The "dark side" of projectification: The impact of project work on the employees' well-being.
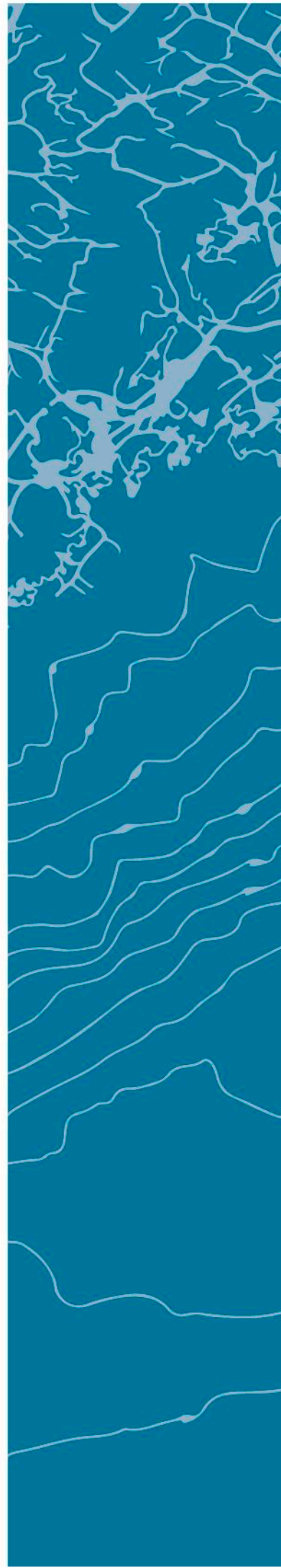
A quantitative study of the impact of project work exposure on employees' work-related well-being.

Charlotte Bråthen

Margrethe Ommundsen

Supervisor

Andreas Wald

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Charlotte Bråthen

Margrethe Ommundsen

Abstract

Although project-based work is said to create dynamic environments for innovation and learning, it can also make the employees vulnerable, exhausted and reduce their personal worthiness. Some have even stated that it can be destructive to the employees' well-being. Employees' well-being impacts not only the individual itself, but also the organizations they work in and the society as a whole. Existing studies have explored how work in general impact employees' well-being, but few have assessed the impact of project-based work on employees' well-being. As the use of project-based work is constantly increasing it is highly relevant and interesting to explore its impact on individuals. By using the Job Demand-Control-Support model as the starting point of our study, we aim to explore the research gap of how project work exposure impact employees' well-being using a quantitative approach. While the main hypothesis considers the impact of project demand on employees' work-related well-being, the direct and potential moderating effects of project control and co-worker support are also included. In addition, project complexity is considered as a moderating variable.

We have conducted a quantitative analysis, based on primary data collected through a web-based questionnaire. The questionnaire was distributed by three leading project management associations in Scandinavia and answered by 136 respondents. The main data analysis was done applying PLS-SEM. Our findings demonstrate that all of the independent variables had a significant impact on employees' work-related well-being, while the moderating variables did not have any significant impact. Nevertheless, the results contribute to a better understanding of the linkage between project work exposure and employees' well-being.

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1. Introduction

Scholars have since the middle of the 1960's claimed that we live in a society that is becoming increasingly projectified. This projectification has affected both individuals, organizations, and the society in general (Cicmil et al., 2016; Packendorff, 2002). During the last decades the use of project-based work has become more and more popular, and today significant parts of peoples working-life is organized in projects or other types of temporary organizations (Lindgren et al., 2014).

Project-based work is said to foster innovation, efficiency, flexibility and create better conditions for learning. Structuring organizations into projects can be a source for competitive advantage as it makes it easier to respond to today's customers differentiated and customized demands (Packendorff, 2002; Turner et al., 2008). However, the projectification also affects the working-life of the employees as they have to work in more project-based settings, and it has affected both their life at work and in general (Packendorff, 2002). While individuals working in projects may get more opportunities, adventures and experiences (Lindgren et al., 2014), it comes with a cost. The project worker become vulnerable and they often feel exhausted, burnout and have a poor work-life balance (Cicmil et al., 2016; Peticca-Harris et al., 2015). A study done by Gällstedt (2003) suggest that project work can become destructive to employees' well-being.

Employees' well-being has recently become a major research concern in the field of organizational research (Bretones & Gonzalez, 2011). Through the last decades several studies have indicated that different job characteristics can negatively impact employees' well-being (Bakker & Demerouti, 2007). As a low degree of employee well-being can be a cost for the organization as well as for the society as a whole, the maintaining of both individual and organizational well-being has been proven to be of significant importance (Demo & Paschoal, 2016; Grant et al., 2007; Page & Vella-Brodrick, 2009). In fact, research has identified five elements of well-being whereas work-related well-being is the one that has the most influence on individuals' overall well-being (Rath & Harter, 2010, p. 6, 124). Despite the importance, the research on employees' well-being in temporary organizations, including in project-based work, remains limited and inconsistent (Chambel et al., 2016; Imhof & Andresen, 2017).

1.1. Research gap and research goal

While the topic of projects and projectification have been researched for a while, it was in the early stages looked at from depersonalized and organizational perspectives. The literature on the individual project worker was rare, and the focus was primarily on the project manager and not the ordinary project worker (Andersson & Wickelgren, 2009; Blomquist & Gällstedt, 2002; Packendorff, 2002). Several studies focused on how the employees' emotions impact the project success and how they should behave, however there was limited research on the emotions that occur in project-based work (Lindgren et al., 2014; Reeser, 1969). In the later years, the focus has shifted towards a more personalized perspective, and there are now several studies on how project work affects employees (e.g. Bowen et al., 2014; Lindgren et al., 2014; Packendorff, 2002; Peticca-Harris et al., 2015). However, these studies consider how the employees perceive project work in general (not specifically linked to well-being), and they are primarily based on small sample sizes with interviews as the method. Earlier studies have thereby emphasized the need for further research on project-based work in an everyday practice and how the individual is affected by it (Burke & Morley, 2016; Cicmil et al., 2016; Packendorff & Lindgren, 2013). By using the Job Demand-Control-Support model as the starting point of our study, the research goal is to explore the impact of project work exposure on employees' work-related well-being across different functional areas, cases and industries. To the best of our knowledge we are among the first using a quantitative approach to assess this relationship.

1.2. Structure of analysis

The thesis is organized as follow. First comes a discussion of the relevance of projects and employees' well-being, followed by the theoretical framework that the thesis is based on. To further explore the relationship between the variables in the study, a data collection was done using an online questionnaire. Finally, the results and findings are presented, and we thereby conclude by discussing the results and limitations of the study before we suggest directions for further research.

2. Relevance

The notion of projectification was first introduced by Midler (1995), he described it as a process whereas the firm restructures from a solely traditional functional structure to project-based forms of work that becomes more and more autonomous (Packendorff & Lindgren, 2013). So, projectification adds temporary organizations, like project work, to already existing and permanent organizations (Müller et al., 2016). According to Turner (2009, p. 2) "*A project is a temporary organization to which resources are assigned to do work to deliver beneficial change.*" In today's market the product life cycles are short; the launch windows are narrow; the products are becoming more complex and technical; and global markets are emerging. We live in a globalized fast-paced economy (Bakker, 2010). Many organizations are constantly subject to pressure from several directions; relevant factors change and interact at the same time. Project-based work may help face these challenges (Ekstedt, 2009; Packendorff, 2002; Pinto, 2013, p. 29).

Over the past 20 years, literature has paid increasingly attention to the subject of temporary organizations. Between the years of 1998 and 2008 a total of 61 studies focusing on temporary organizations were published in books and International Scientific Indexed journals, resulting in an increase of 339% compared to the decade before (Bakker, 2010).
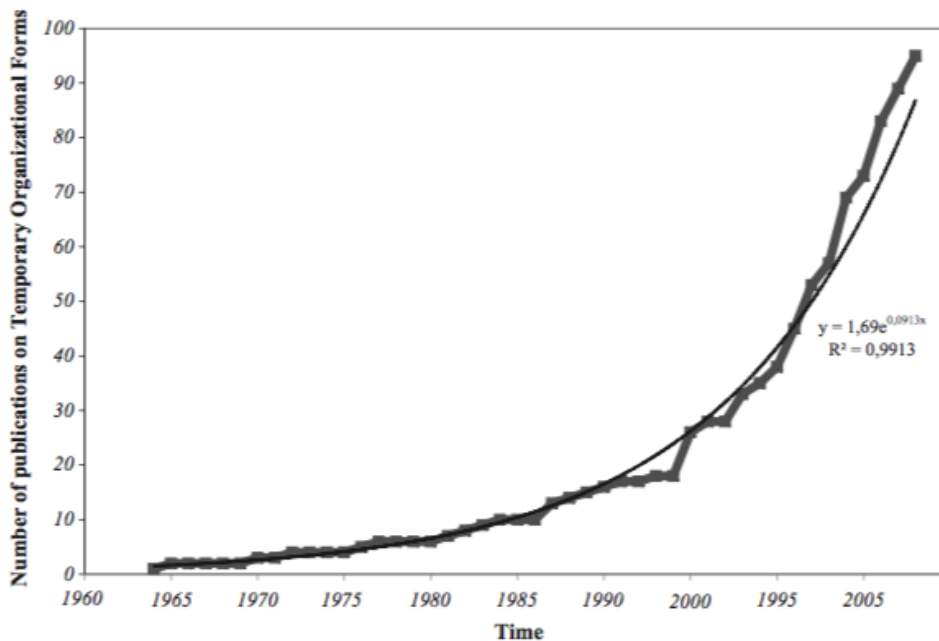
Figure 2.1. Growth of literature on temporary organizational forms, from 1960 to 2008 (Bakker, 2010).

According to Schoper et al. (2018, p. 72) "*the increasing projectification may not only have an impact on the competitiveness of individual firms but also reflects the economic development of entire economies.*" Project management is widely used across many industries, sectors and contexts today (Bakker, 2010; Padalkar & Gopinath, 2016), and it has become an influential management fashion (Andersson & Wickelgren, 2009). Research suggest that both the volume and the quality of project management research will increase in the future (Schoper et al., 2016), and the recent years rapid growth in the number of members in the Project Management Institute also indicates the increased popularity of project-based work (Cicmil et al., 2016; Meredith & Mantel, 2012, p. 5).
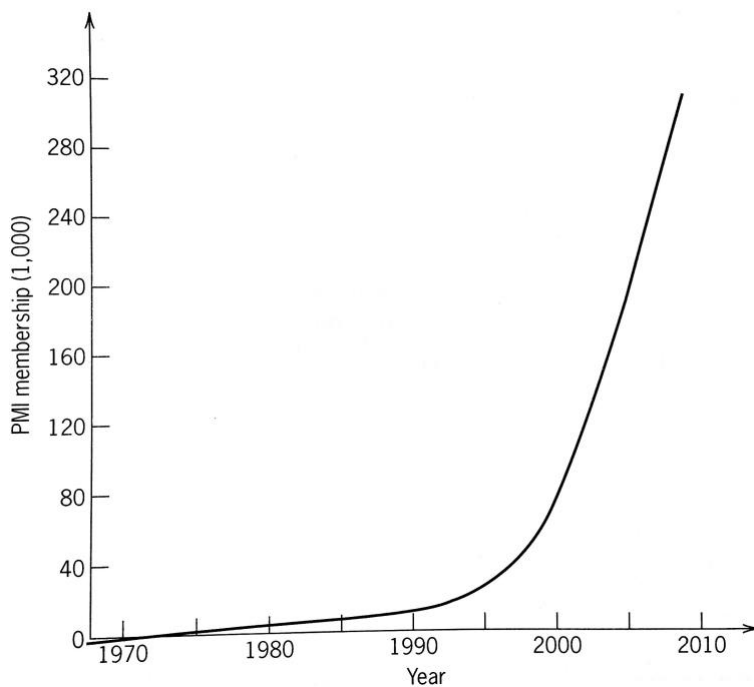
Figure 2.2. Project Management Institute growth history (Meredith & Mantel, 2012, p. 5).

According to Schoper et al. (2016, p. 27) "*over the last decades a steadily increasing amount of value creation of companies has been generated by projects*". The projectification of the society, and the popularity of projects, lead to an increasing number of individuals working in projects (Ekstedt, 2009). This makes it highly relevant and necessary to start focusing on the effects that project work have on the employees (Andersson & Wickelgren, 2009), in particular on employees' well-being.

Gallup scientists have explored the characteristics of people's well-being since the mid 20th century. As a part of their research they found five universal elements of well-being that differentiate a good life from a not so good one, including work-related; social; financial; physical; and community well-being. All of these elements are interrelated and struggling in one of them damages the individual's well-being in the daily life (Rath & Harter, 2010, pp. 4-6). According to Rath & Harter (2010, p. 16) work-related well-being is the most essential one. We spend above 30% of our lives at work (Rath & Harter, 2010, p. 126), so in order to have a high degree of well-being we have to be found of what we do every day. People with a high degree of work-related well-being wake up every morning with something to look forward to, and they enjoy the work they do (Rath & Harter, 2010, p. 153).
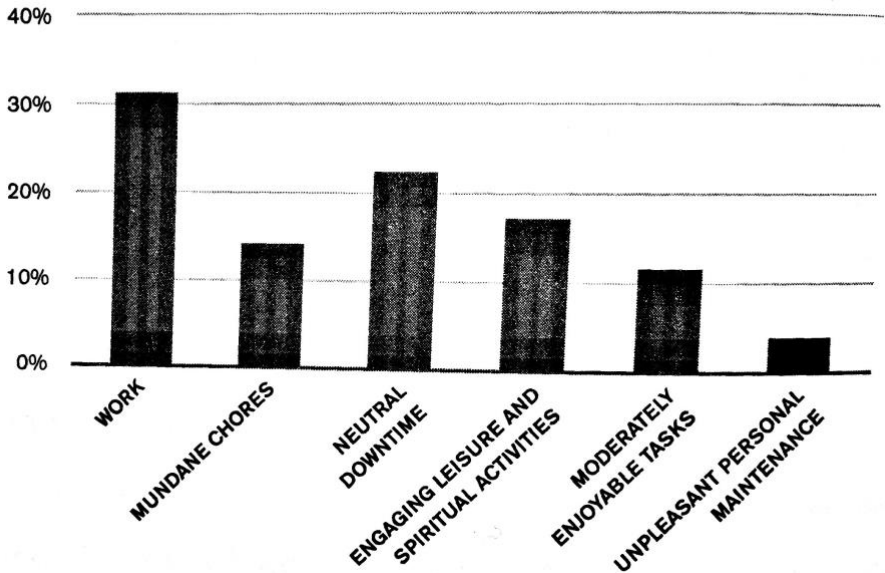
Figure 2.3. How we spend our time (Rath & Harter, 2010, p. 126).

Employees' well-being has been subject to a great amount of research in recent years, and it has become a major research concern in the field of organizational research (Bretones & Gonzalez, 2011; Soh et al., 2016). Several studies suggest that the well-being of employees is in the best interest of the employer and for the communities as a whole (Fisher, 2014, p. 9; Harter et al., 2003). When organizations and leaders ignore their employees' well-being, they can destroy their confidence and limit the organizations possibilities for growth (Rath & Harter, 2010, p. 133). An employee's low degree of well-being does not only imply discomfort or agony for the individual, but it can also be a cost for the organization and the society. It can lead to ineffectiveness, staff turnover or health care costs within the

organization (Bretones & Gonzalez, 2011; Grebner et al., 2005; Huhtala et al., 2011; Karasek & Theorell, 1990, p. 163). Most of today's successful organizations have worked systematically to increase employees' engagement, the same organizations are now turning their attention towards employees' well-being as a way to gain competitive advantage (Rath & Harter, 2010, p. 136).

Even though research indicates that the rapid increase in the use of projects have started to slow down, the study of project-based work and its effect on the employees' well-being is still highly relevant. Research suggests that at least 30% of the global economy is project-based (Turner, 2009, p. 1), and that in 2020 the share of project work in the Norwegian economy will be 33.8% (Schoper et al., 2018).

3. Theoretical framework

This section presents a literature review on project work, employees' well-being and the relationship between the two. Furthermore, the research model and hypotheses are presented.

3.1. Projects

The use of projects can be traced way back in time, and people have done work that can be characterized as project work for as long as we know. This being everything from smaller projects to more complex projects like the Egyptian Pyramids and the Great Wall of China (Karlsen, 2013, p. 22). However, projects as we know them today are usually said to have originated with the Manhattan Project in the chemical industry. This project produced the first nuclear weapons at the start of World War II (Karlsen, 2013, p. 22; Meredith & Mantel, 2012, p. 10). In the 1950's project management was defined as a management discipline, and in the following years the methods, techniques and definitions we use today were developed. The first article on project management, "The Project Manager", was published in 1959 (Karlsen, 2013, p. 22; Rolstadås, 2011, p. 19). In its early days project-based work was used mainly for large and external projects, but as the techniques of project management developed the use of project-based work spread into smaller and internal projects as well (Meredith & Mantel, 2012, p. 1, 10). Today project-based firms are common (Turner, 2009, p. 1), and in Norway the total share of project work in the economy was 32.6% in 2014 (Schoper et al., 2018).

Projects are a way of structuring the organization into temporary organizations. The projects are usually separate from other organizational routine processes and they are continuously evolving. While some organizations may be solely organized in projects, project work remains unique in the majority of organizations (Pinto, 2013, p. 25; Turner, 2009, p. 3). As project-based work has become more and more popular, studies on the topic has increased, and so has the definitions of projects. One of the simplest definitions is probably one from the Project Management Institute (PMI, 2008, p. 4), they define a project as "*a temporary endeavour undertaken to create a unique product or service*" (Pinto, 2013, p. 25). However, there are other more complex definitions as well. According to Turner et al. (1988) a project can be characterized by the five traits; creating change; having mixed goals and objectives; being unique; having limited time and scope; and involving a variety of resources. While Turner (2009, p. 2) suggests that: "*a project is a temporary organization to which resources are assigned to do work to deliver beneficial change.*"

As we can see, the definitions of a project tend to contain many of the same characteristics; a project is limited in time and scope, deals with complex tasks, has a specific goal, involves several resources and is unique (Burke & Morley, 2016; Karlsen, 2013, p. 18; Lindgren et al., 2014; PMI, 2008, p. 4; Rolstadås, 2011, p. 5; Turner, 2009, p. 2; Turner et al., 1988). Bearing these characteristics in mind, this thesis will be based on the following definition of a project from a study by Schoper et al. (2018).

"*A project is an undertaking largely characterized by the uniqueness of the conditions in their entirety, i.e.*
- *A specific target has been defined for the project.*
- *The project is limited in terms of time (start and end).*
- *The project requires specific resources (e.g. financial, staff, etc.).*
- *An independent process organization exists, which is defined as different from the standard organization in the company.*
- *The projects work on non-routine tasks.*
- *The project has a minimum duration of four weeks.*
- *The project has at least three participants.*"

(Schoper et al., 2018, pp. 73-74)

3.1.1. The "dark side" of project-based work

Projects has become widely used in recent years, and the use of project-based work is said to foster innovation, efficiency, better conditions for learning, flexibility, less bureaucratic control, motivation and so on (Burke & Morley, 2016; Packendorff, 2002). There has been lots of research on the positive sides of project work, but recently some of the focus has shifted towards the negative sides of it. An important question has been, and still is, whether or not project-based work really is as attractive as it seems (Cicmil et al., 2016).

The project management discourse is built on contradiction and ambiguity, it promises both adventure and control. According to Lindgren et al. (2014) the themes of adventure and control consists of both positive and negative experiences. By combining the two dimensions, research done by Lindgren et al. (2014) identified four groups of emotions; thrill, anxiety, confidence and weariness. Whereas thrill relates to the adventure and motivation for project-based work, anxiety relates to the risks and stress with project work, confidence to the controllability and predictability that project work promises, and weariness to the rigidity and lack of control that the project work was expected to deliver. The focus in a project-based organization often lies on thrill and confidence, while the two negative emotions, anxiety and weariness, tends to be suppressed. As projects has become a big part of the day-to-day life in many firms, this widely spread use of project-based work has led to the normalizing and internalizing of some emotions while extraordinizing and externalizing of others (Cicmil et al., 2016; Lindgren et al., 2014). Some have even gone as far as to say that projects are a way of disciplining the employees in a way that an ordinary organization cannot do anymore (Lindgren & Packendorff, 2007). Nevertheless, the project management discourse affects the construction of the employees' experiences of project-based work. This may lead to project-based work looking more glory than it actually is, and the way it is looked upon on a day-to-day basis can be subject to critique (Lindgren et al., 2014). Previous research indicates that project workers often feel exhausted, are mentally stressed and have a poor work-life balance. In addition, they can experience burnout, depression, frustration, irritability, exhaustion, alcoholism and suicidal tendencies (Lindgren et al., 2014; Peticca-Harris et al., 2015).

Projects tend to have optimistic deadlines which are often exceeded, and at the same time the project workers are often met with a shortage of resources. These factors, among others, interrupts the individual project worker's possibilities of reflection and learning, which can

lead to constantly seeking for new projects and higher positions (Andersson & Wickelgren, 2009; Lindgren & Packendorff, 2007). The employees working in projects, or other types of temporary organizations, have the need to maintain employability as they do not know whether they will be needed in the next project (Turner et al., 2008). This often leads to project workers investing more personal resources (e.g. time and energy) due to the fear of failing, which again gives the employers even more control over the employees' life. The individual project worker creates themselves a carrier consisting of projects that requires increased responsibility and commitment (Karlsen, 2013, p. 487; Peticca-Harris et al., 2015). Project work requires more and more of the individuals time, and many project workers find it hard to combine project-based work with a traditional family life (Lindgren et al., 2014; Packendorff, 2002; Turner et al., 2008). Research suggests that the employees' quality of life and well-being are suffering from working long hours (Pereira & Coelho, 2013), but in many organizations working long hours is what separates the committed workers from the ones that are not as committed (Andersson & Wickelgren, 2009). Long hours are often normalized and legitimized, it has become an important part of the organizational culture. On one side the project worker is colonized by the organization, but on the other side they have constructed their identities in exchange with the organization (Andersson & Wickelgren, 2009).

When working with projects, many employees have to secure the functioning of the permanent organization while they at the same time have to focus on the individual projects. They are faced with a double commitment which tend to have a negative emotional effect on them (Lindgren et al., 2014). Literature suggests that the employees often are subject to a multi-project environment including projects with different kind of similarity, although research done by Packendorff (2002) indicate that most people prefer working with one project at the time. The employees working in a multi-project environment can perceive their situation as complex, and the constant pressure to deliver in all of the projects may lead to inefficiency and fragmentation (Gällstedt, 2003; Gustavsson, 2016; Zika-Viktorsson et al., 2006). Research done by Zika-Viktorsson et al. (2006) suggests that there is a positive relationship between project-overload and employees' experience of psychological stress reactions. At the same time as the number of projects the individual is involved in increases, their motivation and job satisfaction decreases (Blomquist & Gällstedt, 2002).

Packendorff and Lindgren (2013, p. 14) have suggested that "*being successful in a projectified society is closely linked to being available, flexible and connected, while sacrificing lifelong plans, stable conditions and social predictability*". Every project is managed as an exception and a state of emergency where normal rules do not apply, and the project worker is expected to do everything possible to ensure that the project becomes a success (Andersson & Wickelgren, 2009; Cicmil et al., 2016). They are often subject to constant pressure, and many feel like they have a projectified life. Some have even stated that the negative feelings are not necessarily linked to one specific project, but that it is rather a negative emotional state that remain long after the projects are completed (Lindgren et al., 2014). In summary, project work can lead to constant pressure arising from different directions, burnout, difficulties with the work-life balance, identity issues and stressful environments (Aitken & Crawford, 2007; Cicmil et al., 2016; Karlsen, 2013, pp. 29-30). So, there is a "dark side" of project-based work as well, and it certainly affects the employees. However, the employees may be subject to different degrees of project work exposure.

3.1.2. Project work exposure

The question of how different job characteristics affect the employees have been subject to a lot of research during the last five decades, and different theories and models have emerged. An important base in this research has been the Job Design theory, which considers how the processes and outcomes that individuals are part of at work are structured, organized and experienced (Bakker & Demerouti, 2014, p. 37). Over time, several models explaining the relationship between work and employees' well-being were developed. In the mid-1950's Herzberg suggested that employee satisfaction and motivation rely on two independent factors; hygiene factors and motivator factors. In the following years models like the Job Characteristics model, the Job Demand-Control-Support model, the Effort-Reward Imbalance model and the Job-Resource model emerged (Bakker & Demerouti, 2014, pp. 38-41). We will in the following have a closer look on the Job Demand-Control-Support model and the Job Demand-Resources model.

In 1979 Karasek (1979) identified the relationship between job demand, control and employees' well-being. Over time, the Job Demand-Control (JDC) model became an influential theory for assessing how different work characteristics impact employees' well-being (Luchman & González-Morales, 2013; Van der Doef & Maes, 1999). The model suggests that "high-strain jobs", meaning that they are demanding while the individual at the

same time have limited control, are most likely to reduce the employees' well-being. On the other side, jobs where the individual is subject to both high demand and high control often leads to well-being and personal growth (Häusser et al., 2010). While this two-dimensional JDC model has been widely used and helped increase the knowledge about occupational stress and employees' well-being, our working lives have changed greatly from the time that the model was concepted. Today's work environment is full of new opportunities and challenges, and scholars have discussed whether the model can still explain today's working life (Lu, 1999). The model has been criticized for being too simplistic as it does not capture the complexity of the work environment. So, the JDC model was extended into the Job Demand-Control-Support (JDCS) model which includes characteristics of social support as well (Bakker et al., 2010; Häusser et al., 2010). As the JDC/JDCS models were subject to critique another model called the Job Demands-Resources (JD-R) model was developed. This model goes beyond the quantitative aspects of job demands and control used in the JDCS model and argue that organizational commitment and burnout may be the results of different job demands and resources. One of the central hypotheses in the JD-R model is that different combinations of job demands and resources impacts the employees' well-being. The model suggests that job demands are the most essential predictors for job strain, while the job resources available are the most essential predictors for job motivation (Bakker et al., 2010).

While these models have been used a lot in research exploring the relationship between employees' well-being and work in general, they have only to a limited extent been used in the context of temporary organizations and project research (Imhof & Andresen, 2017). Chambel et al. (2016) used the JDCS model to predict employees' well-being in the context of temporary organizations. Studies done by Bowen et al. (2014) and Cattell et al. (2016) used the JDCS model in a project work setting and found that a number of work demand variables were significant predictors for occupational stress in construction projects. The JDCS model was also used in a study by Pinto et al. (2013) exploring the relationship between project work and burnout. While the JDCS model has been subject to a lot of critique, whereas the most common criticism is that the model is to simple, one can also argue that this simplicity is essential for practical applications and for the first stages of scientific research (Bakker & Demerouti, 2007; Karasek & Theorell, 1990, p. 56). The impact of project work exposure on employees' well-being has earlier been subject to a limited amount of research, this is why the JDCS model is the starting point of our analysis as well. However, we are in this study

interested in exploring how project work exposure affects employees' well-being and we are thereby primarily interested in the strain effect of the demands that the employees are subject to at work. While we in addition explore the mediating and potential buffering effect as well as the direct and unique effect of control and social support (Bakker & Demerouti, 2017; D'Souza et al., 2003; Häusser et al., 2010).

3.2. Well-being

Individuals have been pursuing well-being since ancient times (Zheng et al., 2015), and generally speaking well-being means to optimize psychological functioning and experience. The concept of well-being is complex, and it has for a long time been subject to debates and controversy among theorists. These debates have had both theoretical and practical implications on the definitions of well-being and what constitutes "the good life" (Ryan & Deci, 2001). The Organization for Economic Co-operation and Development suggests that one person's experience of well-being is not necessary the same for another person (OECD, 2017), this indicates how wide the concept is and how difficult it can be to define.

Rath & Harter (2010, p. 137) define well-being as "*all the things that are important to how we think about and experience our lives*". While another definition from Bradburn's (1969) work differentiate between positive and negative affect and define happiness as a balance between these two (Ryff & Keyes, 1995). Well-being can also be defined as broadly as the quality of the employee's experience and functioning at work (Grant et al., 2007).

The concept of general well-being tends to fall into two groups, the hedonic view and the eudaimonic view (Ryan & Deci, 2001). Hedonic well-being is happiness-oriented and often described as subjective well-being. It is widely agreed that subjective well-being consist of the three aspects: the frequent experience of positive affect, the infrequent experience of negative affect and the positive cognitive evaluations of life satisfaction. The hedonic model focus on the aspect of experiencing a pleasant life, considering one individual's personal standards rather than the standards of others (Fisher, 2014, p. 10-11; Zheng et al., 2015). On the other side, many philosophers argue that the eudaimonic well-being model is the most important one. This model concerns the realization of human potential, and involves living a good life, not just a pleasant one. The model is linked to satisfaction of basic human needs for competence, autonomy, relatedness and self-acceptance (Fisher, 2014, p. 11). Ryff and her

colleague suggests that psychological well-being consists of six dimensions; self-acceptance; purpose in life; environmental mastery; positive relationships; personal growth; and autonomy (Ryff & Keyes, 1995).

Even though most researchers have accepted the validity of these two principal approaches, there is still an ongoing discussion whether or not hedonic and eudaimonic models of well-being are conceptually and empirically separable. In practice the two models seem to be highly correlated (Fisher, 2014, p. 12). Waterman et al. (2008) have suggested that eudaimonic well-being is sufficient, but not necessary for hedonic happiness. The measures of hedonic and eudaimonic well-being have different causes and different predictive relationships when it comes to the outcomes. Nevertheless, because of their strong relationship, they are both important and should both be measured (Fisher 2014, p. 12).

There is also worth noticing that there is a third aspect of well-being called social well-being. This aspect complements the hedonic and eudaimonic aspects. Social well-being is based more on the outer directed aspect of well-being and is consistent with basic need theories that acknowledge the importance of social relationships (Fisher, 2014, p. 12).
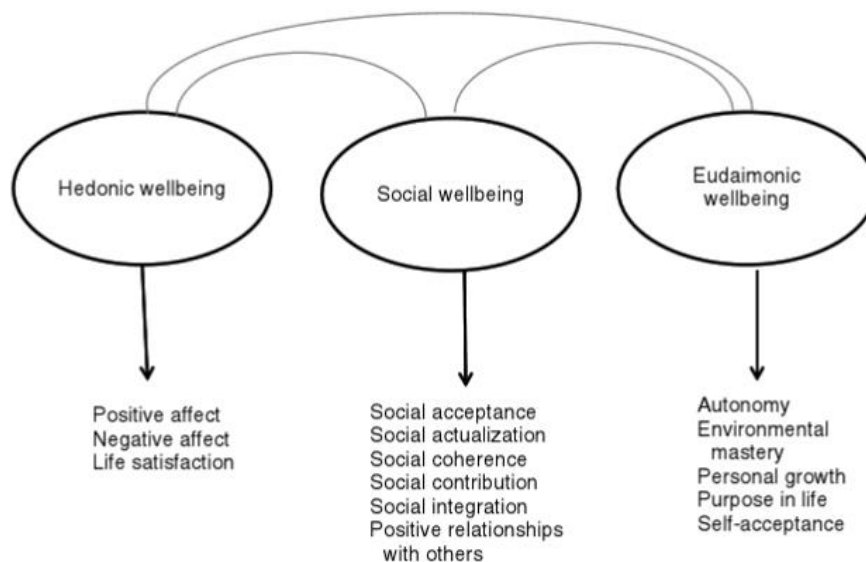
Figure 3.1. Model of overall well-being in life (Fisher, 2014, p.13).

In summary, Figure 3.1 shows the relationship between the mentioned types of general well-being. Subjective well-being (hedonic well-being) focuses on well-being derived from pleasurable experiences. An individual's subjective well-being consist of three components:

presence of positive emotions, absence of negative emotions and individual satisfaction with life. The presence of positive emotions and absence of negative emotions are often summarized as happiness (Ryan & Deci, 2001). Psychological well-being (eudaimonic well-being) is more focused on human potential and fulfillment. It often involves the dimensions of self-acceptance; development of positive social relationships; autonomy; environmental controls; and possibilities for personal growth (Demo & Paschoal, 2016). While the third aspect of general well-being, social well-being, acknowledges the importance of social relationships.

3.2.1. Work-related well-being

The construct of well-being is a multidimensional concept that consists of several different dimensions of well-being, whereas occupational or work-related well-being is one of these dimensions (Bretones & Gonzalez, 2011). Work-related well-being has been subject to research since the 1930's (Mayo, 1933), and the relationship between work and well-being has been recognized for quite some time. The fact that the experience of well-being differs among individuals have led to many different conceptualizations and definitions of work-related well-being and in addition a wide variety of ways to operationalize it (Fisher, 2014, p. 10; OECD, 2017; Orsila et al., 2011). So, well-being has become a buzzword subject to a wide variety of constructs like health status, job satisfaction and job motivation (Imhof & Andresen, 2017). There is an agreement on the importance of employees' well-being, but not on the definition (Demo & Paschoal, 2013).
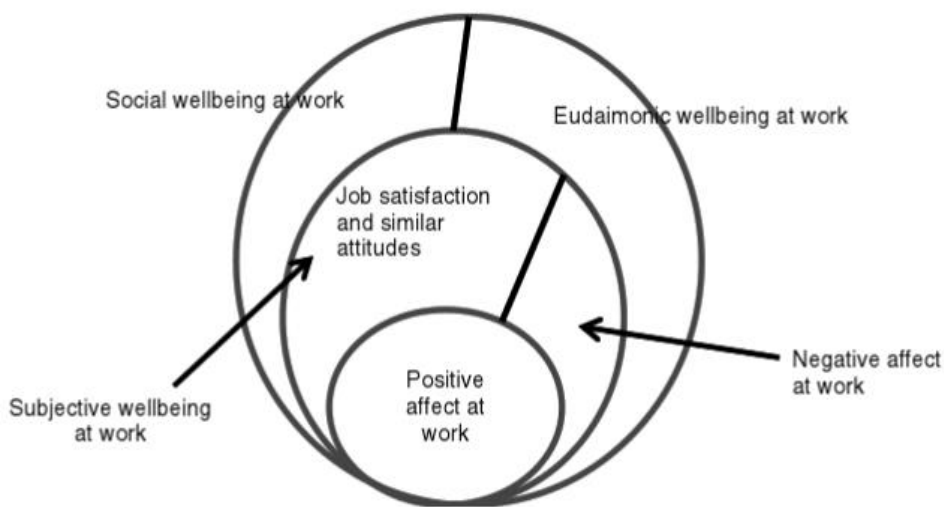
Figure 3.2. Components of overall well-being at work (Fisher, 2014, p. 15).

Work-related well-being is considered to be a multidimensional concept as shown in Figure 3.2. The overall well-being at work consists of the two outer circles, "eudaimonic wellbeing at work" and "social wellbeing at work". These outer circles are followed by two inner circles that describes the "subjective wellbeing at work" (hedonic well-being). The individuals' subjective well-being at work consists of job satisfaction and similar attitudes, including both positive and negative affect at work. In the core of subjective well-being at work is the experience of pleasant moods and emotions while working, which is often summarized as happiness (Fisher, 2014, p. 15).

General well-being refers to both the subjective and the psychological parts of well-being, but most studies tend to focus entirely either on the affective or cognitive variables (Imhof & Andresen, 2017). Affective well-being has shown to be one of the most important indicators for individuals well-being (Soh et al., 2016). Soh et al. (2016) define affective well-being as "*a multi-dimensional construct that reflects the frequency which individuals experience various different positive and negative affects*". Employees' affective well-being can be measured specifically related to a domain, and several studies have used it to measure work-related well-being. Affective well-being can also be divided into several dimensions, including (but not limited to) work engagement, burnout, job satisfaction, occupational stress (Grebner et al., 2005; Schaufeli & Bakker, 2004; Soh et al., 2016). However, Page & Vella-Brodrick (2009) suggests that the research on employees' well-being has been limited due to an almost exclusive focus on the measurement of job satisfaction. Nevertheless, the individuals work-related well-being contains both affective (happiness) and cognitive (life satisfaction) elements (Imhof & Andresen, 2017; Page & Vella-Brodrick, 2009).

When measuring well-being, the Positive and Negative Affect Scale (PANAS) is a scale that has been adapted to fit the measurement of work-related well-being (Fisher, 2014, p. 16; Watson et al., 1988). For instance, the Well-being at Work Scale used in a study by Demo & Paschoal (2016) is partly based on the PANAS. Other scales often used to measure well-being at work are the Job-Related Affective Well-Being Scale (JAWS) by Van Katwyk et al. (2000) or other examples (e.g. Daniels, 2000; Harter et al., 2003; Orsila et al., 2011; Parker & Hyett, 2011; Warr, 1990; Zheng et al., 2015). These work-related well-being scales are to some extent different, but at the same time similar in many ways. Overall, the various well-being at work scales focuses on different parts of work-related well-being. In addition, they differ in terms of how the respondents are supposed to respond, ranging from a variety of Likert scales

to other type of point scales. The timeframe used in the scales also differ between everything from one week to the last year.

So, there are many existing and acceptable choices of measuring satisfaction, affect, moods and emotions in a workplace, and they all have their strengths and limitations. Demo & Paschoal (2016) have emphasized the lack of well-being scales that considers both the affective and cognitive elements of work-related well-being. Whereas the affective elements consist of emotions and moods, the cognitive element consists of perceived fulfillment. Demo & Paschoal (2016) also argue that as both emotions and perceptions of fulfillment are important in order to experience happiness, and that it is essential that the scale used to measure work-related well-being include both affective and cognitive elements. They have therefore used a scale called the Well-being at Work Scale (WBWS) in their study. The scale was created based on the assumption that work-related well-being consists of emotions, humor and the employees' perceptions of their expressiveness and fulfillment. It consists of 29 items which are divided into the three main factors of positive affect, negative affect and personal fulfillment at work. The items measuring positive and negative affect were taken from a subjective well-being scale based on the PANAS and Satisfaction with life scale, while the individuals' personal fulfillment is measured through items that builds on interviews and earlier research (Demo & Paschoal, 2013; Demo & Paschoal, 2016).

Based on the discussion above, the measurement of work-related well-being is in this thesis based on Well-being at Work Scale (WBWS). Whereas employees' well-being can be studied from both a positive and negative perspective, most scales and studies consider the negative perspectives (Orsila et al., 2011). The WBWS emphasize the employees' positive experiences as well (Demo & Paschoal, 2016). By using the WBWS we are able to assess three core components of well-being; positive affect, negative affect and cognitive evaluation (Page & Vella-Brodrick, 2009). According to Page & Vella-Brodrick (2009) employees have a good well-being when they have "*high levels of positive affect, low levels of negative affect and a cognitive evaluation of one's satisfaction with their life as a whole*". However, it is important to notice that the WBWS has its limitations as well. While the scale has been validated in Brazil and in the USA the generalizability of the scale can be discussed (Demo & Paschoal, 2016; Paschoal & Tamayo, 2008), and to the best of our knowledge the scale has been subject to limited use in Europe. In addition, the items that measure perceived fulfillment focus on the

employees' subjective experience and neglect the organizational characteristics that may affect it (Demo & Paschoal, 2016).

3.3. The relationship between project work and the employees' well-being

It is clear that the projectification of the society has changed the work-life for many employees (Packendorff, 2002), but how does it impact the employees' well-being?

Literature suggests that the different stressors that an individual is subject to at work can negatively affect their well-being, health and performance (Grebner et al., 2005). Several scholars have explored the relationship between employees' well-being and different work-related variables/stressors, including stress (Bowen et al., 2014); job satisfaction (Sparks et al., 2005); ethical culture in the organization (Huhtala et al., 2011); personal value structures (Bretones & Gonzales, 2011); and attainment of goals (Harris et al., 2003). However, there has been little attention related to the relationship between project work exposure and employees' well-being, and the attention given has been limited to specific functional areas or industries. A study done by Turner et al. (2008) explored the issue of employees' well-being related to HRM practices in project-based organizations. Pinto et al. (2013) used the JDCS model to explore the relationship between project management and burnout, and Bowen et al. (2014) and Cattell et al. (2016) used the same model in the context of construction workers. However, these studies and their results are based on small samples, specific functional areas, cases or industries.

Well-being is not just about being happy, wealthy or successful (Rath & Harter, 2010, p. 3). In fact, research has identified five elements of well-being whereas work-related well-being is the most essential one (Rath & Harter, 2010, p. 6, 16). People tend to underestimate the influence of their job on their overall well-being. But, those with a high degree of work-related well-being is more than twice as likely to have a good overall well-being (Rath & Harter, 2010, p. 16). Project work is to some extent related to work and it is therefore reasonable to think that each employee's well-being is affected by the project work they carry out. A study done by Gällstedt (2003) suggest that project work can become destructive to individuals' well-being. Projects workers are subject to potentially harmful working conditions, and they often have to work as if their achievements and relations cannot be relied upon in the future. According to Cicmil et al. (2016) this can lead to a "*declining senses of*

progress, hope and personal worthiness", and can potentially be harmful to the individuals' mental health and well-being.

As mentioned, the starting point of this study is the JDCS model. The model predicts that job demand, job control and social support affect employees' well-being. As the employees can have different degrees of share of project work to total working hours job demand is denoted project demand as this study focus on the strain of demand in project work only and not at work in general. This is also the case for job control which is denoted project control. In addition to the variables of project demand, project control and social support, the literature suggests several factors that may also affect employees' well-being. For example, the project life-cycle (Gällstedt, 2003; Lindgren et al., 2014), personal feedback (Blomquist & Gällstedt, 2002; Zika-Viktorsson et al., 2006), social environment (Rath & Harter, 2010; Soh et al., 2016), organizational climate (Orsila et al., 2011), project complexity (Blomquist & Gällstedt, 2002), and project role (Gällstedt, 2003). Given the time and scope of this study project complexity is included as a moderating variable.

3.3.1. Project demand

The JDCS model suggests that the demands that an employee is subject to at work can have a negative impact on their well-being (Luchman & González-Morales, 2013; Van der Doef & Maes, 1999).

Project demand mark the quantitative aspects of project work, including time pressure and workload (Bowen et al., 2014; Häusser et al., 2010). The employees' working in projects often have to work long hours and are subject to tight deadlines (Andersson & Wickelgren, 2009; Lindgren & Packendorff, 2007). Many employees feel that they have to work long hours in order to prove themselves as this often is what separates the committed from the non-committed project worker (Andersson & Wickelgren, 2009). These long hours, including the constant pressure that they are subject to, affects their well-being (Pereira & Coelho, 2013), and it can be hard to balance project-based work with a traditional family life (Lindgren et al., 2014; Packendorff, 2002; Turner et al., 2008).

Even though demands do not necessarily need to be negative, some demands may require a high degree of efforts and costs which turn them into job stressors (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). Stress from work do not only affect the employees'

performance at work, but it can also affect their well-being in general. In fact, exposure to demands beyond an optimal level can have a negative effect on the employees' well-being (D'Souza et al., 2003; Hessels et al., 2017; Vanroelen et al., 2009). Based on the literature we have derived the following hypothesis:

Hypothesis 1. *Project demand is negatively related to employees' work-related well-being.*

3.3.2. Project control

Project control considers to which degree the employees can impact their own tasks and how to perform them (Bowen et al., 2014; D'Souza et al., 2003), in other words that they have an impact on their conditions and activities in relation with a goal. Having impact and control over one's own work can enhance motivation (Nuhn et al., 2016), which in the end affects well-being (Ryan & Deci, 2000). The buffer hypothesis in the JDCS model suggests that control, together with social support, may interact with the demand stressors and reduce the levels of employee strain. Meaning that control can act as a resource and increase employees' well-being (Dawson et al., 2016; Van der Doef & Maes, 1999). A study done by Pinto et al. (2013) suggested that employees' control at work can have a moderating effect on the relationship between the demands they meet and burnout. As a high degree of well-being is important to avoid burnout (Rath & Harter, 2010, p. 27), we hypothesize the following:

Hypothesis 2. *The employees' project control has a positive moderating effect on the relationship between project demand and employees' work-related well-being.*

Previous research has stated that control typically gives a direct and unique effect, as well as a moderating effect between stressors and strains (Bakker & Demerouti, 2014, p. 58; Zapf, 2002). So, project control does not only affect the relationship between project demand and well-being, it may also directly affect employees' work-related well-being. Thus, we hypothesize:

Hypothesis 3. *Project control is positively related to employees' work-related well-being.*

3.3.3. Social support

As mentioned, the buffer hypothesis in the JDCS model suggests that social support can interact with the demand stressors and reduce the levels of employee strain (Bakker & Demerouti, 2017; Dawson et al., 2016). Social support can be defined as the helpful social interactions that are available for the employees at work, in this case in the context of project work. The social support that the employees receive can act as a buffer between the harm caused by workplace stressors and its impact on their well-being (Karasek & Theorell, 1990, p. 69; Lu, 1999). According to Karasek & Theorell (1990, p. 69) employees can receive social support from both colleagues and supervisors. While some suggest that colleague and supervisor support are equally important, others suggest that they are not (Dawson et al., 2016; Hwang & Ramadoss, 2017). Nevertheless, the social climate within the project-team affects how the project workers look at their working conditions (Blomquist & Gällstedt, 2002; Cattell et al., 2016). Since this study includes both project managers and project team members, only the social support from co-workers is considered.

Co-worker support is said to occur when co-workers help one another with their tasks when needed, when they share knowledge and expertise, as well as when they encourage and support each other. Working with helpful and supportive co-workers advances an environment where ideas and thoughts can be discussed open and freely (Joiner, 2007). A supportive work environment can often be characterized by co-workers that are highly involved in their work. Work environment can be explained by employees' realm of emotional cognitions, which can be assessed by whether or not the workplace is beneficial for the employees' personal well-being (Babin & Boles, 1996). Previous research indicates that a supportive workplace can reduce stress and its negative effects (Babin & Boles, 1996; Bowen et al., 2014; Dawson et al., 2016; Karasek & Theorell, 1990, pp. 345-346).

This review displays the important effect that co-worker support can have. Thus, we hypothesize the following;

Hypothesis 4. *Co-worker support has a positive moderating effect on the relationship between project demand and employees' work-related well-being.*

As for project control, social support typically gives a direct and unique effect, as well as a moderating effect between stressors and strains (Zapf, 2002). So, social support from co-workers can also directly impact employees' work-related well-being. We thereby hypothesize:

Hypothesis 5. *Co-worker support is positively related to employees' work-related well-being.*

3.3.4. Project complexity

The JDCS model have influenced a variety of research, but it has also been criticized for being too simple and not capturing the complexity in today's working environment (Bakker & Demerouti, 2014, pp. 43-44). This may especially be the case for new work forms like temporary organizations, including projects. So, by further exploring the project work literature, there are several other aspects that may also affect employees' well-being, including project complexity.

Structuring the organization into projects is done as a response to dynamic and challenging environments (Tyssen et al., 2014), and the employees working in projects can be subject to different sources of complexity. The projects themselves and the tasks within the projects can differ between being close to similar and being more unique. The project can be more like routine work where the results are unique but the processes to get there are more or less the same, or exceptions where the project worker has to act like an independent entrepreneur. When the projects are more or less similar, it is easier to directly use existing knowledge and the project members may be less overburdened. On the other hand, projects that are not similar involves a variety of tasks and may require a high degree of experience and creativity (Packendorff, 2002; Zika-Viktorsson et al., 2006). The projects contain resources and competences from different parts of the organization, and the project group often consist of heterogeneous participants which may not have worked together before (Tyssen et al., 2014). It can be challenging trying to make sense of the overall situation as the different projects are constantly changing (Gustavsson, 2016). Research done by Zika-Viktorsson et al. (2006) suggest that there is a positive relationship between project-overload and well-being, in particular employees' experience of psychological stress reactions. As the number of projects the individual is involved in increases, the motivation and job satisfaction decreases (Blomquist & Gällstedt, 2002). Considering these factors, the employees may perceive their situation as risky and uncertain (Spanuth & Wald, 2017; Tyssen et al., 2014).

Project demand in itself has proven to be a stressor that can impact employees' well-being, and exposure to demands beyond an optimal level have a negative effect on the employees' well-being (Vanroelen et al., 2009). Adding the complexity of projects, the projects may seem even more demanding. We thereby assume that project complexity and the related feelings of uncertainty and risk negatively impacts the relationship between project demand and employees' well-being. Thus, we hypothesized the following:

Hypothesis 6. *Project complexity has a negative moderating impact on the relationship between project demand and employees' work-related well-being.*

3.4. Research model and hypotheses

The aim of this study is to assess the relationship between project work exposure and employees' work-related well-being. Given the recent years focus on the "dark side" of projectification, and the theoretical foundations mentioned in the earlier sections, we assume that a high degree of project demand negatively impact employees' work-related well-being. Existing literature have also suggested that both project control and co-worker support can have a positive direct effect on well-being. We thereby assume that these two variables both positively impact employees' work-related well-being.

The literature also suggests several moderating variables which may have an effect on the relationship between the degree of project demand and employees' work-related well-being. A moderating effect occurs when the moderating variable changes the strength and/or direction of the relationship between two constructs in the model (Hair et al., 2017, p. 228), in this case the relationship between project demand and employees' work-related well-being. The moderating variables included in this study are project control, social support from co-workers and project complexity. Considering the moderating, as well as the direct effect, of both project control and co-worker support have important theoretical, but also practical, implications. For instance, if project control seems to buffer the strain effect of project demands on well-being, the organization only have to increase the degree of project control without having to alter the degree of project demands to increase employees' well-being (Bakker & Demerouti, 2007).

Based on the theoretical framework presented above we got the following research model and hypotheses.

Figure 3.3. Research model.

H₁ :   *Project demand is negatively related to employees' work-related well-being.*

H₂ :   *Project control has a positive moderating effect on the relationship between project demand and employees' work-related well-being.*

H₃ :   *Project control is positively related to employees' work-related well-being.*

H₄ :   *Co-worker support has a positive moderating effect on the relationship between project demand and employees' work-related well-being.*

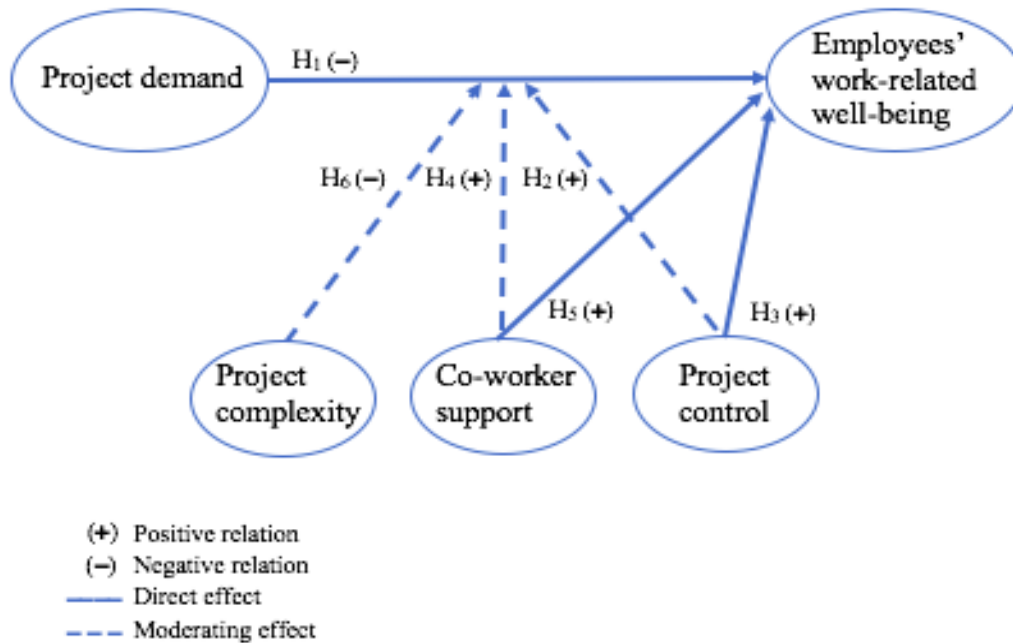**H₅ :**   *Co-worker support is positively related to employees´ work-related well-being.*

H₆ :   *Project complexity has a negative moderating impact on the relationship between project demand and employees' work-related well-being.*

4. Method

The following sections discuss the data collection procedure, the operationalization and measurement of the variables in the study, the preparation of the data material and the methods used to analyze it.

4.1. Data collection

The data collection was done through a web-based, self-report questionnaire employing SurveyXact. We took a quantitative approach by using the method of questionnaire. The aim of the data collection was to collect data in order to measure how project work exposure relates to employees' work-related well-being.

4.1.1. Web-based questionnaire

The questionnaire was conducted through the online survey program SurveyXact. The questionnaire explored the respondents self-perceived level of project work exposure and work-related well-being, in addition the respondents were asked about both demographic and work/project related background information.

There are several benefits with doing the data collection through an online survey, in particular; the respondents themselves can choose when and where they would like to answer (Sekaran & Bougie, 2013, p. 147). Since our sample consist of people that are employed and probably have limited time to answer questionnaires, they may appreciate the possibility to respond to the survey when it is convenient for them. In addition, distributing the questionnaire online can encourage the respondents to express their views in a "safe" way, which is especially important when sensitive issues like personal meanings and feelings are explored (Bowen et al., 2014). The use of an online survey also made it possible for us to cover a wide geographical area (Sekaran & Bougie, 2013, p. 147). On the other side, the return rates on online questionnaires tend to be low which may lead to a bias selection. The respondents can also be faced with technical issues and we were not able to clarify any questions or doubts the respondents may have had (Sekaran & Bougie, 2013, p. 148).

According to Sekaran & Bougie (2013, p. 148) an effective technique to improve the response rates on web-based questionnaires is to keep the questionnaire as brief and simple as possible. In order to get the return rate we needed, it was crucial that the questionnaire did not take too

much time to answer. In addition, the questionnaire was divided into three parts, A-C, in order to make it easier for the respondents. Another technique to increase the response rate is to send follow-up e-mails and reminding the potential respondents to answer the questionnaire (Sekaran & Bougie, 2013, p. 148). However, since our survey was anonymous it was not possible to remind only those who had not responded. Nevertheless, some of the management associations that distributed the questionnaire sent a follow-up e-mail to all of their members.

The questionnaire was distributed in English only. The scale used to measure work-related well-being (WBWS) contains expression that would have been difficult, if not impossible, to translate into the respondents' native languages (Norwegian/Swedish). Our impression is that the employees working in project-based settings in Norway and Sweden have sufficient English knowledge to understand and answer the survey. As suggested by some of the project management associations, the information mail was distributed in both Norwegian, Swedish and English. Their experience was that we would get more answers if the topic was presented in the respondents' native language.

Projects can be understood as different things in different situations (Packendorff, 2002) and to confirm that all respondents had the same understanding of a project, we included the definition of a project used in this study at the beginning of the questionnaire. In addition, the respondents often have different roles, responsibilities etc. depending on the projects. To avoid confusion, the respondents were asked to answer the questions based on the average of the projects that they had participated in during the last six months (Demo & Paschoal, 2016).

A copy of the questionnaire can be found in the Appendix A.

4.1.2. Sampling frame and distribution

The sample size requirement depends on several factors whereas two important ones are the size of the population and the variation of the variables used in the research. The sample size should be big enough to give the statistical method an adequate statistical power so that the results can be generalized (Hair et al., 2017, pp. 23-25). Scholars have developed several different guidelines and rules of thumb for the minimum sample size when applying statistical methods. One such rule applying the method of PLS is the 10 times rule, i.e. the maximum number of arrows pointing at the latent variable times 10 (Hair et al., 2017, p. 83). While Gripsrud et al. (2011, p. 140) have stated that when doing convenient sampling a number of

around 200 respondents seem to be most used. Nevertheless, according to Hair et al. (2017, p. 26) based on the work of Cohen (1992), the minimum sample size to apply PLS-SEM with a statistical power of 80%, a significance level of 5% and a R^2 of minimum 0.10 is 113 respondents for our model which maximum includes 4 predictor variables.

The challenge in the sample collection was the need to target employees that work in a project-based setting, due to the lack of databases this was a difficult task (Spanuth & Wald, 2017). To solve this issue, we contacted several project associations in Scandinavia whereas some answered and agreed to distribute our questionnaire. The questionnaire was distributed through three leading project management associations, in particular "Norsk Forening for Prosjektledelse (NFP)", "The Project Management Institute (PMI) Norway Chapter" and "Svenskt Projektforum". These associations have approximately 3000 members all together, whereas 1700 received information about the study as a part of a weekly newsletter the rest received an e-mail only concerning this study. The e-mails included information about the aim and scope of the study, assured the respondents that the survey was anonymous, that all data would be treated strictly confidential, and contained an URL where the questionnaire could be assessed online. In addition to the e-mail, some of the associations also published information about the study on their web-pages and through their social-media channels. By using this approach we were not able to determine the exact response rate as we do not know how many received and actually read the e-mail or the information published on social media. Nevertheless, it made it possible for us to reach employees that actually work in a project-based setting.

By using this method of distribution the sample was self-selecting. Self-selection sampling are categorized as a non-probability sampling method and it is based on volunteers, meaning that the results cannot be generalized to the whole population. The people that self-select to respond often do so because they have specific feelings or opinions about the topic, this may create a self-selecting bias (Gripsrud et al., 2011, pp. 136-137). However, by conducting the survey online and using self-selection sampling we were able to reach a high number of potential respondents in a limited time (Sekaran & Bougie, 2013, p. 148, 252)

The data was collected in a period of approximately 1.5 month, between February 14th and April 2nd, 2018. A total of 256 people opened the questionnaire, while 136 people responded

to it, meaning that out of those opening the questionnaire 53% responded. While this response rate may seem low, Sekaran & Bougie (2013, p. 147) suggests that a response rate of 30% should be considered acceptable when using web-based questionnaires. In addition, the number of respondents is above the minimum sample size of 113 (Hair et al., 2017, p. 26).

4.1.3. Ethical considerations

When doing research it is important that both research ethics and data protection is ensured. The University of Agder has appointed the NSD as their Data Protection Officer for Research. As SurveyXact gave us the possibility to do an anonymous survey and the information we collected through the online survey was exclusively anonymous, our study was not subject to notification. However, we took the NSD notification test in order to ensure and got the result "not subject to notification", which is shown in Appendix B. The first page of the questionnaire, which included information about the study, also assured the respondents that their response was anonymous and treated strictly confidential.

4.2. Operationalization of variables

This section explains how the different variables were measured. The constructs and their respective items can be found in Appendix C.

The study was primarily based on established scales that were already applied and validated, although slightly modified to better fit this study. Most of the items were measured using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) (Hair et al., 2017, pp. 9-10; Sekaran & Bougie, 2013, p. 211). To summarize, all of the constructs and scales used in the study are displayed in Table 4.1.

4.2.1. Independent variable

The items concerning project demand were based on the Job Content Questionnaire (Karasek et al., 1998) taken from Bowen et al. (2014) and slightly modified to fit this study. Researchers tend to conceptualize and measure job demands differently which often makes the studies incomparable (Bakker et al., 2010). However, Karasek et al. (1998) suggests that one should add own specific questions which refers to the measurement of specific job characteristics related to the context of the questionnaire. Since we are considering demand in the context of project-based work, in particular project demand, we chose to base our measurement of demand on Bowen et al. (2014) which also considered demand in a project-

based context. This scale is considered to be a valid measure of demand as it has been used in previous research (internally consistent α = 0.72). The construct of project demand was measured by four items (e.g. "I find it hard to balance work and family responsibilities") using a five-point Likert scale, with higher scores indicating a greater degree of project demand.

4.2.2. Dependent variable

The measurement of well-being at work was based on the Well-being at Work Scale (WBWS) from Demo & Paschoal (2016). The scale consists of 29 items that are scored on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The 29 items are grouped into three subscales that represents the underlying dimensions of well-being at work; positive affect (9 items, e.g." working in projects I felt excited"), negative affect (12 items, e.g. "working in projects I felt nervous"), and personal fulfillment (8 items, e.g. "working in projects I achieved my potential"). High scores on the items measuring positive affect and personal fulfillment indicates a high degree of well-being, while high scores on the negative affect items indicates a lower degree of well-being. The negative affect items were reversed coded in our analysis (Sekaran & Bougie, 2013, p. 280). As done in the original WBWS the positive and negative affect items were asked in a mixed order in the questionnaire.

The WBWS has been used in previous research and is considered a valid measure of well-being at work, yielding a high degree of reliability and construct validity. Previous research has shown a Cronbach's alpha of α = 0.92 for the positive affect items, α = 0.94 for the negative affect items and α = 0.92 for the personal fulfillment items (Demo & Paschoal, 2016; Paschoal & Tamayo, 2008). We have slightly modified the WBWS to fit this study.

4.2.3. Moderating/independent variables

The direct and potential buffering effect from project control was measured based on the "work impact scale" adopted from Nuhn et al. (2016) showing a composite reliability of 0.957 (3 items, e.g. "my impact on what happened in the projects were large"). The direct and potential buffering effect from co-worker support was measured based on the Job Content Questionnaire (4 items, e.g. "working in projects my colleagues were helpful") (Karasek et al., 1998; Karasek & Theorell, 1990, p. 337). For both project control and co-worker support the respondents answered on a five-point Likert scale.

The moderating variable of project complexity was measured by items adopted from Tyssen et al. (2014) and Spanuth & Wald (2017) showing a composite reliability of 0.798. The items were slightly modified to better fit this study. The variable was measured with four items, e.g. "the projects had a high degree of complexity concerning interdisciplinary participants". The items were measured using a five-point Likert-scale (Tyssen et al., 2014).

Constructs and scales	Type	Source
Project demand - 4 items	Reflective	From Karasek et al. (1998), and primarily based on Bowen et al. (2014)
Project control - 3 items	Reflective	From Karasek et al. (1998), and primarily based on Nuhn et al. (2016)
Social support - Co-worker support - 4 items	Reflective	From Karasek et al. (1998), also based on Bowen et al. (2014)
Project complexity - 4 items	Reflective	From Tyssen et al., (2014) and Spanuth & Wald (2017)
Well-being at work scale (WBWS) - Positive affect - 9 items - Negative affect - 12 items - Personal fulfillment - 8 items	Reflective	From Demo & Paschoal (2016)

Table 4.1. Used scales and their respective sources.

4.2.4. Control variables

To avoid drawing spurious conclusions from our hypotheses it is important to control for other factors that may impact the relationship between project work exposure and employees' work-related well-being. A total of 14 control variables were included in the study, including both demographic and work/project related variables. All of the control variables were measured with single items, with the use of nominal or ordinal scales.

In order to get a deeper understanding of well-being several studies suggests that the demographic variables gender, age, education and marital status should be considered (e.g. Blomquist & Gällstedt, 2002; Bretones & Gonzalez, 2011; Demo & Paschoal, 2016; Huhtala et al., 2011). Gender was measured by categories, while the respondents had to manually type in their age (in years). The control variables education and marital status were measured based

on categories from earlier studies (Blomquist & Gällstedt, 2002; Bretones & Gonzalez, 2011; D'Souza et al., 2003; Sekaran & Bougie, 2013, p. 156).

Since we were considering individuals work-related well-being in the context of project work several work/project related variables should also be considered. Based on previous research the following variables were included; years of experience with project-based work (Blomquist & Gällstedt, 2002; Gällstedt, 2003; Zika-Viktorsson et al., 2006); years of working experience (Aitken & Crawford, 2007); average working hours per week (Bowen et al., 2014; Huhtala et al., 2011); share of project work to total working hours; and what kind of role the respondents usually had when working in projects (Blomquist & Gällstedt, 2002; Bretones & Gonzalez, 2011; Demo & Paschoal, 2016; Zika-Viktorsson et al., 2006). All of these variables were measured based on categories used in previous research, or the respondents had to manually type in their answer.

In addition, the respondents were asked about some characteristics of the projects they had worked in within the last six months, in particular the duration of the projects (Turner et al., 2008); the size of the projects (Lindner & Wald, 2011); the project budget (Pinto et al., 2013); whether they worked in internal/external projects (Lindner & Wald, 2011; Turner et al., 2008); and the industry to which their company belong (Schoper et al., 2018; Turner et al., 2008). All of these variables were measured based on categories used in previous research, or the respondents had to manually type in their answer.

4.3. Data analysis

The data was analyzed employing SmartPLS 3. SmartPLS 3 gave us the opportunity to analyze multiple variables simultaneously, examine the relationship among the variables, and at the same time look at the items that were measuring them. As mentioned, the relationship between project work exposure and the employees' work-related well-being has been subject to a limited amount of research, and there is little prior knowledge about how the variables are related. In this case an exploratory technique of multivariate analysis was most feasible, and the method of partial least squares structural equation modeling (PLS-SEM) was used (Hair et al., 2017, pp. 2-3). In addition, PLS-SEM work efficiently with a small sample size, and it does not make assumptions about the data (Hair et al., 2017, p. 18).

In this section, we will further discuss how the data material was prepared for analysis, the data distribution, the evaluation of the measurement and structural models, the methods used for descriptive analysis and the analysis done in SmartPLS 3.

4.3.1. Preparation of data material and coding

When the data collection was completed we were left with a total of 136 respondents, whereas 6 respondents had missing values. Even though missing values below a reasonable level most likely will not lead to any problems using PLS-SEM, they should still be dealt with (Hair et al., 2017, p. 19, 25). Only the respondents that completed the whole questionnaire were included in the analysis (Sekaran & Bougie, 2013, p. 279). In addition, we checked the data for illogical and inconsistent responses. Some respondents had clearly misunderstood the unit of answer in the question about the project budget, we therefore went through and adjusted those answers. We also had some extreme values, for instance one respondent had an age of above 100 years and one had an average project group of 1500 members, and these were excluded from the analysis (Sekaran & Bougie, 2013, pp. 279-280). After the removal of the respondents with missing or abnormal values, we were left with 128 respondents, which is still above the minimum sample size of 113 (Hair et al., 2017, p. 26).

When applying multivariate analysis coding is important. This is especially the case when using scales like the Likert scale, the coding has to fulfill the requirement of equidistance. Meaning that the distance between the different categories are the same. If a Likert scale fulfill the requirements of equidistance it can be close to an interval-level measurement scale and can be used in structural equation modeling (SEM). In order to fulfill the requirements, we used a 5-point Likert scale with the categories strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) and strongly agree (5) (Hair et al., 2017, pp. 9-10). The items concerning the underlying dimension of negative affect in the construct work-related well-being, were reversed coded.

4.3.2. Common method bias

The primary data collection was done through self-reporting measures, which means that this study may be subject to a systematic measurement error called common method bias. Common method bias means that the variance in the study is attributable to the measurement method, rather than to the variance in the constructs that the measurement scales represents. Since common method bias can serve as a potential explanation for the relationships in the

model, we have applied both procedural and statistical remedies to control and test for it (Podsakoff et al., 2003).

As done in Spanuth & Wald (2017) and suggested by Podsakoff et al. (2003) we controlled for common method bias through some procedural remedies. First, all scales and items used in this study are based on previous studies, meaning that most of them were easily understandable and already applied and validated. Second, the independent, moderating and dependent variables were physically separated in the questionnaire. Third, the respondents' answers were anonymous, which decrease the likelihood of respondents editing their response to be more social desirable. By using these procedural remedies, the potential effect of common method bias was minimized, or even eliminated (Podsakoff et al., 2003).

We also ran two statistical tests to check our data material for common method bias. The Harman's single-factor test was conducted applying SPSS, loading all of the items measuring the latent variables in our model into one common factor. The highest total variance of the common factor was 0.409, this is below 0.5 which indicates that our model is without common method bias (Podsakoff et al., 2003). Furthermore, we used the Lindell-Whitney marker variable test, implementing an unrelated marker variable into the model. A high degree of correlation between the constructs in the study and the marker variable indicates common method bias (Lindell & Whitney, 2001; Podsakoff et al., 2003). We did the test three times using different marker variables, in particular: what kind of industry the respondents worked in, whether the projects they were involved in were internal or external, and the respondents educational level. The highest correlation between the constructs in the study and the marker variables were 0.074 for industry, 0.089 for internal/external projects and 0.153 for educational level. Meaning that the maximum shared variance respectively was 0.791%, 0.548% and 2.340%.

Applying procedural remedies as well as running two statistical tests with acceptable results, it is reasonable to conclude that common method bias did not significantly affect our results.

4.3.3. Partial least squares structural equation modeling (PLS-SEM)

When using PLS-SEM a multi-stage process has to be carried out, including a model specification, outer model evaluation and inner model evaluation. This section considers the model specification, while the outer model and inner model evaluation are considered in section *4.3.5.* and *4.3.6.*

When applying PLS-SEM the relationships and hypotheses can be visually displayed in path models. The constructs that are not directly measured are visualized as circles and make up the structural model (inner model), while the items that are directly measured are visualized as numbers and together make up the measurement models (outer model). The relationships are visualized as arrows, and in PLS-SEM there is always directional relationships (Hair et al., 2017, p. 11). For instance, as seen in Figure 4.1. project demand is measured with four items, in particular the questions labeled as 3.1. to 3.4. in the questionnaire.
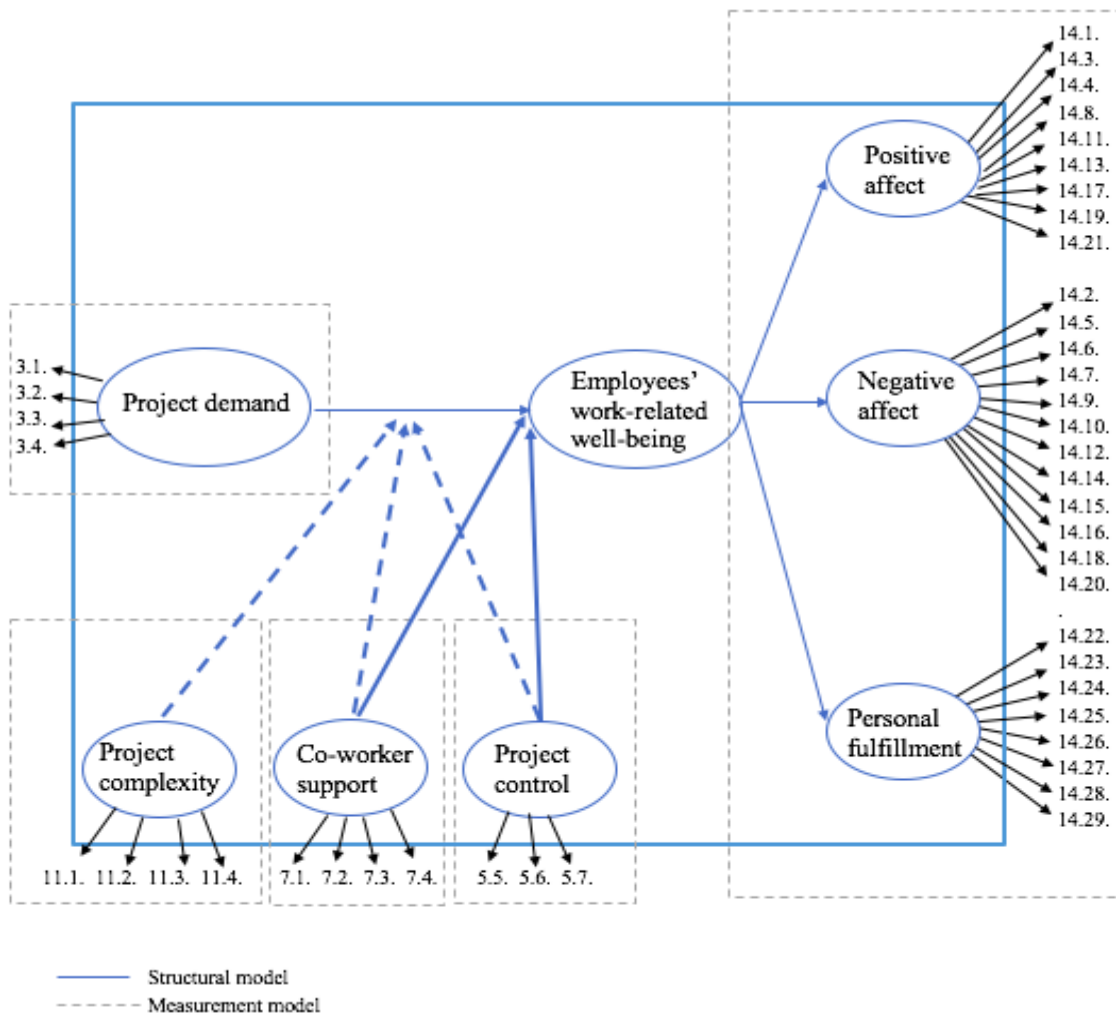
Figure 4.1. Structural and measurement model.

All of the scales used in this study are reflective scales. In a reflective scale all items are expected to correlate, and the direction of the relationship is from the construct to the items (Sekaran & Bougie, 2013, p. 230). It should be noted that while work-related well-being consist of three underlying dimensions, these dimensions are reflective and it is initially unnecessary to model the lower-order constructs as separate constructs (Becker et al., 2012). However, as these lower-order constructs are modeled as separate constructs in the study done by Demo & Paschoal (2016) we decided to do the same in this study.

4.3.4. Data distribution

When working with PLS-SEM assumptions about the data distributions is normally not made. Nevertheless, the distribution is still worth considering as data that is too far from normal can provide issues concerning the significance of the parameters between the variables. We used two methods for assessing the normality of our data, namely skewness and kurtosis. Skewness concerns to which extent the data distribution of an item is symmetrical, while kurtosis concerns whether the distribution is too peaked. When skewness and kurtosis are equal or close to zero, the distribution is considered to be normal. However, the rule of thumb is that the data distribution is normal when the values are between -1 and 1 for both skewness and kurtosis (Hair et al., 2017, p. 61).

In our case, all of the items had a skewness between -1 and 1 and most of the items also had a kurtosis within the acceptable frame. However, item number 7.1., 11.2., 14.3., 14.11., 14.26. and 14.27. had a kurtosis slightly above 1, while item number 14.25. had a relatively high kurtosis (2.541). Nevertheless, as PLS-SEM does not make assumptions about the data distribution these results will most likely not lead to any issues. In addition, the reliability and validity of the data is also assessed in the following sections. The values concerning skewness and kurtosis for all of the items can be found in Appendix D.

4.3.5. Evaluation of the measurement models

In order to ensure that the research is scientific and that the scales used in the study actually measure the constructs that they are supposed to, one should test the goodness of the measuring scales (Sekaran & Bougie, 2013, p. 225). To ensure that the measures used are well-validated and reliable this study is primarily based on established scales that were already applied and validated in previous research. However, these established scales had to

be slightly modified to fit the purpose of this study, and it is therefore advisable to test for reliability and validity again. Since all of the construct are measured reflectively the measurement models are assessed on their internal consistency reliability and validity. So, we started by checking whether or not the PLS-SEM algorithm converged, before evaluating the measurement models by checking internal consistency reliability, indicator reliability, convergent validity and discriminant validity (Hair et al., 2017, pp. 105-109; Sekaran & Bougie, 2013, pp. 224-227).

Before analyzing the results, one has to check whether the PLS-SEM algorithm converge. As suggested by Hair et al. (2017, p. 123) 300 iterations were selected. Our model converged after 17 iterations, and we could proceed with the analysis to assess reliability and validity.

Reliability concerns to what extent you may trust the results to be reliable and without bias, i.e. testing how consistent the scale is measuring the construct (Gripsrud et al., 2011, p. 52; Sekaran & Bougie, 2013, p. 225). We will in the following test both internal consistency reliability and indicator reliability. Internal consistency reliability is traditionally measured with Cronbach's alpha, however due to its limitations Hair et al. (2017, p. 111) advice the use of composite reliability instead. Composite reliability is suggested to be technically more appropriate as it takes into account the outer loadings of the variables. The composite reliability varies between 0 and 1, whereas higher values indicates higher reliability. However, values above 0.9 is not desirable as it indicates that the constructs are measuring the same phenomenon (Hair et al., 2017, pp. 111-112). The composite reliability was between 0.736 and 0.904 for the variables used in our model, and these values are acceptable as values between 0.7 and 0.9 are considered satisfying (Hair et al., 2017, p. 112).

Constructs	Composite reliability
Project demand	0.736
Project control	0.898
Co-worker support	0.871
Project complexity	0.780
Work-related well-being	
- Positive affect	0.887
- Negative affect	0.904
- Personal fulfillment	0.864

Table 4.2. Composite reliability.

The indicator reliability should also be assessed. The indicator reliability, also used as a measure for convergent validity, is assessed by looking at the outer loadings of the items. Validity concerns to what extent the scale measures what it is supposed to measure, i.e. that the right construct is measured (Gripsrud et al., 2011, p. 51; Sekaran & Bougie, 2013, p. 225). These outer loadings should all be statistically significant, and a common rule of thumb is that the standardized outer loadings should all be 0.708 or higher. When evaluating the outer loadings in our model we found some relatively low outer loadings. The ones below 0.4 were eliminated, and the potential effect of removing those between 0.4 and 0.7 on composite reliability and content validity was considered (Hair et al., 2017, p. 113). In conclusion, eight items were eliminated from the measurement of employees' work-related well-being (14.2., 14.3., 14.7., 14.8., 14.10., 14.21., 14.25. and 14.26.), one item from the measurement of project demand (3.2.) and one item from the measurement of project complexity (11.4.). The rest of the items all showed outer loading between 0.4 and 0.9, thus convergent validity and indicator reliability were established for all constructs. The items we were left with and their outer loadings can be found in Appendix E.

Construct validity concerns to what extent the results obtained using the measure is consistent with the theories which the study is built on. Construct validity can be divided into convergent and discriminant validity. Convergent validity is assured when two different items measuring the same construct is highly correlated (Sekaran & Bougie, 2013, p. 227). Items measuring a reflective construct is considered to be different approaches to measure the same construct, meaning that these items should converge or share a high proportion of variance. Convergent validity can be assessed by considering the outer loadings of the indicators and the average variance extracted (AVE). These outer loadings are often called indicator reliability and they were considered in the section above. According to Hair et al. (2017, p. 115) "*the AVE is equivalent to the communality of a construc*t", and it should have a value of 0.50 or higher, i.e. explaining more than half of the variance of its respective items. As displayed in Table 4.3. the construct of project demand has an AVE slightly below 0.50. However, as the construct's composite reliability has an acceptable value at the same time as the AVE is very close to 0.50 this will most likely not be a problem (Fornell & Larcker, 1981). The rest of the constructs all have a value of 0.50 or higher, meaning that convergent validity is established.

Constructs	Average variance extracted (AVE)
Project demand	0.486
Project control	0.750
Co-worker support	0.631
Project complexity	0.546
Work-related well-being	
- Positive affect	0.569
- Negative affect	0.517
- Personal fulfillment	0.517

Table 4.3. Convergent validity - average variance extracted (AVE).

Discriminant validity is assured when theory predicts that two constructs are uncorrelated, and the results obtained by measuring them indicates the same (Sekaran & Bougie, 2013, p. 227). Discriminant validity can be assessed by checking the cross loadings for the construct, using the Fornell-Larcker criterion or the Heterotrait-Monotrait ratio. When checking the cross-loadings the item should have the highest loading with the construct to which it is supposed to measure, and the cross-loadings should not exceed the outer loadings (Hair et al., 2017, pp. 115-116). All of our items have the highest loading to the construct it is supposed to measure which indicates that discriminant validity is established. The cross-loading table can be found in Appendix F.

Another method of assessing discriminant validity is the Fornell-Larcker criterion, which suggests the square root of AVE for each of the constructs should not exceed the highest of the correlations that the different constructs in the model have with each other (Hair et al., 2017, pp. 115-122). Looking at Table 4.4. one can see that the square root of AVE for each of the constructs does not exceed the highest of the correlations that the different constructs have with each other.

	Project demand	Project control	Co-worker support	Project complexity	Positive affect	Negative affect	Personal fulfillment
Project demand	**0.697**						
Project control	- 0.101	**0.864**					
Co-worker support	- 0.005	0.161	**0.794**				
Project complexity	- 0.020	0.172	0.197	**0.739**			
Positive affect	0.219	0.235	0.219	0.245	**0.754**		
Negative affect	0.216	0.205	0.216	- 0.001	0.286	**0.719**	
Personal fulfillment	0.246	0.409	0.246	0.245	0.627	0.269	**0.719**

Table 4.4. Fornell-Larcker Criterion analysis.

A third method that has been proposed recently is to look at the Heterotrait-Monotrait ratio (HTMT) of the correlations to assess discriminant validity. The correlation values should be 0.90 or below, as a HTMT value above 0.90 indicates lack of discriminant validity (Hair et al., 2017, pp. 118-119). All of the values in our model are below 0.61, which indicates that discriminant validity is established. The HTMT values can be found in Appendix G.

In summary, internal consistency reliability, indicator reliability, and convergent and discriminant validity are all assessed and established.

4.3.6. Evaluation of the structural model

We have now evaluated and confirmed that our measurement models are valid and reliable, the next step is to evaluate the structural model.

The structural model has to be examined for collinearity issues to make sure that the path coefficients are not biased (Hair et al., 2017, p. 193). To assess the level of collinearity in the structural model one can use the Variance inflation factor (VIF), whereas a VIF value of 5.0 and higher indicates that there might be a collinearity problem (Hair et al., 2017, pp. 143-144). In our model all of the constructs have acceptable VIF values with the dependent variable (Table 4.5.), and we can continue testing the hypothesized model.

Constructs	VIF - related to the dependent variable (Y)
Project demand	1.012
Project control	1.123
Co-worker support	1.069
Project complexity	1.074

Table 4.5. Collinearity assessment.

4.3.7. Descriptive analysis

After preparing the data material for the analysis, we started with some general descriptive analysis using Excel. These descriptive statistics gave a better overview of the data material, and its tendencies.

Furthermore, we had a closer look at the relationship between the control variables and both the independent and the dependent variables. When analyzing these relationships, we found it best to use the categorical scales from the questionnaire as well as to organize the data for some of the variables into interval scales. Looking at the data material and earlier research we decided to use the following scales. The respondents age was divided into intervals based on those from Bretones & Gonzalez (2011), ≤ 29, 30 - 39, 40 - 49 and ≥ 50 years. The respondents experience with work in general and project-based work was organized into intervals using a distance of 5 years.

4.3.8. Methods for testing the hypothesized model

In the following section, the hypothesized direct relationships will be tested by checking the size and significance of the path coefficients, the coefficient of determination (R^2), the f^2 effect size, the predictive relevance (Q^2) and the q^2 effect size. To complement the PLS-algorithm we also used both the bootstrapping and blindfolding procedure in the analysis (Hair et al., 2017, pp. 191-192).

In order to test the impact of the moderating variables we considered the interaction effects of the independent variable (project demand) and the different moderating variables. As our model only included reflective constructs we used the orthogonalizing approach. We chose to use this approach in order to minimize estimation bias and to get as accurate results as possible. Before doing the moderating analysis the moderating variables had to meet the requirements of internal consistency reliability, indicator reliability, convergent validity and

discriminant validity. As discussed in the section of "evaluation of the measurement models", all of the variables in the model met these criterions (Hair et al., 2017, pp. 253-255).

In addition, the effect of two of the control variables on the hypothesized model was analyzed applying multi group analysis (MGA) in PLS-SEM. The MGA was run using a significant level of 0.05 and 500 subsamples (Hair et al., 2017, pp. 291-294). The control variables included in this analysis were the respondents gender and project role, both variables were considered using the categorical scales from the questionnaire.

5. Results

The questionnaire was opened a total of 256 times whereas 136 out of these answered it. All respondents with missing or extreme values were excluded from the analysis, this left us with 128 respondents. This section will further present the descriptive statistics of our sample, the analysis of the relationship between the control variables and the independent and dependent variables, and the hypotheses testing.

5.1. Descriptive statistics

Table 5.1. presents the demographic characteristics of the sample used in this study. The average of the respondents were 48 years, and the sample mainly consisted of males (70%). While most of the respondents were married or living with a partner, some were also never married; separated; or widowed. Almost all of the respondents had a university degree or higher (84%), and when working in projects they mostly worked as project managers.

Looking at the different industries most of the respondents worked in the "Manufacturing industry", while "Public sector, education, health", "Information and communication" and "Other service providers" were also highly represented. On the other side none of the respondents worked in the "Agriculture, forestry and fishing" industry, and only some in "Financial services and insurance" and "Retail/transport/hospitality/tourism" industry.

Variable	n	%	Variable	n	%
Age			*Project role*		
≤ 29 years	6	5 %	Project manager	88	69 %
30 - 39 years	21	16 %	Project team member	27	21 %
40 - 49 years	41	32 %	Other	13	10 %
≥ 50 years	60	47 %	*Industry*		
			Agriculture, forestry and fishing	0	0 %
Gender			Manufacturing industry (including construction & oil and gas)	40	31 %
Female	39	30 %	Retail / transport / hospitality / tourism	2	2 %
Male	89	70 %	Information & communication	26	20 %
			Financial services & insurance	8	6 %
Marital Status			Public sector, education, health	33	26 %
Married	74	58 %	Other service providers (including real estate & corporate service providers)	19	15 %
Living with a partner	28	22 %			
Widowed	2	2 %			
Separated	12	9 %			
Never married	12	9 %			
Level of education					
Primary school	0	0 %			
Secondary school	5	4 %			
College degree	15	12 %			
University degree	85	66 %			
Postgraduate degree	23	18 %			

Table 5.1. Demographic characteristics of the study sample.

Looking at Table 5.2. one can see that the respondents, in average, had 24 years of general work experience and 18 years of experience with project-based work. They worked 41 hours a week whereas the share of project work to total working hours was 72%.

Variable	Mean	Standard deviation
Years of general work experience	24.43	10.28
Years of experience with project-based work	18.16	9.05
Total working hours per week	40.99	7.31
Share of project work to total working hours (%)	71.85	29.22

Table 5.2. Descriptive characteristics of the respondents working-life.

When working in projects the respondents often worked in projects that were about 16 months long with an average of 19 members in the project groups. The budget highly varied between the different respondents as indicated by the standard deviation displayed in Table 5.3.

Variable	Mean	Standard deviation
Average duration of projects worked on (in months)	15.83	12.51
Average number of members in the project group	18.73	48.79
Average budget of projects involved in (in million NOK)	482.64	2198.16

Table 5.3. Descriptive characteristics of the projects worked in.

5.2. Relationship between control variables and the independent variables

This section considers some of the most interesting tendencies between the independent variables and control variables. As project demand, project control and co-worker support were all measured on a five-point scale ranging from strongly disagree (1) to strongly agree (5), values higher than 3 indicates a high degree of demand, control or support.

As seen in Figure 5.1. the "Financial services & insurance" industry had the highest degree of project demand (3.542), while they also had one of the highest degrees of project control (3.792) and co-worker support (4.111). This is also the case in the "Manufacturing industry" who indicated a high degree project demand (3.392) and project control (3.717), however they reported a relatively low degree of co-worker support (3.036). On the other side the "Information and communication" industry indicated that they had the highest degree of project control (4.038), while having relatively low degrees of project demand (3.026). The degree of co-worker support seemed to be highest for those working for "Other service providers" (4.649).
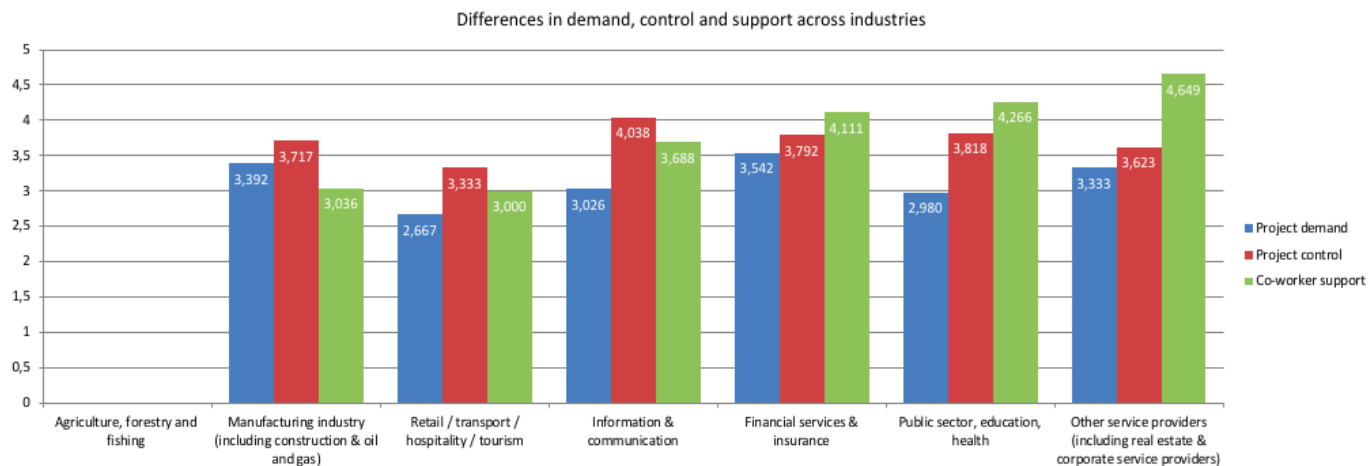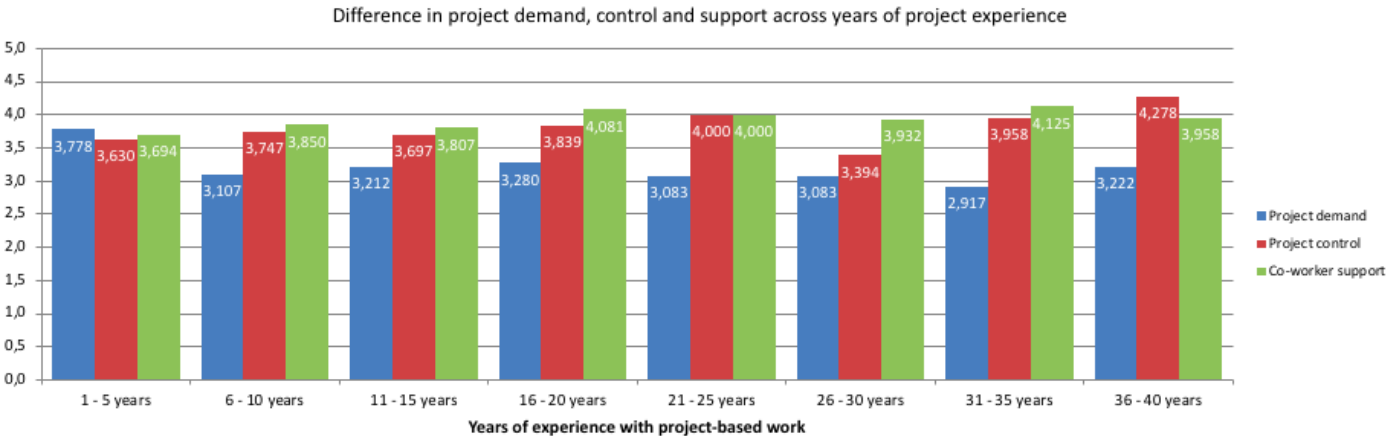
Figure 5.1. Differences in demand, control and support across industries.

There is also a difference across gender when it comes to project demand, project control and co-worker support. Project demand showed the biggest difference between male (3.277) and female (3.026), while the two other variables were about the same across gender. However, co-worker support and project control had high values for both male (3.910 and 3.801) and female (3.994 and 3.769) compared to project demand. Considering the respondents age those ≤ 29 years indicated that they had a high degree of project demand (3.800) while they also had a high degree of project control (3.933). On the other side the ones ≥ 50 years seemed to have the lowest degree of project demand (3.083) but still a relatively high degree of project control (3.761). Co-worker support did not seem to vary across the respondents age.

Those working as project-team members reported a higher degree of project demand (3.481) than those working as project managers (3.110) or in other roles (3.231). On the other side, the project managers seemed to have a higher degree of control (3.970) compared to those working as project-team members (3.457) or in other roles in the project (3.282). The respondents reported that they received almost the same degree of co-worker support (around 4.000) regardless of their role in the project group.

Considering the relationship between share of project work to total working hours and the independent variables, no clear tendencies were found. However, an interesting finding is displayed in Figure 5.2. indicating that the respondents that had between 1 to 5 years of experience with project-based work seemed to report the highest degree of project demand

(3.778). While those that had between 36-40 years of experience seemed to report the highest degree of project control (4.278).

Figure 5.2. Difference in demand, control and support across years of experience with project-based work.

5.3. Relationship between control variables and the dependent variable

This section considers the relationship between some of the most relevant control variables and the employees' work-related well-being. As work-related well-being was measured on a five-point scale ranging from strongly disagree (1) to strongly agree (5), values higher than 3 indicates well-being while values below 3 indicates ill-being or a lower degree of well-being. The results and figures in this section considers work-related well-being as one construct, i.e. the mean of the items measuring the three underlying dimensions, positive affect; negative affect; and personal fulfillment, whereas the negative affect items are reversed.

As seen in Figure 5.3. employees' work-related well-being differs between industries. Employees working with projects in the "Retail/transport/hospitality/tourism" and the "Public sector, education and health" industries indicated a high degree of well-being (4.069 and 3.946), while those working in the "Manufacturing industry (including construction & oil and gas)" had a lower degree of well-being (3.704).
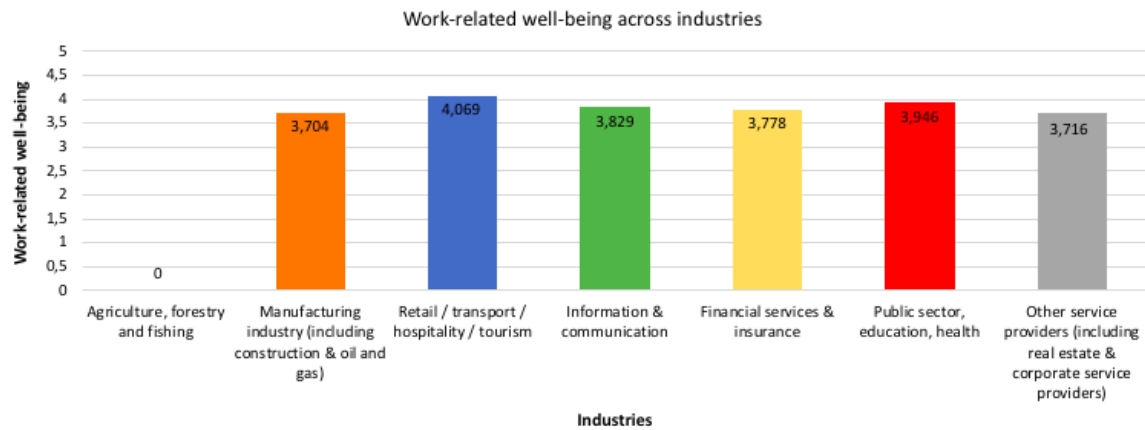
Figure 5.3. Work-related well-being across industries.

Looking at work-related well-being across gender females (3.858) seemed to have slightly higher degree of well-being than males (3.735). When examining how work-related well-being differ across age, the ones ≤ 29 years seemed to have the highest degree of well-being (3.793) followed by the those between 30-39 years (3.486). Those from 40-49 years (3.414) and ≥ 50 years (3.450) reported the lowest degrees of well-being.

The role the respondents had in the projects, namely project-team member or project manager, also seemed to impact their work-related well-being. The project team members had a slightly higher degree of well-being (3.509) than the project managers (3.437).

Considering the relationship between share of project work to total working hours and the dependent variable, no clear tendencies were found. Figure 5.4. visualize how both general work and project work experience impact work-related well-being. One of the tendencies that can be found is that those that have above 31 years of experience with either general work or project work tend to have a lower degree of well-being, compared to those with fewer years of experience. Nevertheless, the degree of work-related well-being seemed to be fairly constant across both general and project work experience.
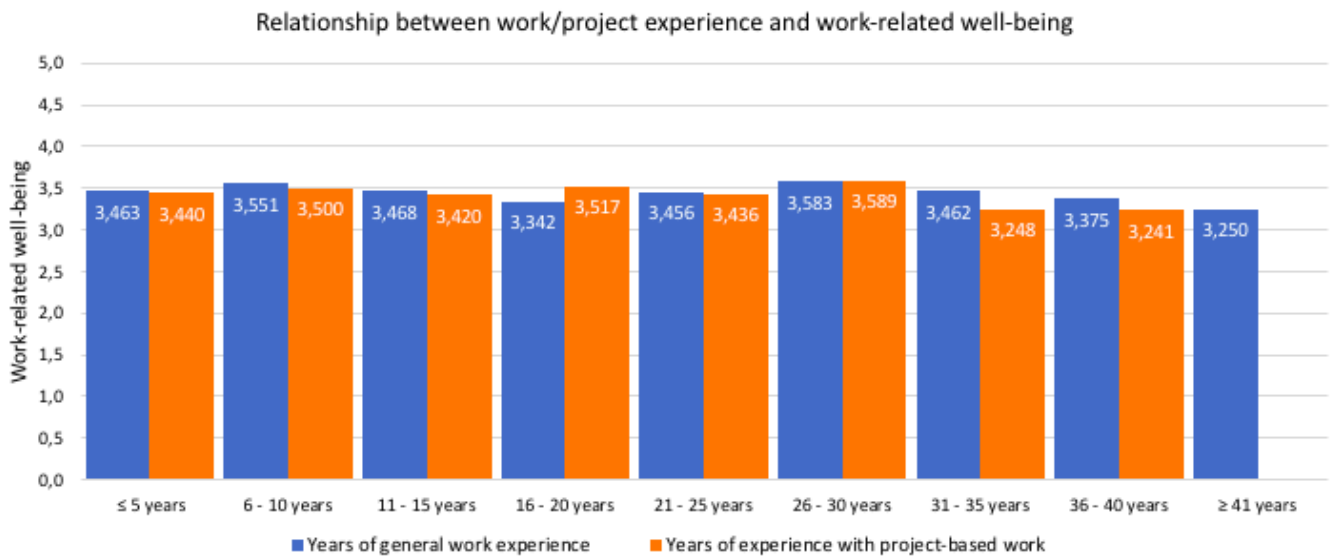
Figure 5.4. Relationship between work/project experience and work-related well-being.

When looking at the relationship between internal/external projects and work-related well-being, one could see some distinct differences. The employees with the highest degree of well-being (3.704) worked in internal projects, while employees working in external projects (3.474), or in both external and internal projects (3.421) had lower degrees of well-being.

5.4. Testing the hypothesized model

The goal of this study was to assess the impact of project work exposure on employees' work-related well-being. We will in section *5.4.1.* analyze the hypothesized model excluding the moderating variables, looking only at the direct effects. Section *5.4.2.* considers the independent variables as well as the moderating variables, i.e. both the direct and indirect effects.

5.4.1. Testing the direct effects

As we were interested the effects of both the independent variables alone and together we decided to start by analyzing the effect of each single independent variable before looking at their joint effect.

To test the hypothesized model, we started by assessing the relationships between the constructs in the structural model, i.e. the path coefficients. The path coefficients values usually range from -1 to 1, whereas values close to -1 or 1 indicates a strong relationship and values close to 0 indicates that the values are not significantly different from zero (Hair et al.,

2017, p. 195). Looking at the path coefficient between project demand and work-related well-being (-0.339) in Figure 5.5, it indicates a negative and moderate relationship between the two variables. In addition, one of the most used methods to evaluate the structural model is the coefficient of determination (R^2). By assessing the R^2 one can see the amount of variance in the dependent variable that the independent variables explain in total. The values of R^2 range from 0 to 1, whereas the higher the values the higher the predictability. What is considered as acceptable R^2 values differs between disciplines, for instance marketing research suggests that R^2 values of 0.75, 0.50 or 0.25 respectively can be described as substantial, moderate or weak predictability (Hair et al., 2017, p. 199). As seen in Figure 5.5. the construct of project demand gives a R^2 value of 0.115, which we consider to be weak.
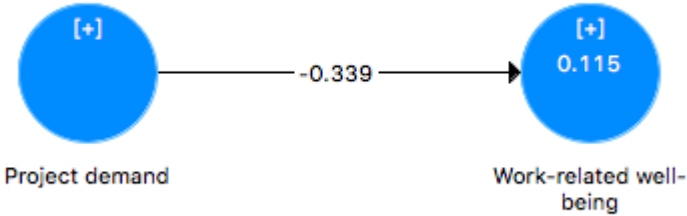
Figure 5.5. Relationship between project demand and work-related well-being.

The path coefficient in Figure 5.6. (0.367) also indicates a moderate relationship between project control and employees' work-related well-being, however this relationship is positive. The R^2 value (0.135) and the predictive accuracy is also higher than for project demand, however it is still considered to be weak.
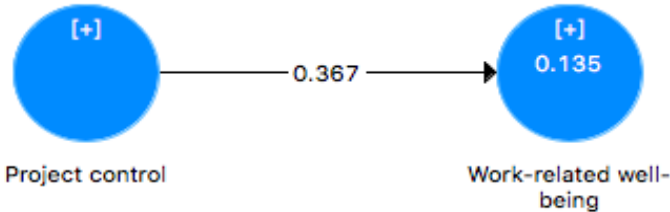
Figure 5.6. Relationship between project control and work-related well-being.

The path coefficient between co-worker support and work-related well-being (0.297) also indicates a positive relationship between the constructs, but this relationship seems to be weak compared to the ones above. The R^2 value (0.088) displayed in Figure 5.7. is also very weak.
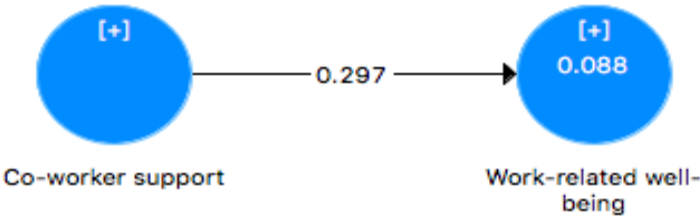
Figure 5.7. Relationship between co-worker support and work-related well-being.

Furthermore, we were interested in the joint effect of the different variables. As displayed in Figure 5.8. project demand still seems to have a negative and moderate effect on work-related well-being, while both project control and co-worker support have weaker and positive effects. The path coefficients can also be assessed relative to each other (Hair et al., 2017, p. 195), so if one of the path coefficients is higher than another, its effect on the independent variable is stronger. In our case project demand has a stronger effect on employees' work-related well-being than project control and co-worker support.

* Significant at $p < .05$
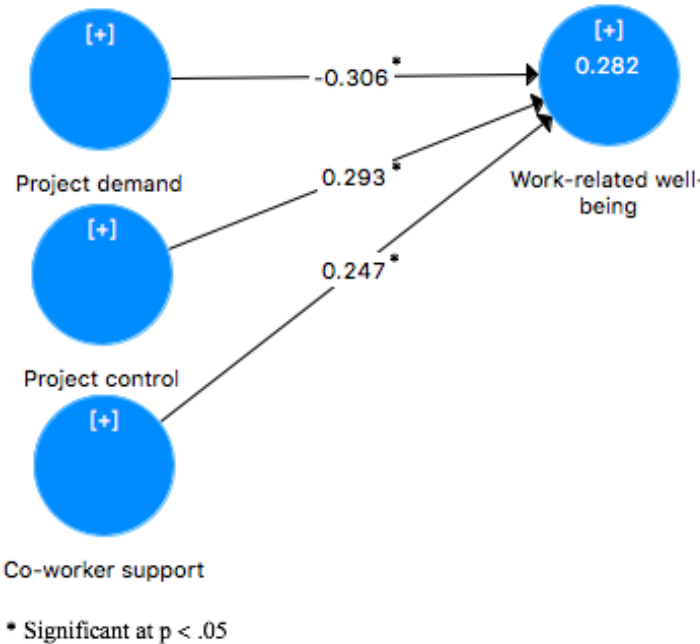
Figure 5.8. Path model - hypothesized relationships without moderating variables.

The R^2 value in Figure 5.8. (0.282) indicates that the three independent variables together have a higher degree of predictive accuracy than alone, however it is still pretty weak.

In addition to evaluate the R^2 value, one should assess the f^2 effect size, the Q^2 value and the q^2 effect size. The f^2 effect size is measured as the change in the R^2 values when one specific independent variable is removed from the model. When assessing f^2 effect size one can use the following guidelines, the values 0.02, 0.15 and 0.35 indicates a small, medium or large effect of the independent variable. Effect size that is less than 0.02 indicates that there is no effect (Hair et al., 2017, pp. 201-202). In our model all of the independent variables have an effect on the dependent variable, while both project demand and project control have medium effects co-worker support has a small effect.

	f^2 **Effect sizes**	**Effects of the independent variable**
Excluding "project demand"	0.128	Medium
Excluding "project control"	0.111	Medium
Excluding "co-worker support"	0.082	Small

Table 5.4. f^2 effect sizes.

One should not only consider the R^2 when assessing the predictive accuracy of the structural model, but also the Stone-Geisser's Q^2 value. The Q^2 value is assessed by using blindfolding procedure and indicates the structural models out-of-sample predictive power by comparing the original values with the predicted values. Q^2 values above 0 suggest that the model has a predictive relevance for the dependent variable (Hair et al., 2017, pp. 202-207). In our case the Q^2 is 0.073, and our model has predictive relevance. In addition to evaluate the Q^2, one should assess the q^2 effect size. However, this is not relevant in our case since our research model only includes one dependent variable (Hair et al., 2017, pp. 207-208).

After considering the path coefficients; the R^2 values; the f^2 effect size; and the Q^2 value, the next step is to determine whether the relationships are significant or not. When evaluating the results of the path model one also need to test the significance of all the relationships in the structural model using t-values, p-values and the bootstrapping confidence intervals (Hair et al., 2017, p. 197). In order to test the significance of the hypothesized relationship in our

model we did a bootstrapping procedure in SmartPLS 3. Doing the bootstrapping procedure, the one-tailed test was used as all of our hypotheses clearly indicates a directional relationship. Further, we used a significance level of 5%, meaning that the t-values should be above 1.658 (Sekaran & Bougie, 2013, p. 384). H_0 was rejected when the value was higher than 1.658. A significance level of 5% means that we have a 5% chance of rejecting H_0 when it actually is supported, i.e. doing a Type I error. One can also do a Type II error meaning that the H_0 is accepted when it should have been rejected. In addition to report the significance, we also included the bootstrap confidence intervals in Table 5.5. as these intervals tells us something about the stability of the coefficient estimate (Hair et al., 2017, pp. 155-158). According to Table 5.5. all of the independent variables and their relationship with work-related well-being were proven to be significant.

	95% Confidence Interval	t-Value	p-Value	Significance ($p < 0.05$ and $t > 1.66$)
Project demand → Work-related well-being	[-0.416, -0.143]	4.0127	0.0001	Yes
Project control → Work-related well-being	[0.108, 0.428]	3.0365	0.0036	Yes
Co-worker support → Work-related well-being	[0.104, 0.379]	3.0718	0.0023	Yes

Table 5.5. Significance analysis of direct effects.

We have now tested the direct effects of the different independent variables on employees' work-related well-being. While the path coefficients indicated moderate to weak relationships, the results from the final model (Figure 5.8.) indicated predictive accuracy, the independent variables had small to medium effects, and all of the independent variables were proved to be significant.

5.4.2. Testing the direct and moderating effects

In this section, the moderating effect of project control, co-worker support and project complexity are included in the analysis. The interaction effects of the independent variable (project demand) and the different moderating variables were assessed using the orthogonalizing method. Usually one should not assess the main effect of an independent and dependent variable when the moderators are included in the analysis, however as we used the orthogonalizing approach this would not have been a problem (Hair et al., 2017, p. 258).

Nevertheless, since we were interested in the effects of the independent variables alone as well as the effect including the moderators, we decided to do the analysis both with and without the moderating variables. As the analysis in the previous section considered the direct effects only, this section will include both the direct and indirect effect.

In order to test our hypotheses we started by looking at the path coefficients. Since the orthogonalizing approach is used, both the direct and indirect effect can be assessed from Figure 5.9. The path coefficient between project demand and work-related well-being (-0.307) still indicates a negative and moderate relationship. The relationship between project control and work-related well-being is still positive, however the effect seems to be weaker (0.265) when including the moderating variables. The path coefficient between co-worker support and work-related well-being is still positive, but the effect is stronger (0.243). The primary interest when doing a moderation analysis is the significance of the interaction term, i.e. path coefficients (Hair et al., 2017, p. 256). The path coefficients between the moderating variables (project control; co-worker support; and project complexity) and work-related well-being, are illustrated in Figure 5.14. The results in the figure indicates that the moderating effects are moderate to weak and have little effect on the relationship between project demand and work-related well-being. The path coefficients can also be assessed relative to each other (Hair et al., 2017, p. 195), as we can see from Figure 5.9. project demand has the greatest effect on employees' work-related well-being. While closely followed by the direct effect of project control and co-worker support.

The R^2 has a value of 0.413 which can be considered to be moderate. This indicates that more of the variance in the dependent variable was explained when including the moderating effects, compared to the model in Figure 5.8 where the moderating effects were not considered.
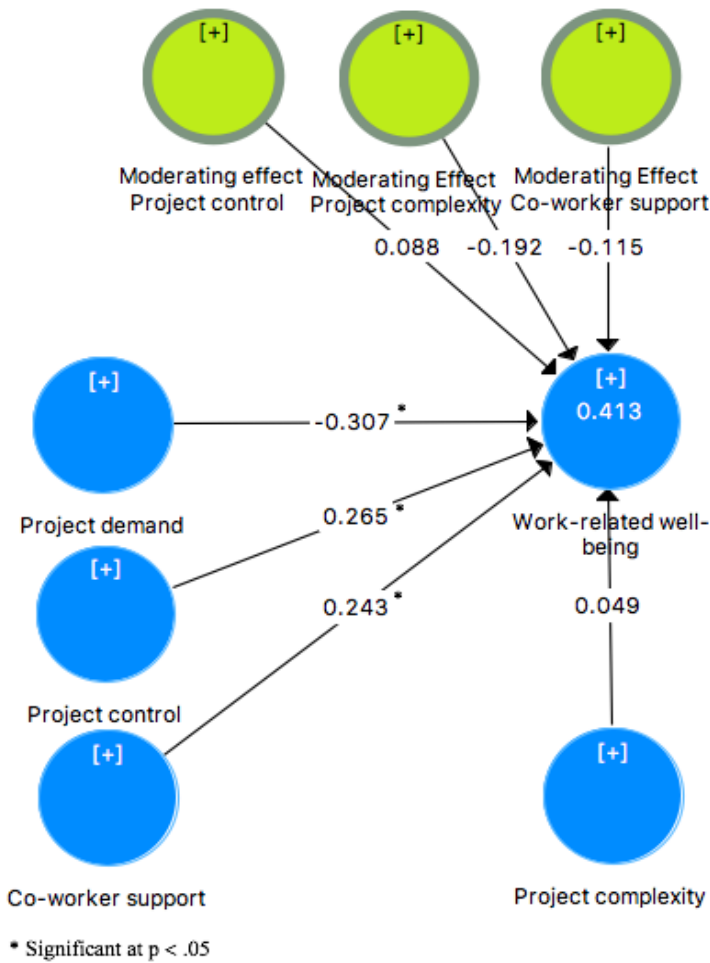
Figure 5.9. Path model - hypothesized relationships with moderating variables.

In addition to R^2 one should also assess f^2. As mentioned, the guidelines for assessing the f^2 in a model are the values 0.005, 0.01 and 0.025 which indicates small, medium or large effects of the independent variable (Hair et al., 2017, p. 256). All of the f^2 effect sizes in this model are large.

	f^2 **Effect sizes**	**Effects of the independent variable**
Excluding "project demand"	0.368	Large
Excluding "project control"	0.138	Large
Excluding "co-worker support"	0.121	Large
Excluding "project-complexity"	0.141	Large

Table 5.6. f^2 effect sizes with moderating variables.

We did a blindfolding procedure in order to assess the Q^2. As mentioned above, Q^2 values higher than 0 suggest that the model has a predictive relevance for the dependent variable (Hair et al., 2017, pp. 202-207). In this case the Q^2 was 0.070, and the model has a predictive relevance for the dependent variable.

Further, we did a one-tailed bootstrapping procedure to test the significance of the direct and indirect effects of the variables. As displayed in Table 5.7. all of the independent variables had a significant direct effect, while none of the moderating variables were significant. The next step in the moderating analysis would have been to create slope plots for each of the moderating effects and look at the slope in more detail (Hair et al., 2017, p. 258). However, as none of the moderating variables were proven to be significant this is not relevant in our case.

	95% Confidence Interval	t-Value	p-Value	Significance (p < 0.05 and t > 1.66)
Project demand → Work-related well-being	[-0.413, -0.149]	3.8914	0.0001	Yes
Moderating effect of project control → Work-related well-being	[-0.012, 0.189]	1.2782	0.1009	No
Project control → Work-related well-being	[0.156, 0.435]	2.5897	0.0049	Yes
Moderating effect of co-worker support → Work-related well-being	[-0.154, 0.253]	1.4496	0.0739	No
Co-worker support → Work-related well-being	[0.129, 0.371]	2.9085	0.0019	Yes
Moderating effect of project complexity → Work-related well-being	[-0.303, 0.198]	0.9887	0.1616	No

Table 5.7. Significance analysis of direct and indirect effects.

PLS-analysis gave us knowledge about the relationship between the independent variables and the dependent variable, including the moderating variables. A summary of the hypotheses and their respective results can be found in Table 5.8.

Hypothesis	Supported/Rejected
H$_1$: Project demand on work-related well-being (-)	Supported
H$_2$: Moderating effect of project control on the relationship between project demand and work-related well-being (+)	Rejected
H$_3$: Project control on work-related well-being (+)	Supported
H$_4$: Moderating effect of co-worker support on the relationship between project demand and work-related well-being (+)	Rejected
H$_5$: Co-worker support on work-related well-being (+)	Supported
H$_6$: Moderating effect of project complexity on the relationship between project demand and work-related well-being (-)	Rejected

Table 5.8. Overview of the hypotheses and results.

5.5. PLS-MGA: control variables

This section presents the multi group analysis (MGA) done in PLS-SEM in order to explore the impact and the possible moderating effect of the control variables gender and project role. By doing an MGA it is possible to take the heterogeneity of the data into consideration, which also decrease the chances of making the wrong conclusions (Hair et al., 2017, p. 291).

5.5.1. Gender as a control variable

As displayed in Table 5.9. the predictive power (R^2) is close to moderate for both groups (Hair et al., 2017, p. 199). However, the variables in the model seem to have a slightly higher degree of predictive power for the male group than for the female group.

	Male		Female		Path coefficient difference	p-value
	Path coefficient	R^2	Path coefficient	R^2		
Project demand → Work-related well-being	-0.299		-0.195		0.104	0.290
Moderating effect of project control → Work-related well-being	0.264		-0.227		0.490	0.930
Project control → Work-related well-being	0.307		0.347		0.041	0.430
Moderating effect of co-worker support → Work-related well-being	-0.121	0.514	-0.211	0.485	0.090	0.690
Co-worker support → Work-related well-being	0.226		0.185		0.041	0.660
Moderating effect of project complexity → Work-related well-being	-0.340		-0.351		0.011	0.470

Table 5.9. MGA - gender as a control variable.

Applying the MGA in PLS-SEM one can assess whether the differences between the subsamples are statistically significant or not by looking at the differences in the path coefficients and the p-values (Hair et al., 2017, pp. 291-293). As shown in Table 5.9., the differences in the path coefficients are fairly small for most of the relationships, while there is a bigger difference when considering the moderating effect of project-control (0.490). Looking at the p-values, the difference is considered to be significant when the p-value is either above 0.95 or below 0.05 (Hair et al., 2017, pp. 196, 291-294). This indicates that when considering the subsamples of gender none of the differences are significant.

5.5.2. Project role as a control variable

Looking at Table 5.10. one can see that the predictive power (R^2) is moderate for the project manager group, while it is substantial for the project-team member group (Hair et al., 2017, p. 199).

	Project manager		Project team member		Path coefficient difference	p-value
	Path coefficient	R^2	Path coefficient	R^2		
Project demand → Work-related well-being	-0.337		-0.406		0.069	0.780
Moderating effect of project control → Work-related well-being	0.191		0.571		0.380	0.711
Project control → Work-related well-being	0.293	0.485	0.213	0.819	0.080	0.427
Moderating effect of co-worker support → Work-related well-being	-0.178		-0.422		0.244	0.241
Co-worker support → Work-related well-being	0.144		0.308		0.164	0.780
Moderating effect of project complexity → Work-related well-being	-0.295		-0.371		0.077	0.410

Table 5.10. MGA - project role as a control variable.

Looking at the difference in the path coefficient for the moderating effect of project control one can see a difference of 0.380, while the differences in the rest of the path coefficients for the two subgroups seem to be small. Further considering the p-values in order to assess whether the differences are significant or not one can see that the p-values are all between 0.241 and 0.780. This indicates that none of the differences are significant.

6. Discussion

The purpose of this study was to contribute to the knowledge about employees' work-related well-being in project-based work by assessing the impact of a set of variables derived from the project work literature. As project-based work has become widely used, the number of employees working in projects has increased and so has the research on the topic. The "dark side" of projectification and how it impacts employees' well-being has in the later years been given increased attention. We used the JDCS model as the starting point of our study, and examined the impact of project demand, project control, co-worker support and project complexity on employees' work-related well-being.

This study makes three major contributions to research. First, we add to previous findings by using the JDCS model in the context of project-based work in general, and not limited to specific functional areas, cases or industries. We slightly modified the model to better fit a project-based setting where employees' share of project work to total working hours varies (e.g. job demand was denoted project demand). In addition, as the JDCS model has been criticized for being too simple, at the same time as projects can be complex and uncertain, we included the construct of project complexity into the model. Second, previous research on employee well-being in project-based work show a tendency to focus on either the positive (e.g. job satisfaction) or the negative (e.g. burnout) sides of affective well-being. This study contributes by measuring both the positive and negative sides of affective work-related well-being as well as the cognitive sides of it. Third, we had a closer look at the different variables and analyzed how they impact employees' work-related well-being.

Chapter 3 provided overview and insight into the existing literature, this chapter will discuss the relation between the previous research and the results in this study.

6.1. Discussion of descriptive results

As the focus of this study was to explore the impact of project work exposure on employees' work-related well-being, only the control variables of gender and project role were included in the MGA analysis in PLS-SEM. However, one can still find some interesting tendencies and results as both the independent and dependent variables varies across the control variables.

Literature have suggested that different job-related stressors have a differential effect across gender (e.g. Hwang & Ramadoss, 2017). This is also consistent with the results in this study; the male respondents indicated a higher degree of project demand and a lower degree of work-related well-being than the female respondents. Further, research suggests that older employees tend to experience a better well-being at work than younger employees (Orsila et al., 2011). However, the results in this study is not consistent with this. The ones that were 29 years or below indicated that they had the highest degrees of well-being, while the respondents that were 50 years or above reported the lowest degrees of well-being. Nevertheless, one should note that this study is done in a project-based setting and this may be one of the reasons that the results are not consistent with previous research.

Furthermore, research done by Schoper et al. (2018) suggests that a total of 78% of the projects in Norway are internal. An external project is done for external customers, while an internal project is done for internal customers (meaning within your own organization) (Karlsen, 2013, p. 46). This study showed that the ones working only in internal projects had a higher degree of work-related well-being than those working in external projects or in both internal/external projects.

Previous studies have considered experience with project-based work as a control variable (Blomquist & Gällstedt, 2002; Gällstedt, 2003; Zika-Viktorsson et al., 2006). An interesting finding in this study was that the respondents that had between 1 to 5 years of experience with project-based work seemed to have the highest degree of project demand. While those that had between 36-40 years of experience seemed to have the highest degree of project control. The degree of work-related well-being seemed to be fairly constant across the years of both general and project work experience.

As we can see, these demographic and project work related control variables impact employees' work-related well-being, but they are not proven to have a high degree of predictive power. Nevertheless, one interesting tendency is that the degree of project demand is often negatively correlated to the degree of project control, i.e. those with a high degree of project demand seem to have a low degree of project control.

6.2. Discussion of the hypothesized model

One of our main contributions to research is the analysis on how the different independent and moderating variables impact work-related well-being. We made sure that all of the six hypotheses in the study clearly fell from previous literature before we tested the hypotheses to see if the variables had a significant impact on work-related well-being.

Hypothesis 1 suggesting that project demand is negatively related to employees' work-related well-being was supported. This is consistent with the JDCS model and previous literature; a number of scholars have found job demand to have a negative impact on employees' well-being. Among others, studies done by Bowen et al. (2014) and Cattell et al. (2016) found that demand was a significant predictor for occupational stress in the context of construction

projects. Pinto et al. (2013) used the JDCS model to explore the relationship between project work and burnout, they found that demand predicts burnout. Our findings complement previous literature by implying that demand has a negative effect on employees' work-related well-being not only at work in general, but also in a project-based setting. Furthermore, the variable of project demand was proven to be the variable that had the strongest predictor effect on employees' work-related well-being. It is interesting to see that the stressor of project demand had a greater effect on employees' work-related well-being than the positive effect of project control or social support.

Furthermore, hypothesis 2 suggested that project control has a positive moderating effect on the relationship between project demand and employees' work-related well-being. This hypothesis was rejected. The JDCS model states that jobs where the individual is subject to both high demand and high control often leads to well-being (Dawson et al., 2016). On the other side "high-strain jobs", meaning that they are demanding while the individual at the same time have limited control, are most likely to reduce the employees' well-being (Häusser et al., 2010; Karasek, 1979). Nevertheless, the results in this thesis is not consistent with either of these theories. According to the results in this study a high degree of project demand leads to lower degree of work-related well-being, and the degree of project control does not significantly impact this relationship. However, previous research has also been less consistent when it comes to the support for the moderating influence of control (Pinto et al., 2013; Van der Doef & Maes, 1999).

Previous literature has indicated that project control may also have a direct and unique effect on well-being (Bakker & Demerouti, 2014, p. 58). Hypothesis 3 thereby suggested that project control is positively related to employees' work-related well-being, and the hypothesis was supported. This is consistent with previous literature suggesting that the possibility to control and influence one's work, increase motivation and well-being (Blomquist & Gällstedt, 2002). The results also add to existing research by indicating that control at work has a positive effect on work-related well-being not only at work in general, but also when in comes to project-based work.

Hypothesis 4 considered the third element in the JDCS model and suggested that co-worker support has a positive moderating effect on the relationship between project demand and

employees' work-related well-being. Earlier research has suggested that a supportive workplace can reduce stress and its negative effects (Babin & Boles, 1996; Bowen et al., 2014; Dawson et al., 2016; Karasek & Theorell, 1990, pp. 345-6), and more specifically that co-worker support can buffer the effects of project demand on well-being (Dawson et al., 2016). The results from this study does not support this, and the hypothesis was rejected. One explanation may be the use of the JDCS model. Research done by Häusser et al. (2010) found that there is a weaker support for the JDCS model than for the JDC model. This weaker support was explained by problems related to the measurement of the social support dimension and by the fact that the model includes a third dimension which reduces the likelihood of confirming the model (Häusser et al., 2010). In addition, previous research has not been consistent considering the support of the moderating influence of social support (Pinto et al., 2013; Van der Doef & Maes, 1999).

As with project control, previous literature has suggested that co-worker support can have a direct and unique effect on well-being (Bakker & Demerouti, 2014, p. 58). The hypothesis in this study suggesting that co-worker support is positively related to employees' work-related well-being (hypothesis 5) was supported. This is consistent with previous literature which has suggested that the employees consider co-worker support as important for their well-being (Blomquist & Gällstedt, 2002). The result also adds to previous research by showing that co-worker support has a positive effect on work-related well-being in a project-based setting as well as at work in general.

Finally, scholars have suggested that the complexity of the projects that an individual is involved in can have an impact on their well-being (Packendorff, 2002; Zika-Viktorsson et al., 2006). Project demand in itself has proven to be a stressor that can impact employees' well-being (Vanroelen et al., 2009), adding the complexity of projects to that the projects may seem even more demanding. Hypothesis 6 thereby suggested that project complexity has a negative moderating impact on the relationship between project demand and employees' work-related well-being. However, this hypothesis was rejected and project complexity was not proven to have a significant impact on the relationship.

Furthermore, the potential moderating effect of the control variables gender and project role was considered. When not considering heterogeneity positive and negative group specific

effects typically cancel each other out, and a potentially significant relationship may not be acknowledged (Hair et al., 2017, p. 291). Considering the control variable gender, the subgroups male and female, and their impact on the hypothesized relationships, the results are somewhat surprising. Previous research has suggested that different job related stressors have a differential effect across gender (Hwang & Ramadoss, 2017; Zika-Viktorsson et al., 2006). The results in this study indicate that there are no significant differences between the two groups. However, it is worth noticing that the difference in the moderating effect of project control is close to significant. Project control seems to clearly decrease the negative relationship between project demand and work-related well-being for the male respondents, while this effect is not present to the same extent for the female respondents.

The individual's role in the project was also included as a control variable using the subgroups of project manager and project-team member. While one can see a clear difference in the path coefficients looking at the moderating effect of project control, the difference was not proven to be significant. The differences in the other path coefficients were small, and not significant. Previous research has shown that the individuals perceive stressors differently, and that the perception often differ between project managers and team members (Gällstedt, 2003). However, the results in this study does not support that.

We have thereby shown that the degree of project demand, project control, co-worker support and project complexity together explain a rather moderate degree of employees' work-related well-being in the case of project-based work. While the hypotheses considering the direct effect of project demand, project control and co-worker support were supported, the hypotheses considering the moderating relationships were not. Scholars have suggested that work-related well-being is affected not only by variables that are related to work but also factors that are not directly associated with work (Aitken & Crawford, 2007; Bretones & Gonzalez, 2011). This may be one of the explanations for the lack of support for the hypothesized moderate relationships. Another reason for the results not being consistent with previous research may be that this study is done in the context of project-based work only, and not work in general. Although it is tempting to conclude that a high degree of project demand contributes to a lower degree of work-related well-being, and that project control and co-worker support leads to a higher degree of well-being, due to time constrains our study design does not allow for any conclusions about causality. Nevertheless, this study contributes

by providing insight into the relationship between project work exposure and employees' work-related well-being.

7. Conclusion

This study considered the impact of project work exposure on employees' work-related well-being. We add to previous findings by using the JDCS model in the context of project work in general, and not limited to specific functional areas, cases or industries. The model was slightly modified to better fit a project-based setting, and the construct of project complexity was included. In addition, we measured the whole concept of work-related well-being in the context of project-based work instead of focusing only on one dimension, e.g. job satisfaction.

The results in this study underline the potential harmful impact that projects can have on employees' work-related well-being, and consistent with the JDCS model project demand has a negative impact on employees' work-related well-being. However, inconsistent with the JDCS model neither project control or co-worker support were proven to have a buffering effect on the relationship between project demand and employees' work-related well-being. On the other side the direct and unique effect of both project control and co-worker support were proven to have a significant impact. Project complexity was also included as a moderating variable; however, it did not seem to have a significant impact on the relationship between project demand and employees' work-related well-being.

Although only partially supporting the JDCS model and its theorized effects on well-being, our study supports and adds to the emerging literature having a critical view on the impact of project work exposure on employees' well-being.

7.1. Contributions and implications for practice

Several studies have suggested that employee' well-being does not only impact the individual itself, but also the organization they work in and the society as a whole (Page & Vella-Brodrick, 2009; Soh et al., 2016). This makes it highly relevant to focus on how project work affects the employees' well-being, and further how employees' well-being can be increased. On a general level, this thesis contributes to the emerging literature having a critical view on the impact of project work on employees. More specifically it contributes by studying the

impact of project work exposure on employees' work-related well-being in general, not only considering a single industry, case or sector.

First of all, the results show that high degrees of project demand negatively impact employees' work-related well-being. Secondly, it suggests that both project control and co-worker support are positively related to work-related well-being. Finally, the results of our study can be interpreted in order to help increase employees' work-related well-being. Research has suggested that there is a reversed causal relationship between working conditions and strain. Employees that experience strain may also have a behavior that lead them to additional demands, or employees with a reduced well-being may perceive their job demands as more critical and demanding than those with a high degree of well-being (Bakker & Demerouti, 2014, p. 50). So, it is not only important to explore how project work impact the employees' well-being, but also how their well-being can be increased. Over time work characteristics and employees' well-being mutually influence each other (Bakker & Demerouti, 2014, p. 58). According to the results in this study, employees can experience an increased degree of work-related well-being by a decrease in the degree of project demand and an increase in the degree of either project control or co-worker support. Overall, our results help raise knowledge on the growing importance of employees' well-being at work in general as well as in project-based work.

7.2. Limitations

This study has a number of limitations that should be considered. First, even though the questionnaire includes a definition of a project and the respondents are asked to respond to the questionnaire based on their experiences with project-based work over the last six months, their responses can be affected by other variables as well. Also, the questions used to measure the different constructs focuses on specific components of the items, e.g. the question related to work-life balance focus specifically on the time aspect and on the satisfaction components of the item (Bowen et al., 2014). As a second limitation, the definition of a project used is rather conservative (Schoper et al., 2018), and smaller assignments is not included.

Third, this study has considered employees' work-related well-being. Scholars have stated that employees' well-being should be considered to consist of both work-related and non-work-related aspects and that the different types of well-being affects each other (see e.g.

Bretones & Gonzales, 2011; Zheng et al., 2015). On the other side, when answering abstract questions about one's well-being people do not evaluate all aspects of their life, they rather just make relative fast decisions based on their current mood. When the questions become increasingly specific and context related they are easier to answer precisely (Page & Vella-Brodrick, 2009). Fourth, the JDCS model has been criticized for its simplicity and not considering the differences among job positions (Bakker & Demerouti, 2014, p. 42). In this thesis we consider the simplicity as an advantage since the relationship between project work exposure and employees' well-being has been subject to a limited amount of research. In addition, the constructs, and the items used to measure them, are adapted to fit the context of project-based work and thereby specific job positions. However, it is optimistic to think that a small number of job characteristic is sufficient to describe the complexity of today's jobs, and other variables could with advantage be added to the model.

Fifth, the questionnaire was only distributed in Scandinavia. Even though the five essential elements of well-being (including work-related well-being) is universal across nationalities and cultures, people tend to have different ways of increasing their well-being. There could therefore be a cultural biased implied in the definition of work-related well-being (Demo & Paschoal, 2016). What is perceived as stressful in one culture, may not be the same for another (Rath & Harter, 2010, p. 7; Imhof & Andresen, 2017). In addition, the study aimed to measure feelings and people perceive things differently, e.g. while a multi-project setting feels stressful for some, other may not find it stressful (Gällstedt, 2003). Sixth, the respondent information e-mail included the topic of the thesis "*The "dark side" of projectification: The impact of project work on the employees' well-being"*. By including the topic and the formulation of the "dark side" we may have affected how the respondents perceived and responded to the questionnaire. This could have created a limitation of cognitive bias. Seventh, we had some challenges getting enough respondents. Even though PLS-SEM works efficiently with a small sample size, a larger sample sizes would have increased the precision of the estimations (Hair et al., 2017, p. 19). In addition, the lack of significant findings could also be due to lack of power because of a relatively small sample size (Grebner et al., 2005).

Finally, the relationships found in this thesis are not proven to be causal relationships, but rather an indication of a relationship between the variables. The design of the study is cross-sectional, and the results should be interpreted with caution. In addition, the primary data

collection relies on self-report measures, which means that shared method of variance could have been a potential explanation for the relationships. However, while self-report methods have its weaknesses this is also the case for other methods as well (Spector, 1994).

7.3. Suggestions for further research

This study has provided insight into the relationship between project work exposure and employees' work-related well-being. Although the results indicate that there may be a causal relationship between project demand and employees' work-related well-being, this cannot be confirmed due to the nature of this study. Future research may look into the relationship by applying a longitudinal study. In addition, one could do the study with a larger sample size, using a sampling method that makes is possible to generalize the results. It would also be interesting to expand the study by including respondents from other parts of the world as well, to see if the same effects are present across cultural boundaries.

Another direction for future research could be to look at other possible variables. This study has considered the impact of a specific set of job characteristics, in particular project demand, project control, co-worker support and project complexity. There could be other project characteristics that may have an impact on employees' work-related well-being, for instance feedback; supervisory support; perceived organizational support; and support from family and friends. In addition, personal characteristics and demands may also impact individuals' well-being.

There is several different methods and scales one can use in order to measure the construct of well-being. In this thesis, we chose to measure employees' work-related well-being using the WBWS. Future research could look into other work-related well-being scales, other aspects of well-being or explore how project work may impact employees' well-being in general. Another idea, could be to use the same scales as in this study but instead of measuring work-related well-being specifically in the context of projects one could measure it in the context of work in general. By doing this, one could further explore to what extent the employees' share of project work impact their well-being. The study could be carried out both within one organization, or with a more general approach like the one used in this study.

As organizations have started to consider how to increase their employees' well-being, future studies could explore the effect of for example administration and HRM on well-being in the context of projects. This has to some extent been done through a qualitative approach (e.g. Turner et al., 2008) but to the best of our knowledge not with a quantitative approach.

Another interesting direction for research could be to look at people within the same company and compare the well-being of those working in projects with those that primarily work in the permanent organization. One could also consider the well-being of whole teams or departments, not only on the individual level.

References

Aitken, A. & Crawford, L. (2007). Coping with stress: Dispositional coping strategies of project managers. International Journal of Project Management, 25, pp. 666–673.

Andersson, T., & Wickelgren, M. (2009). Who is colonizing whom? Intertwined identities in product development projects. *Ephemera: theory and politics in organization*, 9(2), pp. 168-181.

Babin, B.J. & Boles, J.S. (1996). The effects of perceived co-worker involvement and supervisor support on service provider role stress, performance and job satisfaction. *Journal of Retailing*, 72(1), pp. 57-75.

Bakker, R.M. (2010). Taking stock of temporary organizational forms; A systematic review and research agenda. *International Journal of Management Reviews*, 12, pp. 466-486.

Bakker, A.B. & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology,* 22(3), pp. 309-328.

Bakker, A.B. & Demerouti, E. (2014). Job Demands–Resources Theory. In Chen, P. Y., & Cooper, C. L. (Eds.), W*ork and wellbeing. Wellbeing: a complete reference guide, Volume III,* pp. 37-64. UK: John Wiley & Sons, Incorporated.

Bakker, A.B. & Demerouti, E. (2017). Job Demands–Resources Theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), pp. 273-285.

Bakker, A.B., van Veldhoven, M. & Xanthopoulou, D. (2010). Beyond the Demand-Control model. Thriving on high job demands and resources. *Journal of Personnel Psychology*, 9(1), pp. 3–16.

Becker, J-M., Klein, K. & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning*, 45, pp. 359-394.

Blomquist, T. & Gällstedt, M. (2002). Working conditions in projects: A study of motivation and job satisfaction among people working in knowledge-intensive projects. In: *Proceedings of PMI Research Conference 2002*, Seattle, 14–17 July 2002, pp. 141–149.

Bowen, P., Edwards, P., Lingard, H. & Cattell, K. (2014). Occupational stress and job demand, control and support factors among construction project consultants. *International Journal of Project Management,* 32, pp. 1273–1284.

Bradburn, N. M. (1969). *The structure of psychological well-being.* Oxford, England: Aldine.

Bretones, F.D. & Gonzales, M.J. (2011). Subjective and occupational well-being in a sample of Mexican workers. *Social Indicators Research,* 100(2), pp. 273-285.

Burke, C.M. & Morley, M.J. (2016). On temporary organizations: A review, synthesis and research agenda. *Human relations*, 69(6), pp. 1235-1258.

Cattell, K., Bowen, P. & Edwards, P. (2016). Stress among South African construction professionals: A job demand-control-support survey. *Construction Management and Economics*, 34(10), pp. 700-723.

Chambel, M.J., Lopes, S. & Batista, J. (2016). The effects of temporary agency work contract transitions on well-being. *International Archives of Occupational and Environmental Health*, 89, pp. 1215–1228.

Cicmil, S., Lindgren, M. & Packendorff, J. (2016). The project (management) discourse and its consequences: On vulnerability and unsustainability in project-based work. *New Technology, Work and Employment*, 31(1), pp. 58-76.

Cohen, J. (1992). A Power Primer. *Psychological Bulletin*, 112(1), pp. 155-159.

Daniels, K. (2000). Measures of five aspects of affective well-being at work. *Human Relations, 53*(2), pp. 275-294.

Dawson, K.M., O'Brien, K.E. & Beehr, T.A. (2016). The role of hindrance stressors in the job demand– control–support model of occupational stress: A proposed theory revision. *Journal of Organizational Behavior*, 37, pp. 397–415.

Demo, G., & Paschoal, T. (2013). Well-being at Work Scale: Exploratory and confirmatory validation in the United States comprising affective and cognitive components. *Rio de Janeiro Research Journal*, 11(7), pp. 1-16.

Demo, G. & Paschoal, T. (2016). Well-being at Work Scale: Exploratory and confirmatory validation in the USA. *Paidéia*, 26(63), pp. 35-43.

D'Souza, R. M., Strazdins, L., Lim, L. L-Y. Broom, D.H. & Rodgers, B. (2003). Work and health in a contemporary society: Demands, control, and insecurity. *Journal of Epidemiol and Community Health,* 57, pp. 849–854.

Ekstedt, E. (2009). A new division of labour: The "projectification" of working and industrial life. In M. M-A (Eds.), *Building Anticipation of Restructuring in Europe*, pp. 31-53. Brussels, Belgium: P.I.E. Peter Lang S.A.

Fisher, C.D. (2014). Conzepualizing and measuring wellbeing at work. In Chen, P. Y., & Cooper, C. L. (Eds.), W*ork and wellbeing. Wellbeing: A complete reference guide, Volume III,* pp. 9-33. UK: John Wiley & Sons, Incorporated.

Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), pp. 39-50.

Gällstedt, M. (2003). Working conditions in projects: Perceptions of stress and motivation among project team members and project managers. *International Journal of Project Management,* 21, pp. 449–455.

Grant, A.M., Christianson, M.K., & Price, R.H. (2007). Happiness, health or relationships? Managerial practices and employee well-being. *Academy of Management Perspectives,* 21(3), pp. 51-63.

Grebner, S., Semmer, N.K. & Elfering, A. (2005). Working conditions and three types of well-being: A longitudinal study with self-report and rating data. *Journal of Occupational Health Psychology*, 10(1), pp. 31-43.

Gripsrud, G., Olsson, U.H. & Silkoset, R. (2011). *Metode og dataanalyse. Beslutningsstøtte for bedrifter ved bruk av JMP* [Method and data analysis. Decision support for businesses using JMP]. Kristiansand; Norwegian Academic Press.

Gustavsson, T. K. (2016). Organizing to avoid project overload: The use and risks of narrowing strategies in multi-project practice. *International Journal of Project Management*, 34, pp. 94–101.

Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, California: SAGE Publications, Inc.

Harris, C., Daniels, K. &, Briner, R.B. (2003). A daily diary study of goals and affective well-being at work. *Journal of Occupational and Organizational Psychology*, 76, pp. 401-410.

Harter, J.K., Schmidt, F.L., & Keyes, C.L. (2003). Well-Being in the workplace and its relationship to business outcomes: A review of the Gallup Studies. In C.L. Keyes & J. Haidt (Eds.), *Flourishing: The positive person and the good life*, pp. 205-224. Washington D.C.: American Psychological Association.

Häusser, J.A., Mojzisch, A., Niesel, M. & Schulz-Hardt, S. (2010). Ten years on: A review of recent research on the Job Demand–Control(-Support) model and psychological well-being. *Work & Stress,* 24(1), pp. 1-35.

Hessels, J., Rietveld, C.A & Van der Zwan, P. (2017). Self-employment and work-related stress: The mediating role of job control and job demand. *Journal of Business Venturing*, 32, pp. 178–196.

Huhtala, M., Feldt, T., Lämsä, A-M., Mauno, S. & Kinnunen, U. (2011). Does the ethical culture of organisations promote managers' occupational well-being? Investigating indirect links via ethical strain. *Journal of Business Ethics,* 101(2), pp. 231-247

Hwang, W. & Ramadoss, K. (2017). The Job Demands–Control–Support model and job satisfaction across gender: The mediating role of work-family conflict. *Journal of Family Issues,* 38(1), pp. 52–72.

Imhof, S. & Andresen, M. (2017). Unhappy with well-being research in the temporary work context: mapping review and research agenda. *The International Journal of Human Resource Management,* pp. 1-38.

Joiner, T.A. (2007). Total quality management and performance: The role of organization support and co-worker support. *International Journal of Quality & Reliability Management*, 24(6), pp. 617-627.

Karasek, R. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), pp. 285-308.

Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P., & Amick, B. (1998). The job content questionnaire (JCQ): An instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of Occupational Health Psychology*, 3(4), pp. 322–355.

Karasek, R. & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. New York; Basic Books.

Karlsen, J.T. (2013). *Prosjektledelse - fra initiering til gevinstrealisering* [Project Management - from initiation to benefits realization]. Oslo: Universitetsforlaget.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology,* 86, pp. 114-121.

Lindgren, M. & Packendorff, J. (2007). Performing arts and the art of performing – On co-construction of project work and professional identities in theatres. *International Journal of Project Management,* 25, pp. 354-364.

Lindgren, M., Packendorff, J. & Sergi, V. (2014). Thrilled by the discourse, suffering through the experience: Emotions in project-based work. *Human Relations*, 67(11), pp. 1383-1412.

Lindner, F. & Wald, A. (2011). Success factors of knowledge management in temporary organizations. *International Journal of Project Managemen*t, 29, pp. 877–888.

Lu, L. (1999). Work motivation, job stress and employees' well-being. *Journal of Applied Management Studies*, 8(1), pp. 61-72.

Luchman, J.N. & González-Morales, M.G. (2013). Demands, control, and support: A meta-analytic review of work characteristics interrelationships. *Journal of Occupational Health Psychology*, 18(1), pp. 37–52.

Mayo, E. (1933). *The Human problems of an industrial civilization*. New York, USA: The Macmillan Company.

Meredith, J.R. & Mantel, S.J. (2012). *Project management. A managerial approach*. Singapore: John Wiley & Sons.

Midler, C. (1995). 'Projectification' of the firm: the Renault case. *Scandinavian Journal of Management*, 11(4), pp. 363-375.

Müller, R., Zhai, L., Wang, A. & Shao, J. (2016). A framework for governance of projects; Governmentality governance structure and projectification. *International Journal of Project Management*, 34, pp. 957-969.

Nuhn, H.F.R, Heidenreich, S. & Wald, A. (2016). The role of task-related antecedents for the development of turnover intentions in temporary project teams. *The International Journal of Human Resource Management*, pp. 1-19.

OECD. (2017). *How is Life? Measuring Well-being*. Paris: OECD Publishing.

Orsila, R., Luukkaala, T., Manka, M-L. & Nygård, C-H. (2011). A new approach to measuring work-related well-being. *International Journal of Occupational Safety and Ergonomics*, 17(4), pp. 341-359.

Packendorff, J. (2002). The temporary society and its enemies: Projects from an individual perspective. In: K. Sahlin-Andersson & A. Söderholm (Eds.) *Beyond project management: New perspectives on the temporary-permanent dilemma* (pp. 39-58). Malmö: Liber.

Packendorff, J. & Lindgren, M. (2013). Projectification and its consequences: narrow and broad conceptualizations. *South African Journal of Economic and Management Sciences*, 17(1), pp. 7-21.

Padalkar, M. & Gopinath, S. (2016). Six decades of project management research: Thematic trends and future opportunities. *International Journal of Project Management*, 34, pp. 1305-1321.

Page, K.M. & Vella-Brodrick, D.A. (2009). The "what", "why" and "how" of employee well-being: A new model. *Social Indicators Research,* 90(3), pp. 441-458.

Parker, G.B. & Hyett, M.P. (2011). Measurement of well-being in the workplace. The development of the work well-being questionnaire. *The Journal of Nervous and Mental Disease,* 199(6), pp. 394-397.

Paschoal, T. & Tamayo, A. (2008). Construção e validação da escala de bem-estar no trabalho [Construction and validation of the work well-being scale]. *Avaliação Psicológica*, 7(1), pp. 11-22.

Pereira, M.C. & Coelho, F. (2013). Work hours and well being; An investigation of moderator effects. *Social Indicators Research*, 111(1), pp. 235-253.

Peticca-Harris, A., Weststar, J. & McKenna, S. (2015). The perils of project-based work: Attempting resistance to extreme work practices in video game development. *Organization*, 22(4), pp. 570-587.

Pinto, J.K. (2013). *Project Management. Achieving Competitive Advantage*. England: Pearson Education Limited.

Pinto, J.K., Dawood, S. & Pinto, M.B. (2013). Project management and burnout: implications of the Demand–Control–Support model on project-based work. *International Journal of Project Management*, 32, pp. 578-589.

Podsakoff, P.M., MacKenzie, S.B., Lee, J-Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology,* 88(5), pp. 879-903.

Project Management Institute (2008). *A guide to the project management body of knowledge*. Newton Square, Pennsylvania, USA: Project Management Institute.

Rath, T. & Harter, J. (2010). *Well being. The five essential elements*. New York; Gallup Press.

Reeser, C. (1969). Some potential human problems of the project form of organization. *Academy of Management Journa*l, 12(4), pp. 459–467.

Rolstadås, A. (2011). *Praktisk prosjektstyring* [Practical project management]. Trondheim: Tapir Akademiske Forlag.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), pp. 68-78.

Ryan, R.M. & Deci, E.L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, (52), pp. 141-166.

Ryff, C.D. & Keyes, C.L.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology,* 69(4), pp. 719-727.

Schaufeli, W.B. & Bakker, A.B. (2004). Job demands, job resources, and their relationship with burnout and engagement; A multi-sample study. *Journal of Organizational Behaviour*, 25, pp. 293-315.

Schoper, Y-G., Wald, A., Ingason, H.T. & Fridgeirsson, T.V. (2018). Projectification in Western economies: A comparative study of Germany, Norway and Iceland. *International Journal of Project Management*, 36, pp. 71-82.

Schoper, Y., Gemünden, H. G., & Nguyen, N. N. (2016). Fifteen future trends for project management in 2025. In Knöpfel, H. & M-A, J. (Eds.). *Future trends in project, programme and portfolio management 2016.* Proceedings of the International IPMA Expert Seminar in Zurich in February 18th–19th, 2016, pp. 23–43.

Sekaran, U. & Bougie, R. (2013). *Research methods for business.* United Kingdom: John Wiley & Sons Ltd.

Soh, M., Zarola, A., Palaiou, K. & Furnham, A. (2016). Work-related well-being. *Health psychology open*, 3(1), pp. 1-11.

Spanuth, T. & Wald, A. (2017). Understanding the antecedents of organizational commitment in the context of temporary organizations: An empirical study. *Scandinavian Journal of Management*, 33, pp. 129–138.

Sparks, S. A., Corcoran, K. J., Nabors, L. A., & Hovanitz, C. A. (2005). Job satisfaction and subjective well-being in a sample of nurses. *Journal of Applied Social Psycholog*y, 35(5), pp. 922-938.

Spector, P.E. (1994). Using self-report questionnaires in OB research; A comment on the use of a controversial method. *Journal of Organizational Behavior,* 15(5), pp. 385-392.

Turner, J.R. (2009). *The handbook of project-based management. Leading strategic change in organizations*. London: McGraw-Hill.

Turner, J.R., Grude, K.V., Haug, T. & Andersen, E.S. (1988). Corporate development: Balancing changes to people, systems and organization. *Butterworth & Co*, 6(1), pp. 27-32.

Turner, R., Huemann, M. & Keegan, A. (2008). Human resource management in the project-oriented organization: Employee well-being and ethical treatment. *International Journal of Project Management*, 26, pp. 577-585.

Tyssen, A.K., Wald, A. & Heidenreich, S. (2014). Leadership in the context of temporary organizations: A study on the effects of transactional and transformational leadership on followers' commitment in projects. *Journal of Leadership & Organizational Studies*, 21(4), pp. 376–393.

Van der Doef, M. & Maes, S. (1999). The Job Demand-Control(-Support) model and psychological well-being: A review of 20 years of empirical research. *Work & Stress*, 13(2), pp. 87-114.

Van Katwyk, P. T., Fox, S., Spector, P. E., & Kelloway, E. K. (2000). Using the job-related affective well-being scale (JAWS) to investigate affective responds to work stressors. *Journal of Occupational Health Psychology*, 5(2), pp. 219-230.

Vanroelen, C., Levecque, K., Moors, G., Gadeyne, S. & Louckx, F. (2009). The structuring of occupational stressors in a Post-Fordist work environment. Moving beyond traditional accounts of demand, control and support. *Social Science & Medicine,* 68, pp. 1082–1090.

Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational Psycholog*y, 63, pp. 193–210.

Waterman, A.S., Schwartz, S.J. & Conti, R.J. (2008). The Implications of two conceptions of happiness (hedonic enjoyment and Eudaimonia) for the understanding of intrinsic motivation. *Journal of Happiness Studies,* 9, pp. 41-79.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology,* 54(6), pp. 1063-1070.

Zapf, D. (2002). Emotion work and psychological well-being. A review of the literature and some conceptual considerations. *Human Resource Management review,* 12, pp. 237-268.

Zheng, X., Zhu, W., Zhao, H. & Zhang, C. (2015). Employee well-being in organizations: Theoretical model, scale development, and cross-cultural validation. *Journal of Organizational Behaviour*, 36, pp. 621-644.

Zika-Viktorsson, A., Sundström, P. & Engwall, M. (2006). Project overload: An exploratory study of work and management in multi-project settings. *International Journal of Project Management,* 24, pp. 385–394.

Appendices

Appendix A: Questionnaire

THE IMPACT OF PROJECT WORK ON EMPLOYEES' WELL-BEING
Aim and scope of the study
- The share of project-based work is constantly increasing. However, there has been little research on the relationship between project work and employees' well-being.
- This study is carried out by a team of researchers from the School of Business and Law, at the University of Agder. The aim of the study is to explore how project work exposure may affect employees' well-being on the individual level.

Duration
It should take about 5-10 minutes to complete the questionnaire. We are very grateful for your time and contribution.

Confidentiality
The data is collected only for scientific purposes. All data is anonymized and treated strictly confidential. It will not be possible to identify neither you personally or the company you work for.

Contact
We are happy to answer any questions you may have, you can contact us by using the email addresses below. If you would like to see the results of the study, send us an email and we will provide you with it as soon as we are done.
- Scientific director: Andreas Wald (Professor)
- PhD Research Fellow: Maria Magdalena Agular Velasco (PhD Student)
- Researcher: Margrethe Ommundsen (Master Student) margro13@student.uia.no
- Researcher: Charlotte Bråthen (Master Student) charb12@student.uia.no

A. PROJECT WORK
All of the following questions depart from the following definition of a project.
A project is an undertaking largely characterized by the uniqueness of the condition in their entirely, i.e.
- A **specific target** has been defined for the project
- The project is **limited in terms of time** (start and end)
- The project requires **specific resources** (e.g. financial staff, …)
- An **independent process organization** exists, which is defined as different from the standard organization in the company
- The project work is **non-routine tasks**
- The project has a **minimum duration of four weeks**
- The project has at least **three participants**

[A.1. Share of project work]

1. In average, what is your total working <u>hours per week</u>?

_____

2. In average, what is the share of project work <u>(in %)</u> to your total working hours?

_____

All of the following questions refers to the average of the projects that you have worked with within the past 6 months, and not one specific project.

[A.2. Project demand]

3. When working in projects, ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I worked to tight deadlines	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I worked long hours	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I found it hard to balance work and family responsibilities	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I felt that I had to work harder than others to prove myself	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

[A.3. Project complexity]

4. When working in projects, ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
my projects had a high degree of similarity	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I worked with two or more projects at the same time	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
the tasks within my projects were complex	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
complexity marked the business of my projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
my duties included handling complex affairs	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

5. When working in projects, ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I had the opportunity to decide how to organize my work	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I had the opportunity to decide the pace of my work	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I had the opportunity to affect my work environment	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
there was an imbalance between my responsibilities and my level of authority	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
my impact on what happened in the projects was large	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I had a great deal of control over what happened in my projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I had a significant influence over what happened in my projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

6. When working in projects, ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
the work I did was very important to me	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
my job activities were personally meaningful to me	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
the work I did was meaningful to me	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

7. When working in projects, my colleagues ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
were friendly	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
were helpful	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
were personally interested in me	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
were competent	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

[A.4. General]

8. The projects I participated in had, in average, a duration of (in months)

_____

9. What kind of position did you usually have when working in projects?

(1)   ❑ Project manager/leader
(2)   ❑ Project-team member
(3)   ❑ Other: ____

10. In average, how many members did your project group consist of?

_____

11. To what extent do the following questions apply for the projects you have participated in during the last 6 months?

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The projects had a high degree of task novelty	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
The projects had a high degree of complexity concerning content	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
To me, the projects had a high degree of complexity concerning interdisciplinary participants	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
The projects were characterized by high risk and uncertainty	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

12. In average, what was the budget (<u>in million NOK</u>) for the projects that you were involved in?

_____

13. What type of projects were you usually involved in?

(1)   ❑ Internal (i.e. projects which are carried out within the organization, for example R&D projects)

(2)   ❑ External (i.e. projects which are carried out for an external costumer)

(3)   ❑ Both

B.   WELL-BEING AND PROJECT COMMITMENT

When answering the following statements please consider how you have felt working in projects in general over the past 6 months, and not in one specific project.

[B.1. Well-being]

14. Over the past six months, working in projects I felt ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1. cheerful	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
2. worried	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
3. willing	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
4. content	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
5. annoyed	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
6. depressed	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
7. bored	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
8. active	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
9. upset	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
10. impatient	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

14. Over the past six months, working in projects I felt ...

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
11. enthusiastic	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
12. anxious	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
13. happy	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
14. frustrated	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
15. distressed	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
16. jittery	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
17. excited	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
18. nervous	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
19. proud	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
20. angry	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
21. calm	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

14. During my project work, …

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
22. I did what I really like doing	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
23. I achieved my potential	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
24. I developed abilities that I consider important	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
25. I engaged in activities that express my skills	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
26. I overcame challenges	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
27. I achieved results that I regard as valuable	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
28. I expressed what is best in me	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
29. I advanced in the goals I set for my life	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

[B.2. Project commitment]

15. To what extent do the following questions apply for the projects you have participated in during the last 6 months?

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I believed in the value of my projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I thought the management was making a mistake by introducing these projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
My projects served an important purpose	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
Things would have been better without these projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
These projects were not necessary	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑
I enjoyed working in my last projects	(1) ❑	(2) ❑	(3) ❑	(4) ❑	(5) ❑

C. BACKGROUND

16. When looking at your company's main activities, to which industry do you belong?

(1) ❑ Agriculture, forestry and fishing
(2) ❑ Manufacturing industry (including construction & oil and gas)
(3) ❑ Retail / transport / hospitality / tourism
(4) ❑ Information & communication
(5) ❑ Financial services & insurance
(6) ❑ Public sector, education, health
(7) ❑ Other service providers (including real estate & corporate service providers)

17. How many <u>years</u> have you been working in general?

_____

18. How many <u>years</u> of experience with project-based work do you have?

_____

19. What is your gender?

(1) ❑ Male

(2) ❑ Female

20. How old are you (in years)?

_____

21. What level of education do you have?

(1) ❑ Primary School

(2) ❑ Secondary School

(3) ❑ College Degree

(4) ❑ University Degree

(5) ❑ Postgraduate Degree

22. What is your marital status?

(1) ❑ Married

(2) ❑ Living with a partner

(3) ❑ Widowed

(4) ❑ Separated

(5) ❑ Never married

Thank you very much for your participation!

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Result of Notification Test: Not Subject to Notification

You have indicated that neither directly or indirectly identifiable personal data will be registered in the project.

If no personal data is to be registered, the project will not be subject to notification, and you will not have to submit a notification form.

Please note that this is a guidance based on information that you have given in the notification test and not a formal confirmation.

For your information: *In order for a project not to be subject to notification, we presuppose that all information processed using electronic equipment in the project remains anonymous.*

Anonymous information is defined as information that cannot identify individuals in the data set in any of the following ways:
- *directly, through uniquely identifiable characteristic (such as name, social security number, email address, etc.)*
- *indirectly, through a combination of background variables (such as residence/institution, gender, age, etc.)*
- *through a list of names referring to an encryption formula or code, or*
- *through recognizable faces on photographs or video recordings.*

Furthermore, we presuppose that names/consent forms are not linked to sensitive personal data.

Kind regards,
NSD Data Protection

Construct	Indicator	Item
Project demand	3.1.	I worked to tight deadlines
	3.2*	*I worked long hours*
	3.3.	I found it hard to balance work and family responsibilities
	3.4.	I felt that I had to work harder than others to prove myself
Project control	5.5.	my impact on what happened in the projects was large
	5.6.	I had a great deal of control over what happened in my projects
	5.7.	I had a significant influence over what happened in my projects
Co-worker support	7.1.	my colleagues were friendly
	7.2.	my colleagues were helpful
	7.3.	my colleagues were personally interested in me
	7.4.	my colleagues were competent
Project complexity	11.1.	The projects had a high degree of task novelty
	11.2.	The projects had a high degree of complexity concerning content
	11.3.	To me, the projects had a high degree of complexity concerning interdisciplinary participants
	11.4*	*The projects were characterized by high risk and uncertainty*
Work-related well-being	14.1.	Over the past six months, my project work made me feel cheerful.
	14.3*	*Over the past six months, my work made me feel willing.*
	14.4.	Over the past six months, my project work made me feel content.
	14.8*	*Over the past six months, my project work made me feel active*
	14.11.	Over the past six months, my project work made me feel enthusiastic.
	14.13.	Over the past six months, my project work made me feel happy
	14.17.	Over the past six months, my project work made me feel excited.
	14.19.	Over the past six months, my project work made me feel proud.
	14.21*	*Over the past six months, my work made me feel calm.*

14.2* (r)		*Over the past six months, my project work made me feel worried.*
14.5. (r)		Over the past six months, my project work made me feel annoyed.
14.6. (r)		Over the past six months, my project work made me feel depressed.
14.7* (r)		*Over the past six months, my project work made me feel bored.*
14.9. (r)		Over the past six months, my project work made me feel upset.
14.10* (r)		*Over the past six months, my project work made me feel impatient.*
14.12. (r)		Over the past six months, my project work made me feel anxious.
14.14. (r)		Over the past six months, my project work made me feel frustrated.
14.15. (r)		Over the past six months, my project work made me feel distressed.
14.16. (r)		Over the past six months, my project work made me feel jittery.
14.18. (r)		Over the past six months, my project work made me feel nervous.
14.20. (r)		Over the past six months, my project work made me feel angry.
14.22.		In my project work, I do what I really like doing.
14.23.		In my project work, I achieve my potential.
14.24.		In my project work, I develop abilities that I consider important.
14.25*		*In my project work, I engage in activities that express my skills.*
14.26*		*In my project work, I overcome challenges.*
14.27.		In my project work, I achieve results that I regard as valuable.
14.28.		In my project work, I express what is best in me.
14.29		In my project work, I advance in the goals I set for my life.

* = *items removed from the analysis because of low outer loadings.*

(r) = reversed items

Appendix D: Table of skewness and kurtosis

Item	Kurtosis	Skewness	Item	Kurtosis	Skewness
3.1.	-0.992	-0.161	14.8.	0.564	0.050
3.2.	-0.093	0.297	14.9.	-0.812	-0.123
3.3.	-0.327	0.149	14.10.	-0.234	0.360
3.4.	-0.490	0.176	14.11.	1.280	-1.024
5.5.	0.432	-0.764	14.12.	-0.888	-0.069
5.6.	-0.523	-0.349	14.13.	-0.108	-0.609
5.7.	0.595	-0.817	14.14.	-0.197	0.614
7.1.	1.329	-0.644	14.15.	-0.525	-0.042
7.2.	0.127	-0.516	14.16.	0.232	0.052
7.3.	0.355	-0.006	14.17	1.011	-1.018
7.4.	1.058	-0.620	14.18.	-0.975	0.160
11.1.	-0.035	-0.453	14.19.	0.648	-0.541
11.2.	1.174	-0.813	14.20.	-0.704	-0.178
11.3.	0.177	-0.606	14.21.	-0.561	-0.254
11.4.	-0.740	-0.145	14.22.	0.833	-0.934
14.1.	-0.261	-0.576	14.23.	-0.071	-0.450
14.2.	-0.781	0.404	14.24.	0.295	-0.740
14.3.	1.228	-0.455	14.25.	2.541	-0.752
14.4.	-0.216	-0.278	14.26.	1.592	-0.726
14.5.	-0.779	0.170	14.27.	1.517	-0.613
14.6.	0.030	-0.668	14.28.	-0.260	-0.206
14.7.	-0.540	-0.550	14.29.	-0.163	-0.433

Appendix E: Table of outer loadings

	Project demand	Project control	Co-worker support	Project complexity	Positive affect	Negative affect	Personal fulfillment
3.1.	0.572						
3.3.	0.772						
3.4.	0.730						
5.5.		0.762					
5.6.		0.877					
5.7.		0.944					
7.1.			0.818				
7.2.			0.875				
7.3.			0.662				
7.4.			0.807				
11.1.				0.873			
11.2.				0.692			
11.3.				0.631			
14.1.					0.843		
14.4.					0.670		
14.5.						0.746	
14.6.						0.717	
14.9.						0.668	
14.11.					0.775		
14.12.						0.732	
14.13.					0.815		
14.14.						0.631	
14.15.						0.798	
14.16.						0.699	
14.17					0.734		
14.18.						0.732	
14.19.					0.671		
14.20.						0.738	
14.22.							0.704
14.23.							0.769
14.24.							0.820
14.27.							0.624
14.28.							0.720
14.29.							0.660

Appendix F: Table of cross loadings

	Project demand	Project control	Co-worker support	Project complexity	Work-related well-being
3.1.	**0.574**	-0.170	0.013	0.018	-0.184
3.3.	**0.777**	-0.132	0.074	-0.019	-0.247
3.4.	**0.725**	0.044	-0.079	-0.035	-0.301
5.5.	0.033	**0.775**	0.159	0.172	0.184
5.6.	-0.126	**0.876**	0.157	0.126	0.314
5.7.	-0.110	**0.940**	0.129	0.162	0.435
7.1.	-0.064	0.160	**0.824**	0.148	0.190
7.2.	-0.052	0.178	**0.880**	0.202	0.282
7.3.	0.078	0.148	**0.656**	0.160	0.145
7.4.	0.037	0.062	**0.801**	0.123	0.296
11.1.	-0.040	0.138	0.166	**0.900**	0.185
11.2.	0.011	0.206	0.211	**0.682**	0.049
11.3.	0.012	0.086	0.097	**0.587**	0.093
14.1.	-0.230	0.112	0.216	0.141	**0.618**
14.4.	-0.143	0.103	0.187	0.129	**0.540**
14.5.	-0.291	0.120	0.207	-0.005	**0.535**
14.6.	-0.383	0.316	0.072	-0.060	**0.599**
14.9.	-0.250	0.151	0.187	-0.015	**0.487**
14.11.	-0.050	0.238	0.170	0.074	**0.592**
14.12.	-0.337	0.144	0.091	-0.041	**0.553**
14.13.	-0.125	0.085	0.227	0.091	**0.584**
14.14.	-0.185	0.013	0.241	0.048	**0.550**
14.15.	-0.348	0.167	0.193	0.069	**0.557**
14.16.	-0.223	0.113	0.261	0.058	**0.520**
14.17	-0.153	0.223	-0.042	0.069	**0.510**
14.18.	-0.385	0.169	0.122	-0.006	**0.501**
14.19.	-0.213	0.294	0.203	0.239	**0.585**
14.20.	-0.304	0.106	-0.010	0.012	**0.431**
14.22.	-0.218	0.229	0.230	0.068	**0.666**
14.23.	-0.077	0.334	0.141	0.197	**0.596**
14.24.	-0.091	0.331	0.262	0.332	**0.633**
14.27.	-0.039	0.276	0.196	0.092	**0.494**
14.28.	-0.081	0.358	0.186	0.236	**0.526**
14.29.	0.023	0.223	0.015	0.112	**0.438**

Appendix G: Table of HTMT values

	Project demand	Project control	Co-worker support	Project complexity	Positive affect	Negative affect	Personal fulfillment
Project demand							
Project control	0.264						
Co-worker support	0.184	0.217					
Project complexity	0.168	0.265	0.299				
Positive affect	0.314	0.259	0.282	0.228			
Negative affect	0.610	0.231	0.249	0.174	0.332		
Personal fulfillment	0.282	0.461	0.298	0.329	0.760	0.319	

This reflection note is written as a part of the master thesis to obtain my master's degree in Business and Administration from the School of Business and Law at the University of Agder. At the University of Agder the master thesis is usually written in groups of two, and I wrote mine together with Margrethe Ommundsen.

The aim of this reflection note is for me to reflect upon the knowledge and experiences I have generated through the whole master programme, in particular through writing the master T thesis, and relate it to the three broad themes of international trends, innovation and responsibility. The reflection note is organized as follows. It starts with a brief summary of the theme, results and conclusions of our master thesis, followed by a discussion around how the theme of our thesis relates to broader international trends, innovation and responsibility.

The main theme of our thesis was *"The "dark side" of projectification: The impact of project work on the employees' well-being",* and the aim of the study was to explore how project work exposure impact employees' work-related well-being on the individual level. The use of project-based work is constantly increasing, but there has been little research on the relationship between project work and employees' well-being. This made the topic highly relevant and interesting not only for us as researchers, but also for the people working with projects and the society as a whole. By using the Job Control-Demand-(Support) model as the starting point of our study, we quantitatively assessed the research gap of how project work exposure impact employees' work-related well-being. While the main hypothesis considered the impact of project demand on employees' work-related well-being, the direct and potential moderating effect of project control and co-worker support was also considered. In addition, project complexity was included as a moderating variable. A primary data collection was done through a web-based questionnaire, and the final analysis was based on 128 respondents. The data was analyzed applying PLS-SEM. The results of our study indicated that all of the independent variables had a significant effect on employees' work-related well-being, while the moderating effects were not significant. Other interesting findings where that the degree of work-related well-being seem to differ between the industries, whereas those working in the 'Retail/transport/hospitality/tourism' had the highest degrees of well-being. Furthermore, those working in internal projects indicated a high degree of well-being compared to those working in external projects. In conclusion, and in line with the emerging literature having a

critical view on the impact of project work on employees, our results suggest that project exposure can have a negative impact on employees' well-being.

Our topic relates to broader international trends in several ways. First of all, project management is widely used across many industries, sectors and contexts today, and it has become an influential management fashion. The use of project-based work is constantly increasing in all parts of the world, and research suggests that least 30% of the global economy is project-based (Turner, 2009, p. 1). This makes it highly relevant to explore the impact that project work may have on the employees', in particular employees' well-being. Second, in today's market the organizations have to be able to change rapidly to unexpected changes, we live in a fast pace economy. Today's costumers are becoming more and more differentiated, they know what they want and what to expect from a service or product. In addition, organizations do not only compete with national organizations, but also international ones. In order to stay profitable, the organizations have to meet these new and challenging demands. Structuring the organization into projects seem to be a favorable way to meet these challenges and keep competitive advantage. Third, today's market is becoming increasingly globalized. Global firms can by structuring organizations into projects, create projects teams across borders dependent on what competences they need. A project-based organization also makes it easier for both national and global organizations to cooperate with other organizations. It is not necessary to create a new permanent organization; the cooperation can just be organized as a project.

Furthermore, our topic also relates to innovation. Innovation can be understood as the creation of new ideas or solutions, and the process of making these ideas into reality. As we have not studied a specific industry or firm, it is difficult to point out specific gaps or need for new ideas and practices. Nevertheless, the topic of our thesis relates to innovation in several ways. One of the positive characteristics often used to describe project-based work is innovation; project-based work is said to foster innovation. As mentioned, structuring the organization into projects creates a dynamic working environment which makes it easier to respond today's customers differentiated demands. Projects makes it possible for the organization to tap into knowledge and experience across different departments, which may lead to even more innovation. So, the use of project-based work can create an environment for innovation and thereby make it easier to cover gaps that may arise in the market. In addition, the constant

pressure to be innovative and create new products or services requires the organizations to take some risks. The new products or services may not always work out as planned, or they have to be released earlier than expected due to the innovations or product/service launches of competing organizations. When structuring these types of work into projects the risks can be separated from the rest of the permanent organization, which may again foster innovation.

In this final section of the reflection note I will discuss how the topic of our thesis is linked to the theme of responsibility. The organizing of work into projects serve several ethical challenges. The employees' working in projects can become vulnerable, and research suggest that they often feel burnout, exhausted and have a poor work-life balance. The dynamic work environment that project-based work creates place a high amount of pressure on the employees (Turner et al., 2008). In addition, project work exposure and employees' well-being does not only affect the life of the individual, but also the people around them, their workplace and the community as a whole. Responsibility can be strengthened by organizations and employers taking more responsibility for employees' well-being, in our case employees' work-related well-being. As the results of our thesis suggests, employees' work-related well-being can be increased by a decrease in the degree of project demand, or an increase in the degree of either project control or co-worker support. Another remedy could be to have a human resource management that is designed to support project-based work as well as ordinary work. Research suggest that by requiring the same HRM practices concerning employees' well-being in project-work as in other permanent work, some of the negative emotional experiences arising in project work could be better handled (Lindgren et al., 2014). On the other side, many employees like to work in a project-based environment and the positive sides my outweigh the negative sides of project-based work. In the end, employee well-being is subjective, and one person's experience of well-being may not be the same as for another (OECD, 2017).

To summarize, one can say that project-based work has become an international trend which can also foster innovation. Nevertheless, it is important to keep responsibility in mind by considering employee well-being and thereby how the organizations and their actions impact the society as a whole.

Overall, the process of writing this thesis has been challenging, but also incredibly interesting and educational. It provided me with the opportunity to dig deeper into a topic that I find highly interesting, and which is becoming increasingly important for employees, firms and the society as a whole. While we are satisfied with the results of the study and happy to accept three out of the six hypotheses, we found it disappointing that none of the moderating variables were proven to be significant. However, one should note that one reason for our results not to be consistent with previous research may be that we have used the JDCS model in the context of project-based work and not at work in general. All over, the whole master program has been a challenging, exciting and knowledge intensive experience, and I am grateful for the opportunities that it has provided me with.

References reflection note:

Lindgren, M., Packendorff, J. & Sergi, V. (2014). Thrilled by the discourse, suffering through the experience: Emotions in project-based work. *Human Relations*, 67(11), pp. 1383-1412.

OECD. (2017). *How is Life? Measuring Well-being*. Paris: OECD Publishing.

Turner, J.R. (2009). *The handbook of project-based management. Leading strategic change in organizations*. London: McGraw-Hill.

Turner, R., Huemann, M. & Keegan, A. (2008). Human resource management in the project-oriented organization: Employee well-being and ethical treatment. *International Journal of Project Management,* 26, pp. 577-585.

I will in this paper show my reflection around this master thesis, but also how it connects with the master program in general. The process with developing and writing the master theses have been challenging and sometimes frustrating. However, the journey of this semester has been extremely learning full and interesting. The aim is to reflect over how the master program connects with three main topics: internationalization; innovation; and responsibilities. These are the core areas of reflection by the School of Business and Law at University of Agder.

In our master thesis, we conducted a quantitative study of the impact of project work exposure on employees' well-being. The aim of the study was to look at how project work exposure affected employees' work-related well-being. The starting point of the thesis was Karasek (1979) Job-Demand-Control-(Support) model. From this model and other previous literature, we developed the independent variables project demand; project control; and co-worker support. Literature suggested that all these variables had a direct effect on employees' work-related well-being. Project control and co-worker support was also said to have a moderating effect on the relationship between project demand and employees' work-related well-being. We also added complexity as a moderating variable on the relationship between project demand and work-related well-being.

The study was based on primary data collected through a web-based questionnaire. The questionnaire was distributed through three leading project management associations in Scandinavia and there was in total 136 respondents. After analyzing the data collected in PLS-SEM, our findings demonstrated that the independent variables had a significant impact on employees' work-related well-being, while the moderating variables did not have any significant impact. We also saw some tendencies in the descriptive analysis, e.g. people working with internal project had a higher work-related well-being than people working with external project. We had three major contributions to research. First, we added to previous research using the JDCS model in the context of project-based work in general, and not limited to specific areas, cases or industries. Second, previous research tends to focus on either the positive of the negative sides of affective work-related well-being. This study measured both the positive and negative sides, as well as the cognitive sides of work-related well-being. Third, we had a closer look at the selected variables and analyzed how they

impact employees' work-related well-being. Nevertheless, our results provide a better understanding of the linkage between project work exposure and employees' work-related well-being.

One of the reasons why we choose this topic was because project work and organizing work in temporary organization is becoming more and more popular. The global market is in constant change and it means that the organization has to be prepared for the fast changes that can occur. Project work has become an international trend and is of global relevance. It is stated that an individual spends more than 30% of their life at work and therefore is it important that employees enjoy their daily work (Rath & Harter, 2010, p.126). Work have previous been stated to be linked to well-being and mental health. This has become a more important subject in the recent years, both for individuals but also for the organization in general and the society as a whole. The relationship between project work and well-being is just becoming highly relevant because of this increase in projectification worldwide. Even though project work often leads to more opportunities, adventures and experience it also comes with a cost. The project worker often shows tendencies to become more vulnerable and they often feel exhausted, burnout and have a poor work-life balance. Gällstedt (2003) have suggested that project work can become destructive to employee's well-being. We therefore wanted to look deeper into this dark side of projectification and how this effect employees' well-being.

It was important for us to reach out to respondents working in a project-based setting when distributing the questionnaire. We therefore contact several project management associations in Scandinavia where we asked if they wanted to help us distribute our questionnaire to their members. This gave us the chance to target employees working in project-based settings. Three leading Scandinavian associations agreed to distribute our questionnaire because they thought it was a highly relevant and interesting research question. To thank the associations, we made a promise to "PMI Norway", "Norsk forening for projektledelse (NFP)" and "Svenskt projectforum" that we would send them our final master thesis and a summary of our findings for them to publish in their magazines that goes out to their members (which mainly are our respondents) if they wanted to. Our findings are mainly relevant for Norway and Sweden, but also for similar countries.

We did not look into one specific industry or firm, but rather project work as a whole. Project work relates to innovation in the way that it is said foster it. However, it is shown that there is a research gap on the relationship of how project work effect individuals work-related well-being. Very few studies have been conducted on this relationship and the studies that already exist often uses a qualitative method and not a quantitative. In the Norwegian economy the proportion of project work is today 32.6% and it is estimated to reach 33.8% in 2020 (Schoper et al., 2018), so this is clearly a relevant topic for further research. We are to the best of our knowledge among the first using a quantitative approach to assess the relationship between project exposure and work-related well-being that is not limited to one sector, case or industry. This thesis is therefore contributing to a better understanding between project work exposure and employees' work-related well-being. We have had two method courses through our program at University of Agder. One at the bachelor level and one at the master level. These courses have been very helpful for us when we drafted this quantitative approach and when establishing validity and reliability for the data material before we analyzed it. We have suggested that further research could be to look deeper into the relationship by applying a longitudinal study, maybe using a larger sample size. It could also be interesting to expanding the study to other parts of Europe and see if there are a difference between countries culture when it comes to how project exposure effects individuals' well-being.

There is a growing responsibility for employer to be responsible for their employees' well-being. It is shown that employees with high well-being often have higher motivation and satisfaction at work. It is also in the organizations best interest that employees have a high well-being. When organizations and leaders ignore their employees' well-being, they can destroy their confidence, but it can also limit the organizations possibility for growth (Rath & Harter, 2010, p.133). There are some negative sides related to project work. Some of them are mental health issues, burnout, poor life-work balance. A low degree of well-being for an employee does not only imply discomfort and agony for the individual. It can also cause ineffectiveness, staff turnover or health care costs within the organization. The attention around work-related well-being is increasing. Both because employees' well-being is important for the employer, but also as discussed for the organization in general. Many of today's successful organizations have worked on increasing employees' engagement. These organization are today shifting their focus towards employees' well-being as a way to gain competitive advantage (Rath & Harter, 2010, p.136).

As a summary, we can see that project-based work have become an important part for employees' daily life worldwide. However, it is important to notice that project work can be demanding at it is shown to affect employees' well-being. The organizations thereby have a responsibility to their employees, but also to the society as a whole, to consider and take care of their employees' well-being.

References reflection note:

Gällstedt, M. (2003). Working conditions in projects: Perceptions of stress and motivation among project team members and project managers. *International Journal of Project Management,* 21, pp. 449–455.

Karasek, R. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), pp. 285-308.

Rath, T. & Harter, J. (2010). *Well being. The five essential elements.* New York; Gallup Press.

Schoper, Y-G., Wald, A., Ingason, H.T. & Fridgeirsson, T.V. (2018). Projectification in Western economies: A comparative study of Germany, Norway and Iceland. *International Journal of Project Management*, 36, pp. 71-82.