasks on their own, leading to a situation in which nursing home workers perform their tasks in isolation. In contrast, the flexible nursing home structure is reflected by low parameter values, as such structures score low on the degree of functional concentration, the degree of operational differentiation, the degree of operational specialization, and the degree of separation between operational and regulatory activities. The low value of the parameters results in a structure that provides nursing home workers with broad and complete tasks, which focus on a specific number of patients instead of all patients and contain full regulatory potential. Furthermore, nursing home workers in a flexible nursing home structure do operate in teams, providing them with the opportunity to be part of the nursing home network.

According to many studies, bureaucratic nursing home structures negatively influence quality of work. The first reason is that because the high values on the degree of functional concentration, the high degree of operational differentiation of bureaucratic nursing home structures, job demands among nursing home workers are increased. The reason for that is that the high degree on those three parameters resulted in situations in which: (1) nursing home workers constantly had to trade off certain nursing home tasks over others, (2) nursing home workers were constantly rushing to keep up with their (time) schedule, (3) nursing home workers performing their tasks in isolation and (4) weren't always able to perform the tasks according to their (time) schedule. Consequently, nursing home workers felt an extreme workload and a high time pressure. The second reason is that the high degree on the three parameters disabled social support among nursing home workers, as bureaucratic nursing home structures restrict both structural- and functional support. Nursing home workers are namely not working in teams. Instead, they work on their own, leading to limited interaction with patients, other nursing home workers, or management, and thereby no opportunities for functional- nor structural support. The third reason is that the high degree of separation between operational and regulatory tasks decreased the job control among nursing home workers and

increased the probability for absenteeism and turnover. Job control decreased because bureaucratic nursing home limit decision authority and intellectual discretion. Such structures namely place the regulatory potential with the management instead of the nursing home workers, thereby reducing the control that nursing home workers have over their own work, and place constraints on creative thinking, the use of knowledge and expertise, professional judgement, and flexibility in responding to demands reflecting their tasks. Furthermore, the probability for absenteeism and turnover increased as nursing home workers had less learning- and development opportunities. Bureaucratic structure tasks do not challenge nor enable employees to experiment new ways of doing, thereby severely constraining their learning and development potential.

According to many other studies, flexible nursing home structures positively influence quality of work. There are several reasons explaining why a flexible nursing home structure positively influences the quality of work among nursing home workers. The first reason is the result of the low degrees on the degree of functional concentration, and the degree of operational-differentiation and specialization. Because of the low degrees on the three parameters, both structural- and functional support, and thus social support was enabled in nursing homes with flexible structures. That is because in such structures, nursing home workers have broad and complete tasks and work in teams. The teams created a possibility for interactions and relationships between nursing home workers. In teams, nursing home workers constantly needed to collaborate, leading to a situation in which nursing home workers could turn to colleagues to discuss things, and were fully integrated in the network. The second reason is that is that a low degree on the parameter 'the degree of separation between operational and regulatory tasks' enabled nursing home workers to carry out tasks with full regulatory potential and thus more autonomy. With full regulatory potential, nursing home workers could solve problems themselves in a direct manner. As a result, nursing home workers experienced more decision authority, which in return led to an increase in job control. Furthermore, nursing home workers experienced more stress control, as they could directly deal with problems. As a result, the probability for absenteeism and turnover decreased. The third reason is that because of a low the degree on the parameter 'the degree of separation between operational and regulatory tasks', an increase in intellectual discretion, and a decrease in the probability of absenteeism and turnover was caused. That is because a low degree on the parameter, nursing home workers worked in teams and perform complete and coherent tasks. Being responsible for the complete care required nursing home workers to use all their skills and competences to complete their

tasks, and because of team communication nursing home workers were provided with the opportunity to learn from each other's experience and knowledge. Hence, the collective agreement resulted in strengthening the collective knowledge. Furthermore, the probability of absenteeism and turnover is lower because tasks in flexible structures do challenge employees to experiment new ways of doing, thereby enabling learning and development opportunities among nursing home workers. The fourth reason is that because of the low value on the parameter 'the degree of separation between operational and regulatory tasks', job demands decreased significantly. Nursing home workers did not need to wait on others to come and deal with their problems, nor stress about their time schedule. Consequently, nursing home workers experienced a way lower workload and less time pressure.

To summarize, all the studies claimed that bureaucratic structures had high values the indicators of job demands, low values on the indicators of job control, low values on the indicators of social support, and low values on the indicators of absenteeism and turnover. In the results chapter it also became clear that that those values negatively influenced the psychological well-being among nursing home workers. In contrast, all studies claimed that flexible structures had low values on the indicators of job demands, high values on the indicators of job control, high values on the indicators of social support, and high values on the indicators of absenteeism and turnover. In the results chapter it also became clear that those values positively influenced the psychological well-being among nursing home workers. As a result, it can thus be concluded that bureaucratic structures negatively influence the quality of work among nursing home workers, as such structures increase job demands, decrease job control, decrease social support, and increase the probability for absenteeism and turnover. It can also be concluded that flexible structures positively influence the quality of work among nursing home workers, as such structures decrease job demands, increase job control, increase social support, and decrease the probability for absenteeism and turnover.

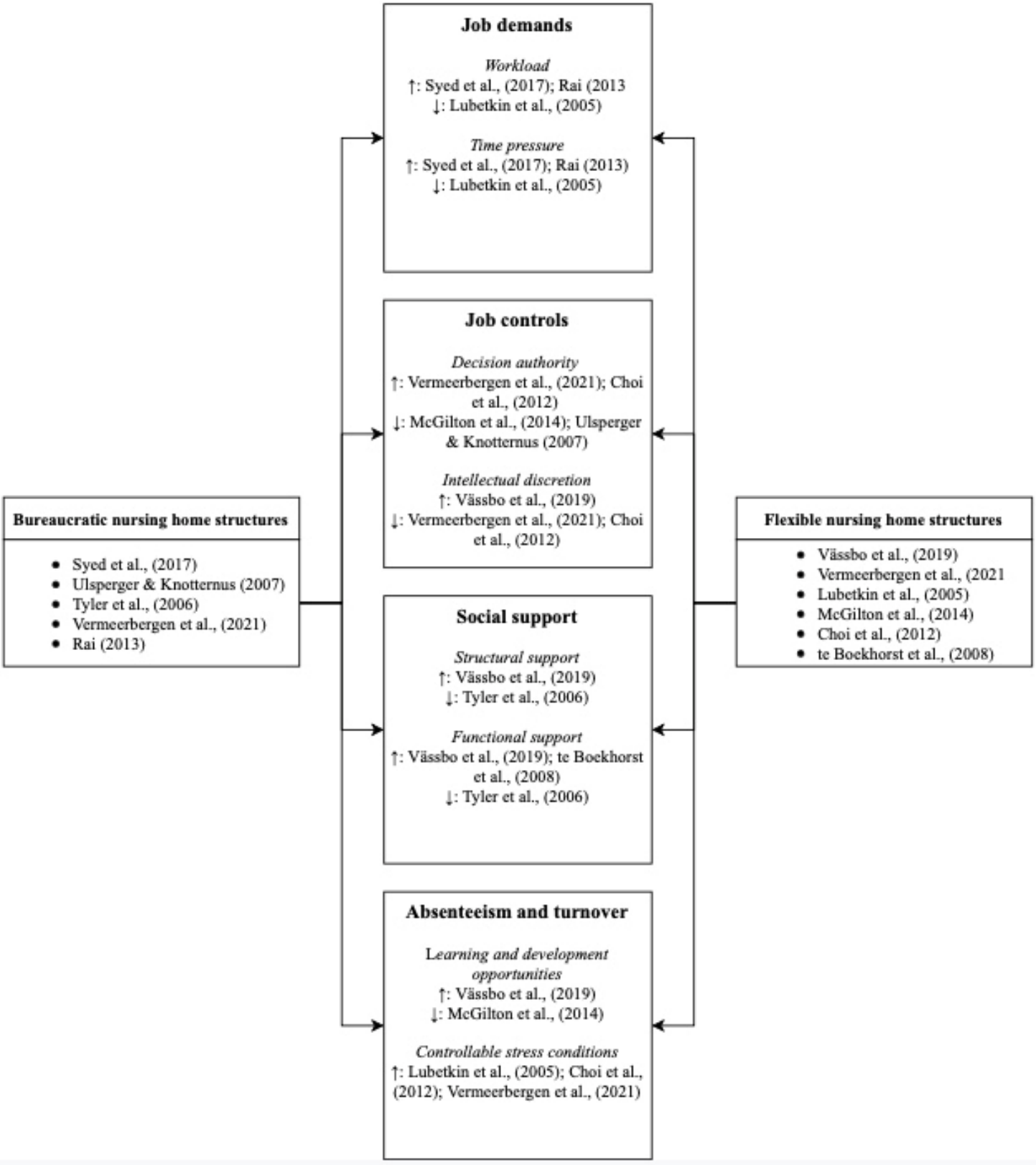


Figure 5.1 Summary main study findings

5.2 Theoretical implications

In this section, the theoretical implications of this research will be elaborated. The theoretical implications will be divided in implications for organizational structures and healthcare literature.

Firstly, the implications for organizational structures. This research provides insights on the influence that nursing home structures have on the quality of work among nursing home workers. This research extends the existing knowledge on organization structures by enhancing our understanding on why some nursing home structures can create a high quality of work among nursing home workers, while other nursing home structures aren't able to do so. More specifically, this research helps to deeper the understanding of what the different effects of nursing home structures on nursing home workers are. Moreover, several studies discuss the relationship between distinctive parts of the structure of nursing homes and the quality of work of nursing home workers (Syed et al., 2017; Ulsperger & Knotternus, 2007; Tyler et al., 2006; Vermeerbergen et al., 2021; Vässbo et al., 2019; Lubetkin et al., 2005; McGilton et al., 2014; Choi et al., 2012; te Boekhorst, 2008; Rai, 2013). However, there is not yet integrated research of the relationship between the multiple characteristics of the nursing home structure of nursing homes and the quality of work among nursing home workers. To eliminate that gap, this research has linked multiple structural characteristics (parameters) to the quality of work among nursing home workers.

Furthermore, this research also contributes to the healthcare literature. Firstly, by providing insights on how nursing home structures influence the quality of work among nursing home workers, this research enhances the understanding of how a nursing home structure should look like to create a high quality of work among nursing home workers. Moreover, some researchers showcased the relationship between the structure and one element of quality of work (e.g., job demands), instead of connecting the structure to all elements of quality of work (Syed et al., 2017; Ulsperger & Knotternus, 2007; Tyler et al., 2006; Vermeerbergen et al., 2021; Vässbo et al., 2019; Lubetkin et al., 2005; McGilton et al., 2014; Choi et al., 2012; te Boekhorst, 2008; Rai, 2013). In contrast, this research covers all quality of work elements. Secondly, this research theoretically contributes to theory about quality of care in nursing homes. As mentioned before, the amount of elderly people who come will come to live in nursing homes, and the shortage of healthcare personnel are increasing (Asante et al., 2021; Johannessen et al., 2020). As

always, quality of care is very important. However, because of the shortage and the high pressure that nursing home workers face, quality of care is rather difficult to maintain (Asante et al., 2021; Johannessen et al., 2020). Given the difficult challenge, this research provides insights to existing theory on quality of care in nursing homes, as this research could deepen and extend the knowledge on how a high quality of work among nursing home workers in nursing homes could be created. Moreover, this research might provide insights to existing theory on quality of care in other healthcare institutions, as insights from this research might be applied to other healthcare settings as well.

Lastly, this research contributes to theory reflecting the realization of goals of nursing homes or other healthcare institutions. The realization of goals in nursing homes is executed by nursing home workers (Albrecht, 2012). To realize those goals, nursing home workers should have a good psychological well-being (e.g., being resistant to stress), as poor well-being limits the effectivity in goal realization among nursing home workers (Albrecht, 2012). Subsequently, if nursing home workers experience a low psychological well-being and thereby a low quality of work, realization of goals will become troublesome (Albrecht, 2012). This research shows how a high quality of work can be created by means of a flexible structure, and therefore contributes to existing theory on the realization of goals in nursing homes by extending the knowledge base on how goals can be effectively realized.

5.3 Practical implications

In this section, the practical- and theoretical implications of this research will be discussed. The practical implications will be discussed first. More specifically, the practical implications of an enhanced understanding of the influence of the nursing home structure on quality of work among nursing home workers will be discussed. Firstly, the practical implications for the government will be discussed. Secondly, the practical implications for civil society organizations will be discussed. Thirdly, the practical implications for managers of nursing homes will be discussed. And lastly, the practical implications for individual nursing home workers will be discussed.

Firstly, the practical implications of this research for the government. For quite a long time, but today more than ever, governments are with all their power trying to deal with and solve problems reflecting the quality of work among nursing home workers (Rijksoverheid, 2022;

NRC, 2022; TROUW, 2022; NOS.NL, 2022; Dall'Ora et al., 2020). Because of exponential increase in elderly people, the expectation of the government that the largest part of the ageing population will come to live in nursing homes, and because of the expectation of the government that shortage of healthcare workers will be almost tripled in the next ten years, nursing home workers will be under enormous pressure, and they will experience a concerning low quality of work (Rijksoverheid, 2022; NRC, 2022; TROUW, 2022; NOS.NL, 2022; Dall'Ora et al., 2020). Besides the fact that the shortage increases impacts nursing home workers, it also impacts society at large. When nursing home workers experience a low quality of work, they are more likely to experience stress and burnouts. Consequently, the quality of care could problematically decrease (Blatter et al., 2005; Maslach et al., 1996). In return the health of people who need care provisioning could be at danger. This research, however, tries to prevent such impacts on society from happening, by informing the government about the benefits of the flexible structure to improve the quality of work among nursing home workers. The government could subsequently inform nursing homes about the insights gained from this research. Furthermore, the government could introduce regulations that ensure that nursing homes incorporate flexible structures. When it becomes clear for governments what the best type of structure is for, and what the characteristics of such a structure are, to ensure a high quality of work among nursing home workers, the government could by means of regulations increase the probability that a high quality of work will be realized in nursing homes.

Secondly, the practical implications for civil society organizations will be discussed. More specifically: the implications for labor union representatives will be discussed. As is widely known, labor unions are organizations that engage in collective bargaining with an employer to protect employees in areas such as economic status and working conditions (Leigh & Chakalov, 2021; Hagedorn et al., 2016). This research could assist labor unions in the nursing home sector with bargaining with governments representatives or with managers of nursing homes, as it provides labor union representatives with the insights on how the best working conditions (quality of work) could be created by means of a flexible structure. Labor union representatives could then use the insights of this research to persuade the government representatives of nursing home mangers of the benefits of a flexible structure for the quality of work among nursing home workers. Furthermore, this research could also assist labor unions in the general healthcare context. Because this research provides insights in the relationship between a structure and the quality of work, health care institutions in another

context than the nursing home context, might take the insights from this research and try and implement them in their context.

Thirdly, the practical implications for managers of nursing homes will be discussed. Nursing homes could use the insights of this research for the identification of structural characteristics that are hindering a high quality of work among nursing home workers. The insights of this research are relevant in multiple contexts. Firstly, the insights of this research may be particularly useful for nursing homes who have adopted a bureaucratic nursing home structure and experience a low quality of work among nursing home workers. By means of this research, nursing homes could then discover how the low quality of work is caused and how they should change their structure to create a high quality of work among nursing home workers. Secondly, the insights of this research may be relevant for nursing homes who have already adopted a flexible nursing home structure, but still experience trouble with realizing quality of work among nursing home workers. These insights of this research could then provide explanation of the causes for not being able to realize quality of work. The insights of this research subsequently can also provide insights on how nursing homes could solve their problems, and thus realize a high quality of work. Thirdly, the insights of this research may be relevant to nursing homes that are currently in the process of implementing a flexible nursing home structure. They could the outcomes of a flexible structure on quality of work elements as benchmark or checklist, to examine if nursing home workers do or not experience the indicators of the elements. If they do, they have implemented the structure correctly. However, if not, could mean that they need to change something in their structure. Lastly, the insights of this research may also be relevant to people who are planning on starting a nursing home. They could use this research to examine the influence of both the bureaucratic- and the flexible structure on the quality of work and can subsequently make choices on which structure they would like to adopt in their nursing home.

Fourthly, the practical implications for nursing home workers will be discussed. As already has been mentioned more than once in this research, we are now living in an era in which the aging of the population has increased tremendously (United Nations, 2015). The government expects that the aging of the population will continue to increase (TROUW, 2022; NRC, 2022; NOS, 2022), and that the largest part the aging population will come to live in nursing homes (Willemse et al., 2014). Due to the shortage, the workload and time pressure among nursing home workers will significantly increase (Maslach et al., 2020). Research has revealed that job

demands such as a high workload, time pressure may lead to sleeping problems and exhaustion (Doi, 2005; Halbesleben & Buckley, 2004). As a result, impaired psychological well-being will be created, leading to a bad quality of work among nursing home workers (Holman, 2006; Karasek, 1979; Bakker & Demerouti, 2007). This research, however, tries to solve the quality of work issue among nursing home workers. This research provides actors such as the government, civil society organizations (labor unions), and nursing home managers with the insights on how a flexible structure improves the quality of work among nursing home workers, those actors could implement the flexible structures. Subsequently, the quality of work among nursing home workers could be improved.

5.4 Limitations and recommendations for future research

There are several limitations that apply to this research. These limitations will be described in this section. After every limitation, a recommendation will be given the overcome the limitation in future research.

Firstly, this research included studies conducted in Canada, The United States, Flanders, Australia, Norway, Sweden, and The Netherlands, which means that a lot of countries were not included in this study. Different countries have different ways of working and different cultures, which means that a structure might be beneficial for the quality of work among nursing home workers in one country, but it doesn't necessarily have to be the same in another country. Therefore, the outcomes of this research are hard to generalize to nursing homes in countries other than the countries included in this research. To overcome this first limitation, future research should conduct research on the influence of nursing home structures on quality of work among nursing home workers in other countries. As a result, the generalization of outcomes will be stronger.

Secondly, this research included the influences of the parameters (1) the degree of functional concentration, (2) the degree of operational differentiation, (3) the degree of operational specialization, and (4) the degree of separation between operational and regulatory tasks, on the quality of work among nursing home workers. The reason for this is that there were no studies which described the influence of the other three parameters on the quality of work among nursing home workers. Therefore, this research cannot draw conclusions about the influence of the complete structure on the quality of work among nursing home workers. To overcome this second limitation, future research should try and focus on the influence of the complete

structure on the quality of work among nursing home workers, so that conclusions can be drawn about the complete structure.

Thirdly, this research provides insights on how the structure of nursing homes should look like to create a high quality of work among nursing workers. However, this research doesn't provide insights in the process of building such a structure. It could then become hard for nursing homes (or other healthcare institutions) to implement the flexible structure, as they don't know how to do so. To overcome this third limitation, future research should try and focus on determining the best process for building a flexible structure in nursing homes.

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Appendices

Appendix A: queries and yield: PubMed & Web of Science

Table 1: Queries and Yield: PubMed

Search	Query	Yield
#1	"organizational structure" [Title/Abstract] OR "organizational structures" [Title/Abstract] OR "horizontal decentralization" [Title/Abstract] OR "vertical centralization" [Title/Abstract] OR "horizontal centralization" [Title/Abstract] OR "centralization*" [Title/Abstract] OR "decentralization" [Title/Abstract] OR "formal rules" [Title/Abstract] OR "bureaucracy" [Title/Abstract] OR "bureaucratic" [Title/Abstract] OR "flexible structure" [Title/Abstract] "job design" [Title/Abstract] OR "task design" [Title/Abstract] OR "task complexity" [Title/Abstract] OR "job complexity" [Title/Abstract] OR "functional concentration" [Title/Abstract] OR "job specialization" [Title/Abstract] OR "task specialization" [Title/Abstract] OR "specialization" [Title/Abstract] OR "decision making" [Title/Abstract] OR "task differentiation" [Title/Abstract] OR "job differentiation" [Title/Abstract] OR "hierarchy*" [Title/Abstract] OR "division of labor" [Title/Abstract] OR "authority*" [Title/Abstract] OR "size of task" [Title/Abstract] OR "task size" [Title/Abstract] OR "task variety" [Title/Abstract] OR "variety of tasks" [Title/Abstract] OR "work complexity" [Title/Abstract] OR "complexity of work" [Title/Abstract] OR "job" [Title/Abstract] OR "jobs*" [Title/Abstract] OR "work*" [Title/Abstract] OR "task*" [Title/Abstract] OR "tasks*" [Title/Abstract] OR "bottom-up" [Title/Abstract] OR "top down" [Title/Abstract] OR "regulation" [Title/Abstract] OR "regulation hierarchy" [Title/Abstract] OR "hierarchy of regulation" [Title/Abstract]	3 286 249
#2	"nursing home*" [Title/Abstract] OR "nursing homes" [Title/Abstract] OR "elderly care*" [Title/Abstract] OR "care home*" [Title/Abstract] OR "care homes*" [Title/Abstract] OR "assisted living facility*" [Title/Abstract] OR "home care*" [Title/Abstract] OR "long term care*" [Title/Abstract] OR "long term care facility" [Title/Abstract] OR "long term care facilities" [Title/Abstract]	77 604
#3	"job quality" [Title/Abstract] OR "work quality" [Title/Abstract] OR "quality of work" [Title/Abstract] OR "job quality" [Title/Abstract] OR "stress*" [Title/Abstract] OR "job variety" [Title/Abstract] OR "job demand*" [Title/Abstract] OR "job demands" OR [Title/Abstract] OR "time pressure" [Title/Abstract] OR "time pressures" OR [Title/Abstract] OR "job control" [Title/Abstract] OR "job autonomy" [Title/Abstract] OR "autonomy*" [Title/Abstract] OR "decision authority" [Title/Abstract] OR "authority" [Title/Abstract] OR "skill utilization [Title/Abstract] OR "peer support" [Title/Abstract] OR "support" [Title/Abstract] OR "supervisor support" [Title/Abstract] OR "support of supervisor" [Title/Abstract] OR "co-worker support" [Title/Abstract] OR "support of manager" [Title/Abstract] OR "managerial support" [Title/Abstract] OR "involvement" [Title/Abstract] OR "network involvement" [Title/Abstract] OR "learning" [Title/Abstract] OR "development" [Title/Abstract] OR "learning opportunities" [Title/Abstract] OR "development opportunities [Title/Abstract] OR "work outcome" [Title/Abstract] OR "work outcomes" [Title/Abstract] OR "strain*" [Title/Abstract] OR "burnout" [Title/Abstract] OR "well-being" [Title/Abstract] OR "psychological well-being" [Title/Abstract]	912 369
#4	#1 AND #2 AND #3	1 014

Table 2: Queries and Yield: Web of Science

Search	Query	Yield
#1	(TI = organizational structure OR AB = organizational structure*) OR (TI = organizational structures OR AB = organizational structures) OR (TI =horizontal decentralization OR AB = horizontal decentralization) OR (TI = vertical decentralization OR AB = vertical decentralization) OR (TI = horizontal decentralization OR AB = horizontal decentralization) OR (TI = centralization* OR AB = centralization*) OR (TI = decentralization* OR AB = decentralization*) OR (TI = formal* OR AB = formal*) OR (TI = bureaucracy OR AB = bureaucracy) OR (TI = job design OR AB = job design) OR (TI = task design OR AB = task design) OR (TI = task complexity OR AB = task complexity) OR (TI = job complexity OR AB = job complexity) OR (TI = functional concentration OR AB = functional concentration) OR (TI = job specialization OR AB = job specialization) OR (TI = task specialization OR AB = task specialization) OR (TI = specialization OR AB = specialization) OR (TI =decision making OR AB = decision making) OR (TI = task differentiation OR AB = task differentiation) OR (TI = job differentiation OR AB = job differentiation) OR (TI = hierarchy OR AB = hierarchy) OR (TI = division of labor OR AB = division of labor) OR (TI = authority* OR AB = authority*) OR (TI = size of task OR AB = size of task) OR (TI = task size OR AB = task size) OR (TI = task variety OR AB = task variety) OR (TI = work complexity OR AB = work complexity) OR (TI = variety of tasks OR AB = variety of tasks) OR (TI = complexity of work OR AB = complexity of work) OR (TI = jobs* OR AB = jobs*) OR (TI = job OR AB = job) OR (TI = work* OR AB = work*) OR (TI = task* OR AB = task*) OR (TI = tasks* OR AB = tasks*) OR (TI = bottom-up OR AB = bottom-up) OR (TI = top down OR AB = top down) OR (TI = regulation* OR AB = regulation*) OR (TI = regulation hierarchy OR AB = regulation hierarchy) OR (TI = hierarchy of regulation OR AB = hierarchy of regulation)	8 764 311
#2	(TI = nursing home OR AB = nursing home) OR (TI = nursing homes* OR AB = nursing homes*) OR (TI = elderly care* OR AB = elderly care*) OR (TI = care home* OR AB = care home*) OR (TI = care homes* OR AB = care homes*) OR (TI = home care* OR AB = home care*) OR (TI = long term care* OR AB = long term care facility*) OR (TI = long term care facilities* OR AB = long term care facilities*)	193 392
#3	(TI = job quality OR AB = job quality) OR (TI = work quality OR AB = work quality) OR (TI = quality of work OR AB = quality of work) OR (TI = job variety OR AB = job variety) OR (TI = job demand OR AB = job demand) OR (TI = job demands OR AB = job demands) OR (TI = time pressure OR AB = time pressure) OR (TI = time pressures OR AB = time pressures) OR (TI = job control OR AB = job control) OR (TI = job autonomy OR AB = job autonomy) OR (TI = autonomy* OR AB = autonomy*) OR (TI = decision authority OR AB = decision authority) OR (TI = authority* OR AB = authority*) OR (TI = skill utilization OR AB = skill utilization) OR (TI = peer support OR AB = peer support) OR (TI = support OR AB = support) OR (TI = supervisor support OR AB = supervisor support) OR (TI = support of supervisor OR AB = support of supervisor) OR (TI = co-worker support OR AB = co-worker support) OR (TI = support of manager OR AB = support of manager) OR (TI = managerial support OR AB = managerial support) OR (TI = involvement OR AB = involvement) OR (TI = development OR AB = development) OR (TI = learning OR AB = learning) OR (TI = learning opportunities OR AB = learning opportunities) OR (TI = development opportunities OR AB = development opportunities) OR (TI = work outcome OR AB = work outcome) OR (TI = work outcomes OR AB = work outcomes) OR (TI = strain OR AB = strain) OR (TI = burnout OR AB = burnout) OR (TI = well-being OR AB = well-being) OR (TI = psychological well-being OR AB = psychological well-being)	11 392 692
#4	#1 AND #2 AND #3	26 303

Appendix B: Critical appraisal qualitative articles

CASP questions
1. Was there a clear statement of aims of the research? 2. Is a qualitative methodology appropriate? 3. Was the research design appropriate to the aims of the research? 4. Was the recruitment strategy appropriate to the aims of the research? 5. Was the data collected in a way that addressed the research issue? 6. Has the relationship between researcher and participants been adequately considered? 7. Have ethical issues been taken into consideration? 8. Was the data analysis sufficiently rigorous? 9. How valuable is the research?

Studies	Answers
1. Syed et al., (2017)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly
2. Ulsperger & Knotternus (2007)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly

3. Tyler et al., (2006)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly
4. Vermeerbergen et al., (2021)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly
5. Vässbo et al., (2019)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly
6. McGilton et al., (2014)	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes 7. Yes 8. Yes 9. Highly

Appendix C : Critical appraisal quantitative articles

Table 1 : Tyler et al., (2006)

Questions/ Categories	Weak	Moderate	Strong
1. Study design			X
2. Analysis			X
3. Withdrawals and dropouts			X
4. Data collection practices			X
5. Selection bias			X
6. Invention integrity			X
7. Blinding as part of a controlled trial			X
8. Confounders			X

Table 2 : Lubetkin et al., (2005)

Questions/ Categories	Weak	Moderate	Strong
1. Study design			X
2. Analysis			X
3. Withdrawals and dropouts			X
4. Data collection practices			X
5. Selection bias			X
6. Invention integrity			X

7. Blinding as part of a controlled trial			X
8. Confounders			X

Table 3 : Choi et al., (2012)

Questions/ Categories	**Weak**	**Moderate**	**Strong**
1. Study design			X
2. Analysis			X
3. Withdrawals and dropouts			X
4. Data collection practices			X
5. Selection bias			X
6. Invention integrity			X
7. Blinding as part of a controlled trial			X
8. Confounders			X

Table 4 : te Boekhorst et al., (2008)

Questions/ Categories	Weak	Moderate	Strong
1. Study design			X
2. Analysis			X
3. Withdrawals and dropouts			X
4. Data collection practices			X
5. Selection bias			X
6. Invention integrity			X
7. Blinding as part of a controlled trial			X
8. Confounders			X

Table 5 : Rai (2013)

Questions/ Categories	Weak	Moderate	Strong
1. Study design			X
2. Analysis			X
3. Withdrawals and dropouts			X
4. Data collection practices			X
5. Selection bias			X
6. Invention integrity			X

7. Blinding as part of a controlled trial			X
8. Confounders			X