Increasing employee job performance through Job Crafting

A study on the effectiveness of a Job Crafting intervention at IKEA Eindhoven

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Abstract

IKEA is a renowned Swedish furniture retailer, having over 400 stores in 49 countries. One of those stores is IKEA Eindhoven in the Netherlands. IKEA is known for its inspiring culture in which employees are stimulated, challenged and encouraged to make mistakes to learn from them (Synergie, 2017). Nevertheless, employees of IKEA Eindhoven’s Logistics department remain to be rigid and hesitant to adapt to changes (e.g. regarding work routines or organizational changes). Moreover, according to the logistics manager, employees report increased levels of exhaustion and decreased engagement. However, changes to work routines and the organization as a whole are considered to be a constant for businesses (Day, Crown, & Ivany, 2017). Illustrative is IKEA’s implementation of the Standard Operating Procedures (SOP) to ensure safety during operations. The adaptation to the SOP at the Eindhoven store was insufficient according to the management. The current study is therefore aimed at achieving increased adaptation to organizational change efforts while decreasing exhaustion and increasing work engagement and overall performance. Scholarly works indicate this may be achieved by means of a Job Crafting intervention based on the JD-R Theory (Bakker & Demerouti, 2014; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) and the Social Cognitive Theory (Bandura, 1989). It was expected and hypothesized that the intervention would yield increased Job Crafting behavior, resulting in decreased employee exhaustion, increased work engagement, change attitude and employee job performance. The quasi-experimental study revealed that after the intervention (consisting of a workshop, 4 weeks of Job Crafting and an evaluative session) employees reported an increase in two of the three trained Job Crafting dimensions (i.e. seeking challenges, optimizing demands). Additionally, although not trained, employees reported an increase reducing hindering demands. Moreover, it was found that after the intervention, employee exhaustion decreased, and their adaptive performance (adherence to IKEA’s Standard Operating Procedures) increased compared to the control group and pre-test scores. Moreover, it was found that compared to the pre-test scores, employees report an increase in behavior and cognition regarding change and task performance. It is concluded that a Job Crafting intervention and resulting Job Crafting behavior can be an effective instrument to achieve successful (adaptation to) organizational change.
Preface

Eindhoven, august 2018. The publication of the current study reflects the finalization of my graduation project at IKEA, to obtain my master’s degree in Operations Management & Logistics from Eindhoven University of Technology. In three years, I further developed my passion for optimization of all sorts of processes within a company. Moreover, I learned that to implement changes in work routines, or other processes within a company one should not forget about the effects of these changes on the employees of the companies. This interested me in particular: even though organizational changes may be beneficial for the organization, its employees and hopefully both. However, resistance against potential change occurs often. Studies on how to increase the success rate of organizational change are not only interesting from a theoretical point of view, but also from a business perspective as resistance often requires additional investments. From this particular study, I was able to develop a further understanding on organizational change and the role of Job Crafting during the implementation of organizational change. Moreover, I was able to contribute to the limited existing literature on this relationship by the addition of change attitude as an outcome of Job Crafting behavior and provided additional insights for the management of IKEA’s logistics department. However, this would not have been accomplished without the aid of those who supported me and guided me along the way. For this I would like to express my recognition and gratitude.

First, this thesis would not have been of the same level without the help, support and feedback of my first and second supervisor prof. dr. Evangelia Demerouti and dr. Pascale Le Blanc. Demerouti’s extensive knowledge on the JD-R Theory provides the base for the formulated hypotheses. Moreover, her expertise regarding Job Crafting interventions guided me to establish an effective intervention. Her involvement, support, enthusiasm and passion for the subject was contagious in a positive sense. It resulted in increased enthusiasm and motivation after every meeting. In addition, dr. Le Blanc’s insights and feedback regarding the management of change implementation and adaptation processes in individuals and organizations were of great value. I would therefore like to express my sincere gratitude towards both supervisors.

Secondly, I would like to thank all those involved at IKEA. Sam van den Hoven, my company supervisor, who provided unconditional support and his consent to confiscate 1.5 team meetings to achieve to best possible results. I am thankful for the support of the team managers, who provided me with all means necessary to make this study a success. Next, I owe a large appreciation to the employees of the logistics, their enthusiastic commitment to the project and willingness to part take in the intervention are what made this project a success and an experience to not forget. Lastly, I would like to thanks Mirjam van Dalen and Caroline Crewe-Jones of IKEA Breda for their participation in the project.

Third, I thank my girlfriend, family and friends for their support during the project. First and foremost, my girlfriend, Elianee Schouten, who proofread my work (several times) and provided unconditional support and understanding during the more stressful times. Next, Ronald Bosboom, graphical designer and founder of Bosboom Design, who helped me design the booklets and questionnaires for the intervention and Mira Dreessen, who also proofread my work. Lastly, I thank my brother, Ramon, for being the cornerstone of my achievements by always providing unlimited encouragement and support.

The finalization of this report and thereby the finalization of the master’s in industrial engineering marks the end of a chapter. Nevertheless, the start of the next chapter at the Galapagos Islands and Central America awaits!

Luc Soyer
August 2018
Executive Summary

Indisputably, any given business’ main goal is to be as profitable as possible. This may be achieved through various channels: efficient operations, cost-consciousness and an engaged, healthy and skilled workforce for example (Orr & Orr, 2014). The former two aspects call for changes in routines for improvements. Moreover, technological advancements occur with an ever-increasing pace, demanding changes to an organization’s operations (management) (Baskerville et al., 2017). These changes eventually all must be adjusted to by the workforce working with routines or using changed systems. However, organizational change often also brings about (temporary) unfavorable outcomes and should be recognized as a double-edged sword. On the one side, organizational change is an important facet of any organization and is required for viability in the company. On the other side, organizational change has been found to impact the workforce negatively and often finds resistance (Hoag, Ritschard, & Cooper, 2002; Oreg, 2006; Thomas & Hardy, 2011). IKEA Eindhoven is one of the 400 Swedish furniture store series, located in Eindhoven, the Netherlands. The company is known for its inspiring and stimulating culture: it has been awarded the most inspiring organization in the Netherlands three times (Synergie, 2017). According to the current logistics manager, the Logistics department at the Eindhoven store remains to be one of the most rigid departments and struggles to successfully implement changes in work routines. An example is the implementation of the Standard Operating Procedures (SOP), ensuring safety during daily operations of the department. Moreover, due to previous changes in management and high workload, employees report to be exhausted and less motivated according to the logistics manager. Therefore, the main aim of this study is therefore to increase the adaptation to the SOP, decrease employee exhaustion, increase work engagement and overall job performance. Several scholars have argued and shown that Job Crafting can aid in the establishment of decreased exhaustion and increased work engagement, and job performance. Job Crafting is defined as a bottom-up approach to job redesign (Wrzesniewski & Dutton, 2001). There are three distinctive actions employees may take to do so: they may seek resources (i.e. ask for advice or feedback), seek challenges (i.e. request extra responsibilities) and optimize their job demands (i.e. find smarter ways to perform a task) (Demerouti & Peeters, 2017; Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). Additionally, there are theoretical arguments to assume that Job Crafting can alter one’s change attitude. Several studies furthermore revealed that a Job Crafting intervention can trigger Job Crafting behavior in individuals. Therefore, this study focuses on the utilization of a Job Crafting intervention to establish a Job Crafting workforce, which is hypothesized to result in the attainment of an energetic, engaged, well performing workforce with a positive change attitude.

Method
The research model of the current study is depicted in the figure below (Figure a). The study is designed as a quasi-experimental field study with 3 measurements in time. IKEA Eindhoven’s logistics department comprised the experimental group and IKEA Breda’s logistics department comprised the control group. The intervention consisted of three parts. First, participants attended a workshop in which the Job Crafting concept was explained, and its effects were discussed with the aid of the JD-R Theory. Also, best practices were discussed, which were deducted from structured interviews conducted beforehand. Moreover, during the 3-hour workshop, employees were presented exercises in their personal action plan booklet to analyze their current job, highlighting strenuous and energizing job characteristics by using their own experiences. These were then used as input for their SMART Job Crafting goals, complemented by actions, formulated to achieve their goals. The workshop was followed by four weeks of personal crafting with the aid of their personal action plan. During this period, participants had the chance to attain one SMART goal, respective to seeking resources, optimizing demands and seeking challenges. The fourth week was utilized to again seek resources. Four weeks after the intervention, an evaluation session was held to exchange experiences and stimulate further Job Crafting.
To evaluate the effectiveness of the training, there were three measurements in time, one before the intervention workshop, one after the crafting period and one during the evaluation session. Hence, there was a time lag of eight weeks between the first and last measurement. The control group only participated in the first and last measurement. The measurement consisted of a self-report questionnaire, comprised of questions measuring each of the constructs as depicted in Figure a. Pre-existing, validated measures were used, ensuring reliability of the questions.

Results and discussion

The current study revealed evidence to suggest that a Job Crafting Intervention based on the JD-R Theory and the Social Cognitive Theory can lead to increased Job Crafting behavior of employees (i.e. seeking challenges, optimizing demands and surprisingly reducing hindering demands). This effect was measurable four weeks after the intervention. Moreover, evidence was found that after the Job Crafting intervention, several positive changes in the outcome variables occurred. These findings are of theoretical value as findings regarding the effect of Job Crafting behavior on these outcomes differs amongst studies. Moreover, this study answers to the request for more research on the topic (Gordon et al., 2018; Van Wingerden, Bakker, & Derks, 2017a). First, exhaustion in employees significantly decreased four weeks after the intervention was completed. Additionally, results have revealed that employee in the experimental group are more positively oriented towards change endeavors. This finding is theoretically novel as the link between Job Crafting and change attitude has not been researched before. Work engagement has not been found to increase in the experimental group. Although in line with previous findings (Van Wingerden, Derks, & Bakker, 2017), this was not expected but may be explained. The lack of significant increase in work engagement might be explained by a lack of balance between job demands and resources (Bakker & Demerouti, 2014). Moreover, there might be a time lag in the increase of employee work engagement as discussed in (Leiter & Bakker, 2010). Lastly, there is evidence to state that employees participating in the Job Crafting intervention scored higher on adaptive performance, both compared to the control group and their pre-test scores. These findings are of theoretical and practical importance. It was found in the current study that the change in optimizing demands behavior (and not seeking challenges or resources) is significantly and positively related to the change in adaptive performance. According to the employees, the main reason that adherence to the Standard Operating Procedures (SOP) was not attained before the
intervention was because of expected workload increase. By optimizing demands, employees may have found a work-around to still achieve adherence to the SOP while minimizing the increase in workload, explaining the correlation.

Contributions to theory and practice
The current study makes important contributions to the literature. First, this intervention is a welcome addition to the limited existing literature on Job Crafting interventions. By the addition of employee change attitude as an outcome, a novel research direction has been identified. Moreover, the current intervention is conducted in a novel research context (retail) whereas previous studies have focused on other sectors. Furthermore, the current study focussed on a diversely aged experimental sample in a retail environment with different educational backgrounds and employment duration. Nevertheless, results align with previous studies, indicating effectiveness of Job Crafting through various demographic distributions. The current study finds practical use through multiple lines of reasoning. This study is practically relevant to especially managers or leaders experiencing difficulty in implementing organizational change as Job Crafting has been identified as a means to streamline organizational change implementation. Moreover, a Job Crafting intervention can aid to develop a resilient workforce, able to deal with fluctuations in job demands. Lastly, by being intrinsically motivated to seek challenges, Job Crafters can safeguard their own motivation (i.e. work engagement). Therefore, a Job Crafting intervention may be a cost-effective tool in establishing a motivated, healthy and well-performing workforce. Lastly, more specifically, this study yielded important insights and results for IKEA Eindhoven as SOP adaptation has increased and IKEA Eindhoven has been familiarized with the Job Crafting concept and corresponding intervention, which may be held at other departments as well.

Conclusion
Overall, it is concluded that the current study partly satisfied the main research objective and successfully answered the paired research question. The main objective was to enhance employee work engagement and (adaptive) job performance while decreasing job related exhaustion. Moreover, the significance of Job Crafting in achieving this has been theoretically argued and empirically justified. It has been shown that after a Job Crafting intervention, employees can engage in more challenge seeking behavior and optimize their experienced work-related demands. Moreover, employees report less exhaustion, and increased adaptive performance. Additionally, a more positive change attitude in the employees was established. In conclusion, a Job Crafting intervention and resulting Job Crafting behavior can be an effective instrument in the attainment of a decrease in employee exhaustion, an increase in positive change attitude and lastly an increase in adaptive performance, further stressing the importance of Job Crafting to achieve successful (adaptation to) organizational change.
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1. Introduction

Indisputably, any given business’ main goal is to be as profitable as possible. This may be achieved through various channels: efficient operations, cost-consciousness and an engaged, healthy and skilled workforce for example (Orr & Orr, 2014). The former two aspects call for changes in routines for improvements. Moreover, technological advancements occur with an ever-increasing pace, demanding changes to an organization’s operations (management) (Baskerville et al., 2017). These changes eventually all must be adjusted to by the workforce working with routines or using changed systems.

However, organizational change often also brings about (temporary) unfavorable outcomes and should be recognized as a double-edged sword. On the one side, organizational change is an important facet of any organization and is required for viability in the company. On the other side, organizational change has been found to impact the workforce negatively and often finds resistance (Hoag et al., 2002; Oreg, 2006; Thomas & Hardy, 2011). Unfavorable outcomes of organizational change mainly entail negative effects on the workforce. Changes in tasks, routines or structures impose a threat to the established order, resulting in feelings of anxiety and a decrease in motivation, resulting in a decline of overall employee job performance as has been found by multiple scholars (e.g. Oreg (2006); Georgalis, Samaratunge, Kimberley & Lu (2015) and Petrou, Demerouti, & Schaufeli (2015)). This imposes a direct problem as a well-performing workforce is key to any profitable organization (Orr & Orr, 2014). Not surprisingly, planned organizational change often ends in failure (Specht, Kuonath, Pachler, Weisweiler, & Frey, 2017). According to Werkman (2009), up to 70% of the change attempts fail (partly) or are evaluated as less successful. However organizational change occurs frequently and rapidly and is therefore seen as a constant for a business (Day et al., 2017; Smith, 2005b, 2005a), therefore, there is great value in optimizing organizational change implementation.

To streamline organizational change implementation, a substantial number of scholars have conducted research on this topic. Studies have indicated multiple paths may lead to (successful) organizational change and multiple means can be used (Eaton, 2010; Georgalis et al., 2015; Heyden, Fourné, Koene, Werkman, & Ansari, 2017; Kotter, 1995, 1996; Werkman, 2009). These strategies all overlap on one aspect: for change to be implemented (e.g. for work routines to be changed) managers must rely on individual employees and their proactivity and adaptability (Ghitulescu, 2013; Smith, 2005a). Fittingly, recent literature has focused on increasing adaptive performance of employees during organizational change (Gordon et al., 2018; Peeters, Arts, & Demerouti, 2016; Van den Heuvel, Demerouti, Schreurs, Bakker, & Schaufeli, 2009). Adaptive performance reflects the level of flexibility employees have and their proactivity in a changing organizational environment and is seen as an indicator of performance during times of change (Griffin, Neal, & Parker, 2007; Peeters et al., 2016).

The link between adaptive performance and Job Crafting has recently become a topic of interest for scholars. Job Crafting is a concept that has been introduced in work psychology and job redesign literature a decade-and-a-half ago (Bakker & Demerouti, 2007, 2017; Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). Since then, much research has been conducted, stressing the benefits of Job Crafting on employee motivation and in-role performance (Bakker, Tims, & Derks, 2012; Tims, Bakker, & Derks, 2014; Weseler & Niessen, 2016b) as well as employee well-being (Hakanen, Seppälä, & Peeters, 2017; Tims, Bakker, & Derks, 2013; Van den Heuvel, Demerouti, & Peeters, 2015; Van Wingerden, Bakker, et al., 2017a; Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016). Novel works moreover, have related Job Crafting to adaptive performance (Demerouti, Xanthopoulou, Petrou, & Karagkounis, 2017; Gordon et al., 2018; Peeters et al., 2016). Preliminary evidence suggests a positive relation between the constructs and it has been argued that Job Crafting strategies might facilitate the emergence of new work roles that help employees to deal with changing situations (Petrou, Demerouti, & Xanthopoulou, 2017). However, the amount of empirical evidence linking Job Crafting to adaptive performance thus far has been limited.
Another novel research direction regarding Job Crafting is a Job Crafting intervention. A Job Crafting intervention may be seen as a way of triggering Job Crafting behavior (Gordon et al., 2018; van den Heuvel, Demerouti, & Peeters, 2015; Van Wingerden, Bakker, et al., 2017a; Van Wingerden, Bakker, & Derks, 2017b). However, an intervention as a means to create an environment in which employees proactively craft their jobs, has not been discussed by scholars elaborately thus far. Preliminary evidence suggests nevertheless that it might be an efficient tool to induce Job Crafting behavior within an organization.

This master thesis is theoretically aimed at linking these concepts. The main goal is to provide scientific evidence that Job Crafting behavior can be induced by an intervention and that consequently Job Crafting behavior is positively related to increased employee (adaptive) job performance, decreased work-related exhaustion and increased work engagement and change attitude. Consequently, this may yield evidence that Job Crafting is a means to accomplish successful organizational change. This study takes place in a retail context: the logistics department of the IKEA store in Eindhoven.

1.1. Business Context and Problem Statement
The renowned Swedish furniture retailer IKEA has over 400 stores in 49 countries. Every IKEA store is divided in a showroom (in which furniture is on display), a market hall (in which smaller furniture and decoration may be gathered) and Self-Serve warehouse (in which (most) larger furniture is stored). Some stores, IKEA Eindhoven included, have an additional external warehouse (EMPU: External Merchandise Pick-up Unit) in which other goods (which are not available in the Self-Serve warehouse) may be picked up by customers.

The company is known for its inspiring culture: it has been awarded the most inspiring organization in the Netherlands three times (Synergie, 2017). Additionally, a culture in which employees are stimulated to make mistakes - to learn from them - and find better ways to engage in everyday activities is predominant at IKEA. This results in an environment in which change is predominant and therefore presents the perfect environment for this study. IKEA Eindhoven consist of multiple departments and teams, resulting in a total workforce of over 500 employees. At IKEA Eindhoven, the logistics department consists of Goods Flow (GF) and Sales & Supply Support. This thesis’ focus lies on the employees of the GF department. This department consists of around 75 employees, divided in four different teams: Market Hall, Self-Serve Replenishment, Inbound and Outbound. Each team consists of 15–20 employees, which is headed-up by a team manager. The Team Managers report to the Deputy Logistics Manager who in turn reports to the Logistics Manager.

The main tasks of the GF employees involve not only stock replenishment in the market hall, the self-serve warehouse and the EMPU but also picking goods that customers order online or in the store which have to be transported to a home address. New employees are taught one or two specific tasks (e.g. replenishment in Self-Serve or Picking & Delivery). Once these tasks are mastered, further tasks and responsibilities may be added.

The logistics department remains to be one of the most rigid departments of the store. The department has been subject to multiple changes in management over the past year and experienced a lack of managers for a period. Consequently, there were not enough team-managers available to guide and mentor all employees. Additionally, the implementation process of new work routines lacked attention and thus effectiveness. Multiple problems emerged regarding work engagement, skepticism and overall engagement of employees, and consequently job performance. An example is the implementation of the Standard Operating Procedures of IKEA (hereafter: SOP). This document was drawn up to manage and safeguard employee and customer safety during the stocking process. This document contains all rules and regulations concerning daily operations of the logistics department at IKEA. The SOP has been introduced and implemented within IKEA globally. However, the implementation at IKEA Eindhoven has been -and still is- subject to large resistance and SOP violation among employees.
1.2. Research Question
This master thesis’ main goal is to increase employees’ overall job performance. Part of this job performance is their adaptive performance: how well employees adapt to and adopt organizational change efforts. Moreover, an increase of overall employee motivation and decrease of job-related exhaustion is asked for. The formal objective and research question reads as follows:

Objective:
Decrease employee exhaustion, create a positive change attitude and increase their work engagement and (adaptive) job performance.

As Job Crafting has been linked to increased work engagement, decreased exhaustion and increased performance, it is hypothesized that Job Crafting can be a means to achieve the set objective. Therefore, the objective has been translated to the following research question:

Research question:
Can a Job Crafting intervention aid in decreasing employee job-related exhaustion, creating a more positive change attitude and increase their work engagement and (adaptive) performance?

1.3. Relevance
The relevance of this master thesis is two-fold. First, theoretically, this thesis is relevant as it further extends scientific knowledge on the Job Crafting intervention, the Job Crafting concept and its effects. Whereas previous interventions have mainly focused on seeking resources, seeking challenges and reducing job demands as Job Crafting strategies, this study substitutes reducing job demands for optimizing job demands. Moreover, the current study includes employee change attitude as explanatory mechanism of increased adaptive performance, thereby linking Job Crafting to organizational change. This adds to scholars’ knowledge on the usefulness of Job Crafting during organizational change (evidence might be acquired that Job Crafting is a useful means to implement organizational change). This study additionally increases the amount of empirical evidence of the effectiveness of Job Crafting (interventions) as it is conducted in a novel context. Previous interventions have for example taken place in an occupational health setting (Gordon et al., 2018; Tims, Bakker, Derks, & Van Rhenen, 2013), aviation industry (Karatepe & Eslamlou, 2017) among teachers (Tims, Bakker, & Derks, 2015) or in a police district (Van den Heuvel et al., 2015). This study takes place in a dynamic retail context. Moreover, as demographics of the sample in previous studies and the current study are different, the effectiveness of the training might be different. Therefore, this adds to the scholar’s knowledge of the effectiveness of a Job Crafting intervention on different age groups, contract sizes and level of education.

Second, this study finds practical relevance through the potential usefulness of a Job Crafting intervention in the specific IKEA context. It aids the specific company’s (IKEA) struggle to implement changed work routines. Moreover, practical significance may be found in the fact that this study provides insight in a new means to both increase performance as well as change adaptability of employees in a broader sense. This study is conducted at the logistics department; however, the outcomes of this study may be used in a broader sense. Particularly, as IKEA’s working environment is innovative, fast-paced and dynamic, this study may present the foundation for multiple other interventions to be held at other departments in store, other stores or perhaps even globally. It may therefore present to be an asset in the knowledge of the managers and the Human Resources department. Lastly, an increase in performance might result in increased profits for IKEA.
2. Theoretical Foundation
This chapter gives a study overview and presents the research model. Thereafter the involved constructs and hypothesized relationships are visited. This chapter is concluded by an overview of the formulated hypotheses.

2.1. Research model
This study is aimed at increasing employee job performance, work engagement and change attitude while decreasing employee exhaustion by means of a Job Crafting intervention. This suggests that Job Crafting behavior is the mediator in the process, and job performance, work engagement, change attitude and exhaustion as outcome variables. More formally, the central hypothesis is that a Job Crafting intervention triggers Job Crafting behavior, which in turn results in increased employee job performance, work engagement and change attitude while decreasing job related exhaustion. This research model is depicted in the figure below (Figure 1). The theoretical foundation for these hypothesized relationships can be found in the following sections.

2.2. Job Crafting
Job Crafting should be seen as a bottom-up approach to job redesign in which employees may alter their jobs to make them closer to their own preferences. Job Crafting is defined as: “actions that employees take to shape, mold and redefine their jobs” (Wrzesniewski & Dutton, 2001, p. 179). Consequently, Job Crafters are people who change both physical and mental boundaries of their job. This may be done by changing the way they think about relationships and see their tasks. Moreover, they may alter task boundaries in order to make them closer to their preferences (Wrzesniewski & Dutton, 2001). More generally, Job Crafting is “whenever individuals adapt their jobs to make them closer of their personal preferences” (Esteves & Pereira Lopes, 2016, p. 763).

It can be induced from the definition of Wrzesniewski & Dutton (2001) that there are several dimensions of Job Crafting. These dimensions are task crafting (altering one’s tasks boundaries), relational crafting (altering relationships during their work) and cognitive crafting (how one thinks about their work). These
dimensions are not mutually exclusive as an individual may perform all three types of Job Crafting. However, over the years, the dimensions of Job Crafting have been subject of discussion by different scholars, yielding different definitions as may be concluded from Rudolph, Katz, Lavigne & Zacher (2017). The contemporary approach categorizes Job Crafting towards demand and resource crafting. This categorization was first proposed by Tims & Bakker (2010) and found support in Tims, Bakker, & Derks, (2012, p. 174), who argued and showed empirically that Job Crafting consists out of three conceptually different dimensions. These types are defined as (1) increasing job resources (e.g. seeking feedback, maximizing autonomy); (2) increasing challenging job demands (e.g. asking more responsibility, seeking more tasks) and (3) decreasing hindering job demands (e.g. task avoidance, reducing task complexity (finding more efficient ways)). Over the past years, this typology has been used in many scholarly works (e.g. Gordon et al., 2018; Hakanen, Seppälä, & Peeters, 2017; Petrou, Demerouti, & Schaufeli, 2018; Rudolph, Katz, Lavigne, & Zacher, 2017).

Nevertheless, the third dimension (decreasing hindering demands) has also been subject of discussion as it has been linked to an adverse effect on job related outcomes. For example, Weseler and Niessen (2016) found that reduction behavior is rated as counterproductive for job performance. Additionally, in a diary study conducted by Petrou, Demerouti, Peeters, Schaufeli, & Hetland (2012), the authors found evidence that demand reduction yields a less stimulating environment and a decrease in work engagement. Moreover, Petrou et al. (2015) explain this by linking to literature that states that exhausted employees are less likely to put effort in their tasks and are thus increasing workload, which then increases their exhaustion. Furthermore, Tims, Bakker & Derks (2013) argued that decreasing hindering job demands may prove to be difficult as hindering job demands may be inherent to one’s job. Moreover, a meta-analytic Confirmatory Factor Analysis (CFA) suggested that decreasing hindering demands should not be included in the operationalization of overall Job Crafting (Rudolph et al., 2017). The authors found that decreasing hindering demands was less reflective of the overall Job Crafting construct and was differently associated with antecedents and outcomes as compared to the other two dimensions (i.e. increasing resources and seeking challenges). In addition, multiple scholars found that reducing hindering demands was found to have a positive, reciprocal link with exhaustion (Petrou et al., 2015; Tims, Bakker, Derks, et al., 2013). The former illustrate their findings by linking to literature that states that exhausted employees are less likely to put effort in their tasks and are thus increasing workload, which then increases their exhaustion (Petrou et al., 2015).

As a potential solution, Demerouti and Peeters (2017) introduced optimizing demands as a form of reduction-oriented crafting rather than decreasing hindering demands. Optimizing demands refers to the simplification or optimization of work processes. The rationale lies behind the notion that optimizing demand is a form of proactive demand crafting (by-passing inefficient working methods) whereas decreasing hindering demands is more reactive. In their study, they have found empirical evidence that optimizing demands was indeed positively related to work engagement, whereas decreasing demands was unrelated to work engagement. Moreover, Demerouti, Veldhuis, Coombes, & Hunter (2018) included optimizing demands as a Job Crafting dimension in their intervention study among pilots and found it to be negatively related to exhaustion and disengagement and positively to performance. Therefore, the thesis will adhere to the latest definition of the Job Crafting dimensions: Job Crafting behavior is the act of seeking resources, seeking challenges and optimizing demands. This does however not necessarily imply that the characterization of Wrzesniewski & Dutton (2001) is wrong, as both lines of reasoning might be linked (Demerouti, 2014).

2.3. A Job Crafting intervention triggers Job Crafting behavior
A core characteristic of Job Crafting is that employees themselves take initiative to engage in Job Crafting behavior. There are multiple reasons for an individual to engage in Job Crafting behavior as “job crafting is a type of emergent behavior that may be the result of any of a variety of or combination of stimuli” (Lyons 2008, p. 35). Or as Petrou, Demerouti, & Schaufeli (2015, p. 471) state: “Situational factors
**shape human behavior together with individual characteristics**. From these statements, one can distinguish environmental triggers from individual triggers and may thus conclude that management may create an environment to make it more likely for employees to engage in Job Crafting behavior. Examples include but are not limited to job autonomy, job ambiguity and task complexity (Demerouti, 2014; Ghitulescu, 2006; Leana, Appelbaum, & Shevchuk, 2009; Rudolph et al., 2017; Tims & Bakker, 2010; Tims, Bakker, Derks, et al., 2013). By offering the employees more autonomy, they are suggested to be more flexible to change their ways of working (craft their jobs). Moreover, through the decrease of task interdependence, employees only depend on themselves to change their job and high task complexity requires individuals to work more efficiently and prevents boredom. Other ways to trigger Job Crafting behavior in individuals reside in the employee and are difficult to change, as these are mostly predispositional. Examples include personality and work orientation (Brenninkmeijer & Hekkert-Koning, 2015; Petrou & Demerouti, 2015; Petrou et al., 2018). A last and novel approach to trigger Job Crafting behavior is by means of a Job Crafting intervention.

Triggering Job Crafting behavior by means of an intervention is seen as a more effective way to motivate people to engage in Job Crafting behavior. (Gordon et al., 2018; van den Heuvel et al., 2015). Thus far, little is known about Job Crafting interventions and their effects (Gordon et al., 2018). The first known Job Crafting intervention was conducted by Van den Heuvel, Demerouti & Peeters in 2015. In this study, employees were provided the opportunity to improve their work environment and work-related well-being using insight from Job Crafting and the JD-R Theory. The intervention consisted of a training day and 4 weeks of consecutive Job Crafting, working towards pre-set goals. This period was followed by a half-day reflection session. In the reflection session, participants discuss achievements, hindrances and possible solutions of problems they encountered during the crafting period to facilitate future crafting behavior. The authors based the effectiveness of the training on the Social-Cognitive Theory (SCT), which implies that learning occurs in a social setting where information about others’ behavior is available and can be used to regulate one’s own behavior (cf. the group training). The following part of the intervention is drawing up and adhering to the personal action plan. Employees reflect on their work environment, in terms of demands and resources (conform the JD-R Theory). Next, participants draw up a plan with self-chosen job crafting goals to be completed over the 4 weeks following the training. This method was deemed effective as the SCT dictates that humans rely on self-regulatory mechanisms to exercise control over their thoughts, emotions motivation and actions. A key element in developing self-directedness is self-monitoring, which refers to paying attention to one’s current situation and performance. Hence, this may be used to effectively set personal goals and tracking goal attainment. Then, based on the JD-R Theory, it was expected by the authors that crafting individuals can effectively change their work environment as multiple studies had already found that the seeking resources strategy of Job Crafting could lead to increased resources (Tims, Bakker, & Derks, 2013) and that seeking challenges relates to increased work engagement (Petrou et al., 2012). In Van den Heuvel et al. (2015) fundamental, quasi-experimental pre-post study amongst 86 Dutch police officers, the authors found evidence to suggest that the experimental group reported less negative affect, higher self-efficacy, higher development opportunities and leader-member exchange (LMX) as dependent sample t-tests revealed significant differences between means.

The intervention design of Van den Heuvel et al. (2015) has been followed by multiple scholars, yielding seven intervention studies to date (see Table 1 for an overview and Appendix A (page 47)), for a more extensive evaluation). One must conclude that the number of conducted intervention studies is limited. Additionally, their findings differ, and thus no rigid conclusions on the effectiveness and potential causality between an intervention and Job Crafting behavior may be drawn. Nevertheless, preliminary evidence suggests that a positive relation between Job Crafting intervention and subsequent Job Crafting behavior exists. An explanation for this might be that the interventions have been done in different occupational groups, with different demographics and a difference in time lag between the intervention workshop and the post intervention measurement. Together, there is preliminary evidence to suggest that a positive relation between a Job Crafting intervention and subsequent Job Crafting behavior exists. Revisiting this
relationship thus adds to scholar’s knowledge on the effectiveness of a Job Crafting intervention. Therefore, the following hypothesis has been formulated:

**H1a.:** Compared to the pre-intervention score (T0), employees participating in the intervention demonstrate an increase in Job Crafting behavior directly after the intervention (T1).

Even less is known about the longitudinal effects of a Job Crafting intervention. There is some evidence for longitudinal effects nonetheless. For example, Harju, Hakanen & Schaufeli (2016) found that seeking challenges may be a viable strategy to prevent employees from becoming bored at work and to enhance work engagement in the long term. Additionally, they argue it to be a catalyst for other crafting activities (i.e. increasing resources). The authors conclude that a Job Crafting intervention can improve Job Crafting behavior. Moreover, Van Wingerden et al. (2017b) found that one year after the Job Crafting intervention, participants who still report resource seeking behavior, additionally report increased self-efficacy and in-role performance, even though no effects were found directly after the intervention. Additionally, based on the reasoning that Job Crafting is a skill that can be learned and will be used if found useful, it is proposed that the effects of an intervention can increase over time. However, as the current study is bound to a time restriction, only limited measurements may be done. Nevertheless, a lag of 8 weeks between the baseline (T0) measurement and the T2 measurement is longer than most other studies (mostly 6 weeks, see Table 1) and thus the following is hypothesized:

**H1b.:** The Job Crafting intervention's effect on Job Crafting behavior in the experimental group is significant after four weeks after the intervention has been completed (T2).

Moreover, the potential effect may be compared to Job Crafting behavior in the control group:

**H1c.:** Compared to the control group, participants in the intervention group report higher Job Crafting behavior four weeks after the intervention has been completed (T2) when controlling for pre-intervention scores.
Table 1: Overview of conducted Job Crafting interventions based on the JD-R and their results. Key: SC = Seeking Challenges; DHD = Decreasing hindering Demands; SR = Seeking Resources; LMX = Leader-Member Exchange

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>INTERVENTION DETAILS</th>
<th>RESULTS</th>
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<tbody>
<tr>
<td>GORDON ET AL. (STUDY 1)</td>
<td></td>
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<tr>
<td>(2018)</td>
<td>Medical specialists</td>
<td>48</td>
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<tr>
<td></td>
<td>1 (-)</td>
<td>T0-T1 = (12)</td>
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<tr>
<td></td>
<td>T1-T2 = (12)</td>
<td>SC (+) DHD (+)</td>
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<td>Work Engagement (+)</td>
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<td></td>
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<td>Health (+)</td>
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<td></td>
<td></td>
<td>Exhaustion (-)</td>
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<td></td>
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<td>performance (+)</td>
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<tr>
<td>GORDON ET AL. (STUDY 2)</td>
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<tr>
<td>(2018)</td>
<td>nurses</td>
<td>32</td>
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<tr>
<td></td>
<td>1 (-)</td>
<td>T0-T1 = (6)</td>
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<tr>
<td></td>
<td></td>
<td>SR (+) DHD (+)</td>
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<tr>
<td></td>
<td></td>
<td>Work Engagement (+)</td>
</tr>
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<td></td>
<td></td>
<td>Exhaustion (-)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptive performance (+)</td>
</tr>
<tr>
<td>VAN DEN HEUVEL, DEMEROUTI, PEETERS¹</td>
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<tr>
<td>(2015)</td>
<td>Dutch Police</td>
<td>39</td>
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<td></td>
<td>2 (4)</td>
<td>T0-T1 = (6)</td>
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<td></td>
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<td>No significant changes</td>
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<td>Self-efficacy (+)</td>
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<td></td>
<td></td>
<td>Development opportunities (+)</td>
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<td></td>
<td></td>
<td>LMX (+)</td>
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<tr>
<td>VAN WINGERDEN ET AL.</td>
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<tr>
<td>(2017b)</td>
<td>Teaching</td>
<td>75</td>
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<td></td>
<td>1 (-)</td>
<td>T0-T1 = (9)</td>
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<td></td>
<td>T1-T2 = (52)</td>
<td>SC (+, n.s.)²</td>
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<td></td>
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<td></td>
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<td>Feedback (n.s., +)</td>
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<td>Development opportunities (n.s.,+)</td>
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<td>Self-efficacy (n.s, +)</td>
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<td></td>
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<td>In-role performance (-, +)³</td>
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<tr>
<td>DEMEROUTI, XANTHOPOULOU, PETROU &amp; KARAGKOUNIS</td>
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<td></td>
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<tr>
<td>(STUDY 2)</td>
<td>Greek municipality employees</td>
<td>30</td>
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<tr>
<td></td>
<td>2 (8)</td>
<td>T0-T1 = (4)</td>
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<tr>
<td></td>
<td></td>
<td>DHD (+)</td>
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<td></td>
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<td>Openness to change (+)</td>
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2.4. The JD-R Theory and the Effects of Job Crafting

To grasp the effects of Job Crafting, an understanding of the Job Demands – Resources Theory (hereafter abbreviated to JD-R Theory) is imperative. Therefore, in this section, the fundamentals of the JD-R Theory will be discussed. Then, the effects on the Job Crafting individual; the effects on job-related exhaustion, change attitude, work engagement and overall job performance will be discussed consecutively.

2.4.1. The JD-R Theory

The Job Demands – Resources Theory is based on the understanding that two main forces influence employee job performance. On one hand, one may distinguish the motivational process: consisting out of resources, motivation and job crafting. On the other hand, one may distinguish the health-impairment process: job demands, strain and self-undermining (Bakker & Demerouti, 2014). Additionally, a reversed causality is proposed in the theory: burned out employees create more job demands whereas engaged employees attain a positive gain spiral. Moreover, resources moderate (reduce) the effect of job demands on strain whereas job demands moderate (increase) the effect of resources on motivation. Ergo, increased

¹ Analysis with RM-ANOVA insignificant, paired sample t-test reported significant changes.
² (T0-T1, T1-T2)
³ T0-T3 change is score was positively significant
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L.M.A. Soyer, 2018

resources decrease strain due to job demands and (challenging) job demands increase motivation when resources are available. An overview of the model is depicted below (Figure 2).

Figure 2: The Job Demands - Resources model, from Bakker & Demerouti (2017, p. 275). The motivational path consists of resources and motivation which is positively related to job performance. On contrary, the health-impairment process consists of job demands and strain and is negatively related to job performance.

As may be concluded from the above figure, Job Crafting influences multiple variables (directly or through mediation), ultimately influencing job performance. Before elaborating on this, the constructs mentioned are introduced shortly. A more elaborate discussion of these constructs may be found in the appendix (appendix B) on page 49.

Resources
Resources are all means an individual has access to, to function in a working environment. This may be differentiated towards job resources and personal resources. Job resources are physical, psychological, social or organizational aspects of one’s job that help one in attaining their personal work goals (Demerouti et al., 2001). Personal resources are all mental resources an individual possesses (such as resiliency, positive self-evaluation and self-efficacy (Hobfoll, Johnson, Ennis, & Jackson, 2003; Vogt et al., 2016; Wrzesniewski & Dutton, 2001)) to help them attain their work goals.

Motivation
The motivation construct in the motivational process consists of all factors regarding employee motivation at work. This motivational component of the employee has been found to be, as opposed to the strain component in the health-impairment process, beneficial for employee job performance (e.g.: Bakker & Demerouti, 2014, 2017; Xanthopoulou et al., 2009). The most important and most studied element of the motivation component is work engagement, consisting of absorption, vigor and dedication (Bakker, 2011; Bakker & Demerouti, 2008). These dimensions characterize an individual being immersed in their job, bursting with energy and being dedicated to their activities (Bakker, 2011).

Job Demands
There is widespread consensus among scholars about the definition of job demands. In this study, job demands are -in line with Demerouti et al. (2001)- defined as all physical, social or organizational aspects of one’s job that demand energy from the individual, either mentally or physical. Furthermore, one should
distinguish demands that challenge the individual to perform better and demands that hinder the individual from achieving their work goals. The former may yield increased motivation whereas the latter results in increased strain symptoms (Van den Broeck, de Cuyper, de Witte, & Vansteenkiste, 2010; Zapf, Semmer, & Johnson, 2014).

Strain
Strain is an aggregate constituted from many different constructs that impact health negatively in a work context. Strain can be defined as a state in which people experience (psychosomatic) exhaustion (Bakker & Demerouti, 2007, 2014, 2017; Bakker et al., 2005; Demerouti et al., 2001; Hakanen, Schaufeli, et al., 2008; Schaufeli & Salanova, 2014; Zapf et al., 2014), job related anxiety (Bakker & Demerouti, 2007, 2017), dissatisfaction (Bakker & Demerouti, 2007) and depression (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). This state leads (at best) to poorer performance at work and may eventually impair performance altogether (burnout) (Bakker & Demerouti, 2017; Bakker et al., 2005; Bakker, Demerouti, & Verbeke, 2004; Bakker, Van Emmerik, & Van Riet, 2008; Demerouti et al., 2001). In this study, the focus lies on the exhaustion component of strain. Exhaustion may be defined as the feeling of depleted energy and being overextended by the demands of one’s work (Tims et al., 2015).

2.4.2. Job Crafting decreases job-related exhaustion
According to the managers at IKEA Eindhoven, employees currently report high work-related exhaustion and tiredness. The increased level of exhaustion might be explained by the fact that the department has undergone several (organizational) changes recently which may have induced increased feelings of exhaustion among employees (Petrou et al., 2015). As can be deduced from the JD-R Theory, exhaustion may be reduced through the increase of resources and optimization of demands. Tims, Bakker & Derks (2013) found that crafting additional job resources is negatively related to burnout symptoms, of which exhaustion is a component (Demerouti et al., 2001). This was already predicted by Bakker, Demerouti & Euwema (2005) who hypothesized that increased resources buffer negative effects of strain. In line with this hypothesis, Hakanen, Seppälä & Peeters (2017) found in particular that Job Crafting appeared to be helpful in reducing the negative effects of a high quantitative workload through the increase of resources in a study among Finnish teachers. This confirms the prediction of Bakker, Demerouti & Euwema (2005). Secondly, Tims, Bakker & Derks (2013) additionally found that crafting more challenging demands leads to lower burnout symptoms. The authors argue that simply knowing that one has influenced their challenging demands has beneficial effects on their well-being. Moreover, they argue that these effects may be derived from the fact that the individual feels in control during Job Crafting. Third, Demerouti, Sanz-Vergel, Petrou, & van den Heuvel (2016) argued that increased self-efficacy (resource) is negatively related to exhaustion symptoms. The authors argue this might be due to a decreased self-work conflict due to increased self-efficacy. Moreover, Work-self facilitation (positively related to self-efficacy) was found to be positively linked to optimism, which leads to exhaustion reduction. Lastly, Gordon et al. (2018) argued that demand optimization leads to a lower perception of exhaustion as lower levels of work pressure may be experienced. It is thus reasonable to assume that an increase in Job Crafting behavior (i.e. seeking resources, seeking challenges and optimizing demands) (eventually) leads to a decrease in experienced exhaustion. Hence, the following hypothesis is formulated:

H2: Four weeks post intervention (T2), employees in the experimental group report lower job-related exhaustion compared to their scores prior to the intervention and to the control group.

2.4.3. Job Crafting behavior positively relates to a positive change attitude
An attitude has been scientifically defined as a composition of feelings, thoughts and behaviors towards a certain topic (Vakola & Nikolaou, 2005). Therefore, a change attitude may be defined as one’s feelings, thoughts and behavior regarding change. This is in line with Dunham, Grube, Gardner Cummings & Pierce (1989), who argued that one’s change attitude is composed of an affective (feelings), a cognitive (thoughts) and a behavioral component. Even though scholars have argued that one’s attitude is partly dispositional,
i.e. that attitudes are influenced by personality (Matteson & Kennedy, 2016; Schaubroeck, Ganster, & Kemmerer, 1996). Matteson & Kennedy (2016) state that managers can change an individual’s attitudes by targeting one’s environment, resulting in a more positive or negative change attitude.

There are five factors identified that relate to one’s change attitude and that have been argued to alter either one or more of the change attitude components. In this study, it is argued that Job Crafting can provide a means to yield a more positive change attitude. First, increased organizational commitment is argued to lead to a more positive change attitude (Vakola & Nikolaou, 2005; Yousef, 2000, 2017). The former argues that if employees are committed to their organization, they are more willing to put more effort in a change project and therefore are more likely to develop more positive attitudes towards organizational change. This might be explained by the argument of Vakola & Nikolaou (2005), stating that individuals come to an organization with certain skills and needs which they hope they can use. Proactive behavior (Job Crafting) may provide a means to achieve this as employees may balance challenges and demands to find a better fit (Tims, Derks, & Bakker, 2016). Consequently, this could result in increased organizational commitment (Kirkman & Rosen, 1999). Indeed, Vakola & Nikolaou (2005) found empirical evidence supporting these theoretical claims.

Secondly, job satisfaction is positively related to a positive change attitude (Yousef, 2000, 2017). Employees who are satisfied with their work are more likely to be supportive of change attempts. Job Crafting behavior is positively related to job satisfaction. As De Beer, Tims & Bakker (2016) argued, employees who acquire adequate job resources and have an optimal level of job demands (work characteristics) more likely to be satisfied with their jobs.

Third, the act of meaning-making is also found to positively relate to willingness to change. When an individual makes meaning, this implies (s)he able to understand what happens around him/her and can link changes to their work environment to his/her own personal goals and values (Van den Heuvel et al., 2009). The authors argue that meaning-making can function as a personal resource, helping them to remain resilient when encountering organizational change. Empirical evidence was found in their study, supporting the positive relation between increased meaning making and increased openness to changes occurring at work. Tims et al. (2016) found and argued that when employees proactively change aspects of their job to increase job resources, and alter job demands (i.e. engage in Job Crafting behavior), they are likely to improve their person–job fit and consequently their experienced meaningfulness of work.

Fourth, an increase in the Psychological Capital (PsyCap) of an individual results in a positive change attitude. Van Dam (2013) discusses that resources as optimism, hope, self-efficacy and resiliency positively influence one’s change attitude. These together form an employee’s Psychological Capital (Avey, Wernsing, & Luthans, 2008). Vogt, Hakanen, Brauchli, Jenny, & Bauer (2016) reason that due to an increase in PsyCap, employee job satisfaction and organizational commitment is increased too. These two concepts have been linked to a positive change attitude. Moreover, the authors suggest that an increase in PsyCap is related to the ability to overcome problems or adversity, which is essential during organizational change. Vogt et al. (2016) further reason and found evidence that one’s PsyCap can be increased by Job Crafting. They argue that by proactively regulating their work lives, employees enact control which increases their perceptions of self-efficacy and optimism. Moreover, they state through goal setting (inherent to Job Crafting), hope is increased as employees may set goals that make work more interesting (cf. Person–Job fit (Tims et al., 2016)). Lastly, Job Crafting can be utilized to overcome demanding work situations (i.e. optimizing demands & seeking resources), which adds to one’s resiliency (Masten, 2001).

Fifth and last, poor interpersonal relationships, both between coworkers and management has been found to result in a more negative change attitude (Vakola & Nikolaou, 2005). In contrast, Jones, Jimmieson & Griffiths (2005) found evidence to suggest that employees who perceived strong human relations values reported higher levels of readiness to change, which in turn resulted in higher change adaptation. Part of
the seeking resources strategy of employee is seeking help from coworkers. Therefore, better interpersonal relationships are likely to be established through Job Crafting. Overall, Job Crafting seems to be a valid strategy to enhance employee change attitude. Hence, the following is hypothesized:

**H3:** Four weeks post intervention (T2), employees in the experimental group report a more positive change attitude compared to their scores prior to the intervention and to the control group.

### 2.4.4. Job Crafting increases work engagement

Job Crafting is hypothesized to positively relate to work engagement. The relationship between Job Crafting and work engagement has been discussed and analyzed to full extent in many different scholarly works (Bakker, 2011; Bakker et al., 2004; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Demerouti et al., 2001; Tims, Bakker, & Derks, 2013; Xanthopoulou et al., 2009). Theoretically it has been argued that work engagement may be increased through an increase in resources. Resources have been argued and found to buffer job demands, resulting in increased work engagement (Bakker et al., 2005, 2007). More specifically, it was found that under high job demands, the relationship between resources and work engagement was stronger as compared to low job demands. Even though results have thus already indicated work engagement can be increased through Job Crafting, this study includes work engagement also to provide further evidence for the relationship as Job Crafting is a relatively new concept and empirical evidence for a relation between the two constructs in an intervention setting is limited. Moreover, as indicated, the study context is novel, and thus findings may differ. Crafting challenges (i.e. increasing job demands), combined with crafting resources, and optimizing demands is therefore hypothesized to lead to increased work engagement. More formally:

**H4:** Four weeks post intervention (T2), employees in the experimental group report higher work engagement compared to their scores prior to the intervention and to the control group.

### 2.4.5. Job Crafting increases employee job performance

The amount of research directed at the link between Job Crafting and job performance is numerous. In this study, job performance is conceptualized as consisting of two main dimensions: objective performance and subjective performance. Objective performance may be defined as a performance judgement based on unbiased, numerical data. Subjective performance is based on opinions and may be differentiated towards task, contextual and adaptive performance (Gordon et al., 2018). Task performance entails officially required behaviors that are directly linked to the task description and add to the goals of the organization (Demerouti, Bakker, & Halbesleben, 2015; Shoss, Witt, & Vera, 2012). On the other hand, contextual performance are behaviors that are not necessarily related to functional job descriptions, but is behavior that enhances social and psychological aspects of the organization and is stated to contribute to the organization’s effectiveness (Rana, Jordan, Jiang, & Tse, 2017; Shoss et al., 2012). Examples include helping others with their tasks and engage in extra-role tasks. Adaptive performance is a dimension of performance that entails the adoption and adherence to changes (e.g. new working methods or routines) (Pulakos, Arad, Donovan, & Plamondon, 2000).

There are several arguments suggesting that Job Crafting is an important means to alter employee job performance. First and foremost, the JD-R Theory provides solid grounds to state that Job Crafting influences employee in-role performance positively (Bakker & Demerouti, 2017). Through Job Crafting both the motivational path and the health-impairment path may be altered through seeking resources and seeking challenges as well as optimizing demands. Secondly, work-related proactivity is linked to increased employee job performance (Weseler & Niessen, 2016b). The authors reason that if employees take on additional tasks, their need to enrich their jobs is fulfilled. This is suggested to lead to increased intrinsic motivation and eventually performance (Ryan & Deci, 2000). Weseler & Niessen (2016) found empirical evidence that indeed both supervisor rated as well as self-rated task performance is positively related to extending task boundaries. It is argued that Job Crafting - seeking challenges in particular - is an important
means to achieve this. A third argument may be found in the person-job fit. Job Crafting stimulates employees to initiate changes in their resources (i.e. seeking resources) and (perceived) demands (i.e. seeking challenges and optimizing demands). As a result, this may increase the fit between the employee (personal abilities & (psychological) needs) and the job characteristics (Tims et al., 2016). Moreover, Rudolph et al. (2017) indeed reason that an increase in performance may be achieved through increased person-job fit and perceived meaningfulness of one’s job. This might be explained by findings of Van den Heuvel et al. (2009) indicating that meaning-making may function as a resource to help sustain employee’s performance. Fourth and last, in a diary study conducted by Demerouti, Bakker, & Halbesleben (2015), they found that daily seeking resources was positively related with task performance. Theoretically, this finds justification since seeking resources represents a strategy to deal with job demands to achieve goals or to complete tasks (Demerouti, Bakker, & Halbesleben, 2015). The authors reasoned that the employees gain more autonomy and were more engaged in their job, and consequently performed better.

The first four arguments linking Job Crafting to performance have mainly focused on increasing task performance. However, adaptive and contextual performance are also dimensions of employee job performance. There are several theoretical grounds to hypothesize that adaptive performance may additionally be increased through Job Crafting as has been found in for example Petrου et al. (2018). Until recently, the amount of research available on initiating, implementing or sustaining organizational change with the aid of Job Crafting (linked to proactivity) was limited and often undervalued (Hornung & Rousseau, 2007). In recent years, research relating the two concepts has been increasing and multiple authors have hitherto found that proactive behavior (Job Crafting) might be a means to adapt to (and survive) organizational change (Demerouti et al., 2017; Ghitulescu, 2013; Kira, Van Eijnatten, & Balkin, 2010; Petrου et al., 2015; Van den Heuvel, Demerouti, Bakker, & Schaufeli, 2010). For example, Job Crafting may increase the confidence to behave in novel ways, a requirement during organizational change (Demerouti et al., 2017). In line with their hypothesis, the authors found empirical evidence that seeking resources was positively related to adaptive performance. This supports earlier findings by Tims et al. (2014) who found that self-efficacy (a personal resource) is positively related to performance through a sense of mastery. The authors reason that Job Crafting prepares employees to better adapt to and deal with increased work demands induced by organizational change through increased self-efficacy, social support or other job resources. As for contextual performance, there are no direct arguments found in established journals to suggest the Job Crafting – contextual performance relationship. The only exception being the intervention study by Gordon et al. (2018) who related seeking resources to contextual performance. This finding seems logical as helping others is expected during the Job Crafting period: the seeking resources strategy entails seeking feedback and advice. Therefore, it is reasonable to assume employee contextual performance may increase simultaneously. An important last remark on the Job Crafting – performance relationship is that Job Crafting behavior is not necessarily beneficial to an organization (Wrzesniewski & Dutton, 2001). For example, the crafting of challenging job demands is often related to an increase of performance whereas decreasing hindering demands is frequently related to a decrease in performance (Demerouti, Bakker, & Halbesleben, 2015; Petrου et al., 2012). On the other hand, creating a too challenging environment could also entail a performance decrease through decreased well-being. There is widespread consensus nonetheless, that Job Crafting is mostly beneficial to the individual and the organization and can lead to increased performance. (Bakker & Demerouti, 2017; Lyons, 2008; Tims & Bakker, 2010). As there is ample (theoretical) evidence for this relationship, it is therefore expected that in the current study empirical evidence will be found to support the following hypothesis:

**H5**: Four weeks post intervention (T2), employees in the experimental group report higher task (H5a), contextual (H5b) and adaptive (H5c) performance compared to their scores prior to the intervention and the control group.

_Increasing Employee Job Performance – A Job Crafting Intervention at IKEA_  
L.M.A. Soyer, 2018
Overall, this study suggests that:

*H6: An increase in Job Crafting behavior is related to and predicts a decrease in exhaustion (H6a) and an increase in change attitude (H6b), work engagement (H6c) and employee job performance (H6d)*

2.5. Overview of Hypothesis
Summarizing, this study evaluates 14 hypotheses. First, the effect of a Job Crafting intervention on Job Crafting behavior will be assessed, both directly after the intervention (T1) (H1a) as well as 4 weeks after the intervention (T2) (H1b) and compared to a control group (H1c). Furthermore, it is expected that through increased Job Crafting behavior, employees experience less feelings of exhaustion (H2), a more positive change attitude (H3) and increased work engagement (H4). Additionally, it is predicted that after the intervention has taken place, the experimental group demonstrates and increase in task, contextual, and adaptive performance when controlling for pre-experimental scores (H5a-c). Lastly, it is expected that an increase in Job Crafting is related to and predicts a decrease in exhaustion and an increase in employee change attitude, work engagement and job performance (H6a-c).
3. Method
In this chapter, the method used to test the hypothesis is described. In the first section (3.1) the research design and procedure are discussed. Next, the strategy of data analysis is described in section 3.2. Consecutively, in section 3.3, the used measures are evaluated. The chapter is concluded by section 3.4, in which the sample is presented.

3.1. Research design and procedure
The research is designed as a quasi-experimental intervention study, thereby following Van den Heuvel et al. (2015) and Gordon et al. (2018). Their intervention study’s effectiveness is based on the JD-R Theory and Social Cognitive Theory as discussed in section 2.4. There are three measurements in time. These three measurements are labeled as follows: T0 for a base measurement, T1 four weeks after the workshop has taken place T2 eight weeks after the workshop has taken place. Measurement T1 has been conducted to determine the direct effectiveness of the intervention (cf. hypothesis 1a). Measurement T2 has been conducted to determine the effects over time of the intervention (cf. hypothesis 1b). As the research has a time-series design, the experimental group may act as their own controls (Blumberg, Cooper, & Schindler, 2008). Nevertheless, a randomized control group has been used, consisting of employees of IKEA Breda’s logistics department. This group has been chosen as the organizational culture and tasks should overlap and individuals could score on the same adaptive performance scale. Moreover, by using a physically separated control group, cross-contamination is prevented (Demerouti et al., 2017).

The intervention consisted of a workshop, four consecutive weeks of self-administrated Job Crafting (Figure 3) and an evaluation session. The intervention is aimed at triggering the employees to engage in Job Crafting behavior and stimulating them to sustain this proactive behavior. Consequently, four identical 3-hour workshops have been held to ensure participation and ensure enough attention is given to all participants. Each workshop consisted of about 15-20 employees, representing a team of the Goods Flow department. The participants have been compensated for their attendance by IKEA. Moreover, each workshop was attended by at least a Team manager and a HR-representative.

![Figure 3: Timeline of the intervention and study. In green the measurements are depicted.](image-url)
3.1.1. Before the workshop

Before the workshop took place, structured interviews were conducted with random employees from all teams. The aim for the structured interview was to distill key information on all dependent variables and the control variables. This includes the current resources that are used, experienced job demands and overall attitude towards the job and organizational change. The structured interview has not been recorded as this may have created a respondent bias (Crowther & Lancaster, 2008).

The main goal of the structured interview was to find best practices of people already crafting their job. Additionally, the aim was to find examples of what gave people energy in their work context and what resulted in energy depletion during their job. This could then be used to tailor the workshop to prevent a one-size-fits-all presentation. Furthermore, this was aimed at identifying influencers that could aid in stimulating other employees to craft their job. Their congregated, anonymous input was to be used during the intervention, resulting in discussion points for all participants of the intervention. Additionally, the management team of the logistics department was briefed on the upcoming research. This step was included as this may aid in the effectiveness of the intervention as they may stimulate and motivate the participants to part-take in the intervention with motivation and enthusiasm.

3.1.2. The Job Crafting Workshop

The workshop consisted of three different parts: theoretical background, work analysis and a personal action plan. The workshop was accompanied by a PowerPoint presentation which is found in appendix C, on page 51 (in Dutch). All participants were provided an information booklet (in Dutch) with all information as presented in the workshop (appendix D, page 57), to be used after the workshop; an personal action plan booklet (in Dutch, appendix E, page 64) and a questionnaire for the base measurement. Apart from the attending employees and the author, a HR-advisor and at least two team managers attended the workshop to help employees with their work analysis and aid them with their exercise booklet.

Before the start of the presentation, the base-measurement (T0) was conducted. This was done before explaining the goal of the workshop to prevent response bias. This measurement is done by means of a qualitative survey, measuring all constructs as reported in the research model (Figure 1, page 4) and 5 control questions (e.g. date of birth, gender and duration of employment).

The first part of the workshop was aimed at providing an understanding of the Job Crafting concept and the JD-R Theory. This part was mainly theoretical. Then, based on examples from structured interviews conducted before the workshop, examples of Job Crafting are provided, as well as examples of a work analysis. The participants were then asked to conduct a personal work analysis, guided by questions in their personal action plan booklet as [translated from Dutch]: “This is a situation at work that gave me additional energy” and “this is a situation that taught me how to work more efficient”. Afterwards, this analysis was discussed in the group. This part was included to guide the employees on how to craft their daily activities and to give them suggestions on craftable work-related activities. Thereby aiming to increase awareness for the utility of Job Crafting in their work environment. The third and last part consisted of setting personal goals. These goals were aimed at the three Job Crafting dimensions and had to be SMART. Complementary, the participants had to formulate actions to attain their personal goals. Each participant had one week to attain their goal with respect to the corresponding Job Craft dimension of that week and one last week in which they could focus on seeking resources again.

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4 Seeking Resources; Optimizing Demands and Seeking Challenges.
5 Specific, Measurable, Acceptable, Realistic and Time-bound.
3.1.3. After the Job Crafting workshop

After the workshop was completed, all participants were asked to start crafting their weekly goals. To ensure participation, weekly reminder mails have been sent. These mails were aimed at placing Job Crafting at their attention and motivate and encourage participants to start crafting. Moreover, during the daily roll-call, Job Crafting was brought to the attention of the employees as well.

Four weeks after the workshop, all participants were asked to fill out questions regarding their Job Crafting goals (i.e. I feel I have attained my goal for week x). Moreover, the participants were asked to fill-out the T1-questionnaire. To ensure a high response rate, all participants were given a coupon for a free basket of strawberries upon completion (appendix F, page 70). Scholars have found that incentives significantly increases response rate in follow-up questionnaires (Boynton, 2004; Morgan, Rapee, & Bayer, 2017). After a week, a reminder e-mail was sent to complete the questionnaire and non-responsive employees have been asked in person to complete the questionnaires.

Eight weeks after the workshop, a second, evaluative, session had been held. Again, this session was held during the department’s team meetings, making attendance mandatory. Before this session, again the quantitative survey had to be filled out by the participants (T2-measurement). During this session, the first results (T0-T1 measurements) were discussed and experiences were exchanged to promote future Job Crafting behavior. The accompanying presentation is found in the appendix (page 71).

3.2. Strategy of data analysis

To analyze the data, SPSS has been used. After each wave of data had been collected, data was prepared for analysis. Reversely stated questions have been recoded and a check has been done to reveal outliers and missing data. Quick outlier scan by means of boxplots revealed some significant outliers to be removed. Little’s MCAR test has been done to check whether data was missing completely at random, which was the case. Missing data under 10% for an individual case or observation may be ignored when data is MCAR or MAR, as long as remaining usable data is sufficient for analysis (Sweet & Grace-Martin, 2010). As variables have at most 1 or 2 cases missing, these values are omitted from analysis based on list-wise deletion. After the T0-measurement, a reliability analysis has been conducted to measure the scale reliability (Cronbach’s Alpha). This is the most widely used metric to assess reliability of a measure and the acceptable lower limit should be set on 0.7 (Hair Jr., Black, Babin, Barry, & Anderson, 2014). The results are listed in the following measures section.

Analysis of the data sample required independent sample t-tests and ANOVA’s. Independent sample t-tests require a data sample free from significant outliers and approximately normally distributed data. The former has been accounted for in the data preparation stage. The latter was tested with Shapiro-Wilk’s test for normality. Insignificant results (p>0.05) indicate normally distributed data. Additionally, Levene’s test for equality of variances has been conducted to test the homogeneity of the variances. If variances were not equally distributed (p<0.05), the Welch’s test was used to determine significance. Violations are listed if they apply. Results are found in section 3.4.

Aside from dependent t-tests to test the hypotheses (cf. Hypotheses h1a and h1b), a One-Way Repeated Measures ANOVA has been performed on the group filling out T0, T1 and T2 questionnaires (Gordon et al., 2018; Van den Heuvel et al., 2015) to find within-subject differences to further assess H1b. Before a repeated measures ANOVA may be conducted, assumptions must be met. Apart from normality of the data (Shapiro-Wilk’s test), homogeneity of variances (Levene’s test) and equality of covariances must be met (Box’s M-test). Non-significant results (p>0.05) indicate valid assumptions. Moreover, Mauchly’s test for sphericity has been conducted to test the sphericity assumption required for a valid RM-ANOVA. Violations (p<0.05)

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6 Roll call is a daily, concluding, meeting of all co-workers of the GF department of the shift to discuss the progress of the day.
are listed if they occur. If the assumption is violated, Greenhouse-Geisser’s corrected degrees of freedom has been used.

Next mixed ANOVA’s have been conducted to assess hypotheses 1c and 2-5. Mixed ANOVA’s have been used in similar contexts and is a suitable strategy analyze the intervention’s effect on the experimental group when compared to the control group (Gordon et al., 2018; Van den Heuvel et al., 2015). In this study, time is the within subject factor whereas group (i.e. experimental and control) is the between-subject factor. Moreover, simple main effects for time were calculated. Statistically significant results are followed up by a RM ANOVA with the experimental group participants that completed all three (T0, T1 and T2) questionnaires (N=35) to find the effect of time. Significant results were consequently followed up with post-hoc tests with Bonferroni’s adjustment (i.e. pairwise comparisons). Bonferroni’s adjustment was required as comparisons between specific levels of within-subjects are considered even more sensitive to sphericity violations and a lack of robustness (Boik, 1981; Weinfurt, 2000). Hypotheses regarding relatedness and prediction (c.f. hypotheses 6a-d) were assessed using Pearson’s correlation coefficients and SPSS’s blocked regression. For this, the change in score of Job Crafting behavior and the respective outcome variables was used.

3.3. Measures

The chosen research model required the measurement of 5 dependent variables - or outcome variables -: Job Crafting behavior, exhaustion, change attitude, work engagement and employee job performance. Additionally, controls for gender, date of birth, education, contract size and duration of employment were included. This creates the possibility to check for results in different groups. The data of the surveys was coded by a user-created code to guarantee anonymity towards management, thereby potentially increasing participation willingness (Murdoch et al., 2014). Some of the items were reverse-coded to prevent response bias. Pre-existing measures were used as these are tested on validity, except for adaptive performance. This scale was tailored to the specific context of IKEA. As questionnaires are more effective when they are concise (Crowther & Lancaster, 2008), item selection from existing surveys was required on some scales. This selection was done by selecting items that rate highest on validity measures as reported by developers of the measures. Some items were modified to match this specific research context, and all have been translated to Dutch. Nevertheless, the core of the question was kept intact to ensure validity. All items have been rated using their corresponding scales as reported in the respective articles. Exceptions are listed if these apply.

Job Crafting (overall: $\alpha=0.804$). For Job Crafting, the general Job Crafting scale by Petrou, Demerouti, Peeters, Schaufeli, & Hetland (2012) was used. This scale is partly based on Tims, Bakker, & Derks (2012b) and has “good factorial, convergent, divergent, and predictive validity” (Van Wingerden, Bakker, et al., 2017a, p. 169). This scale includes items regarding the three dimensions of Job Crafting (Seeking Resources (SR), Seeking Challenges (SC) and Reducing Hindering Demands (RHD)), $\alpha=0.683$. However, as suggested by Demerouti & Peeters (2017), this intervention substituted the RHD dimension for the Optimizing Demands dimension ($\alpha=0.796$). Nevertheless, RHD is still included in the questionnaire to check if differences are still measurable. Sample items include: “I ask my colleagues for feedback”; “I ask for more responsibilities” and “I try work more efficiently.”

Exhaustion ($\alpha=0.850$). This outcome variable was measured using the validated Oldenburg Burnout Inventory (OLBI). The OLBI (Demerouti, Bakker, Vardakou, & Kantas, 2003) scale has been used in similar contexts (Gordon et al., 2018) and measures exhaustion with 8 items on a 4 point scale. Sample items include: “When I am doing my job, I feel energetic” [REV]; “During my work I feel emotionally drained more often.”; “Somedays, I feel tired before I start my job.”

Change attitude ($\alpha=0.859$). This dependent variable was measured using items from Dunham, Grube, Gardner, Cummings, & Pierce (1989) attitude towards change instrument. Of the 18 items in the scale measuring the affective, cognitive and behavioral dimensions of attitude towards change, 15 items (the
ones with highest factor loadings) have been used, one for each dimension. Selected items include but are not limited to: “I like to try new ways of working” and “I look forward to work-related changes”.

**Work engagement** \( (\alpha = .903) \). Work engagement was measured using the validated and widely used UWES-9 scale (Schaufeli, Bakker, & Salanova, 2006). This scale rates high on factorial, convergent, discriminant and predictive validity (Van Wingerden, Bakker, et al., 2017a). Each one of the items either measure vigor, dedication or absorption as these are the established factors of work engagement (Bakker, 2011). Moreover, this scale has been used in similar contexts (Gordon et al., 2018; Sakuraya, Shimazu, Imamura, Namba, & Kawakami, 2016; Van Wingerden, Bakker, et al., 2017a). Sample items include: “At my work I feel bursting with energy”; “I am enthusiastic about my job”; “I feel happy when I am working intensely”.

**Performance.** Subjective performance (overall: \( \alpha = .855 \)) was measured using scales for task, contextual and adaptive performance. Task performance \( (\alpha = .865) \) was assessed by 5 items of Goodman’s and Swantek’s (1999) 9-item scale. The items that were not selected lacked relevance for this research setting. For contextual performance \( (\alpha = .689) \), their 16-item scale has been used, measuring altruism and conscientiousness. Each of the two factors is represented by three items that had the highest factor loading to ensure conciseness of the questionnaire. This scale has been used in similar contexts (Demerouti, Bakker, & Gevers, 2015; Demerouti, Bakker, & Halbesleben, 2015; Gordon et al., 2018). Adaptive performance \( (\alpha = .598) \) was assessed using five items with regard to IKEA’s Standard Operating Procedures. Sample items for performance include: “I feel I achieve the objectives of the job” and “I help my colleagues when I see they need help”. A sample item for adaptive performance is: “I keep my distance from a reach truck when my colleague operates one.”

### 3.4. Participants

The logistics department in Eindhoven consists of around 75 employees and although participation was not completely voluntarily (participants were scheduled to take part in one of the 4 workshops), it was expected that not all employees would take part in the intervention due to personal reasons, scheduling issues or other potential limitations. Moreover, some entries may be invalid due to missing participant ID’s. The group completing the first round of questionnaire (T0), and thus attended the Job Crafting workshop, is composed of 65 individuals, ranging ages 20 through 68 (M=45, SD=12.1). The subjects are both male (53.8%) and female (46.2%). Their educational background differs, 63.1% highest completed level of education is HAVO, MBO or lower, 26.1% has a VWO or HBO degree and 10.8% has a university degree. Their duration of employment ranges anywhere from two months through 25 years (M=7 years, SD = 6.8 years). The distribution is skewed with 20.3% working less than one year and 39.1% working less than three years at the department.7 Contract sizes range from 8 through 38 hours (M=20.52, SD=9.3), 73.4% of the contracts are small (≤20 hours). The group completing the second (T1) measurement and third (T2) measurement were smaller. The T1 questionnaire was completed by 45 employees. However, only 39 could be paired to the first measurement, which is 60% of the sample. The T2 measurement yielded a larger response and a larger set of useful questionnaires (N=53). Lastly, it must be noted that for the repeated measures ANOVA using time (T0, T1 and T2) as the within-subjects factor, only data of individuals completing all three questionnaires may be used this resulted in a sample size of N=34. To avoid potential data bias, an independent t-test has been conducted to find differences between these groups. Results of this test can be found in the ‘Results’ section.

Participants of the control group at T0 consisted of 17 employees, all working at the GF department of IKEA Breda. This store is smaller than Eindhoven’s. The small sample size is an important limitation, on which will be elaborated in the discussion of this thesis. The age range of the control group is 24 through 62 (M=45, SD=12.1).
The individuals are both male (70.6%) and female (29.4%). 41.2% of the employees is a MBO, HAVO or lower scholar. The duration of employment ranges from 1 month through 13 years (M=2.8 years, SD=3.73 years). The low mean and high standard deviation indicate a highly skewed distribution, indeed 58.8% of the employees work 16 months or less at IKEA Breda. Lastly, contract sizes range from 12 through 40 hours (M=19.53, SD=8.81). In Breda, only two measurements (T0 and T2) were conducted given the limited response of the first measurement. T2 response rate was equal to the first measurement of the control group (T0).
4. Results

In this chapter, the results of the multiple statistical tests are presented. First some general results will be discussed, results on the sample, response, inter-item correlation etcetera. Subsequently, the results of the hypothesis tests are presented, following the methodology as presented in section 3.2.

4.1. Sample and response

There is a difference in response rate of the experimental group at the different measurement occasions (N\textsubscript{T0}=65, N\textsubscript{T1}=34, N\textsubscript{T2}=53). An independent sample t-test was run to determine if the respondents completing the T1 questionnaire differed from the employees completing only the T0 questionnaire. Shapiro-Wilk’s test for normality showed that the normality assumption was partly violated on the mean scores of the variables (see appendix H, page 75). This was expected however, as the sample size is small, which limits the normality of the data (Sweet & Grace-Martin, 2010). Nevertheless, the independent sample t-test is considered robust enough (Larson & Farber, 2012).

After the independent t-test was run between the participants completing both T0 and the T1 questionnaire and the ones completing only T0, it was concluded that the two groups did not differ significantly demographically or on the construct score. The only exception is contextual task performance, of which the T0-score of the non-respondents at T1 (M=4.71, SD = 1.08) as compared to respondents at T1 (M = 5.16, SD = .38) in which the former rated significantly lower (\(\Delta M = 0.45, t (35.011) = -2.20, p = 0.035\)).

The following step of analysis contains the comparison of the experimental and control group. It is important to note that the two groups (experimental and control) differ significantly regarding some demographics. Although their age\(^8\) (p > 0.05; t=1.119) and contract size\(^8\) (p > 0.05; t = 0.390) are statistically equal, their duration of employment\(^9\) is not (p < 0.01; t=3.442). Nevertheless, the control and experimental group’s score do not differ statistically significant on most constructs. The only exception is mean performance. The score of the control group (M=5.12, SD = 0.34) is significantly higher (\(\Delta M = 0.33, t(80)=-2.036, p=0.045\)) compared to the experimental group (M=4.79, SD = 0.62). The mean scores of the variables at T0 are presented in the table below (Table 2). Though not statistically significant, the control group rates their task, contextual and adaptive performance higher. The experimental group’s score on Job Crafting (M=3.66, SD = 0.49) is about equal on all dimensions, with the exception for seeking challenges, which is slightly lower: M=3.25, SD = 0.69). This is important for the interpretation of the results as will be reviewed in the discussion section. Scores on the change attitude dimensions are about equal and amount to a mean score of 4.21 (SD = 0.66) on a scale from 1-6, implicating room for improvement. Work engagement mean score equals 4.54 (SD = 0.96) on a scale from 0-6. Important to note is that the standard deviations are rather high on the dimensions, around 1.00, indicating a large spread from the mean. In line with the claim of the logistics manager, employees in the experimental group indeed report high levels of exhaustion as their mean score is 2.17 (SD = 0.53) on a scale from 1-4.

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\(^8\) Equal variances assumed as Levene’s test for equal variances was not significant (p > 0.05).

\(^9\) Equal variances not assumed as Levene’s test for equal variances was significant (p < 0.01).
Table 2: Mean scores (M), standard deviations (SD) and results of the independent sample t-test of the control (N=17) and experimental group (N=65) at T0. Score ranges are listed behind the dimensions. * = significant to 0.05 level.

<table>
<thead>
<tr>
<th>T0 [M (SD)]</th>
<th>Control</th>
<th>Experimental</th>
<th>t-test (df=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Job Crafting (1-5)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing resources</td>
<td>3.45 (.54)</td>
<td>3.58 (.61)</td>
<td>0.837</td>
</tr>
<tr>
<td>Seeking challenges</td>
<td>3.35 (.80)</td>
<td>3.25 (.69)</td>
<td>-0.550</td>
</tr>
<tr>
<td>Reducing demands</td>
<td>3.92 (.68)</td>
<td>3.78 (.82)</td>
<td>-0.669</td>
</tr>
<tr>
<td>Optimizing Demands</td>
<td>4.12 (.49)</td>
<td>3.90 (.66)</td>
<td>1.241</td>
</tr>
<tr>
<td><strong>Mean Change Attitude (1-6)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective component</td>
<td>4.41 (.79)</td>
<td>4.42 (.93)</td>
<td>0.024</td>
</tr>
<tr>
<td>Behavioral component</td>
<td>4.47 (.56)</td>
<td>4.27 (.78)</td>
<td>-0.979</td>
</tr>
<tr>
<td>Cognitive component</td>
<td>4.12 (.71)</td>
<td>3.95 (.84)</td>
<td>-0.764</td>
</tr>
<tr>
<td><strong>Mean Work Engagement (0-6)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>4.71 (1.01)</td>
<td>4.47 (1.00)</td>
<td>0.876</td>
</tr>
<tr>
<td>Dedication</td>
<td>4.06 (1.15)</td>
<td>4.41 (1.25)</td>
<td>0.988</td>
</tr>
<tr>
<td>Absorption</td>
<td>4.75 (.99)</td>
<td>4.74 (1.09)</td>
<td>-0.023</td>
</tr>
<tr>
<td><strong>Exhaustion (1-4)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Performance</td>
<td>2.03 (.53)</td>
<td>2.17 (.53)</td>
<td>0.886</td>
</tr>
<tr>
<td>Contextual Performance</td>
<td>5.39 (.43)</td>
<td>5.12 (.77)</td>
<td>1.356</td>
</tr>
<tr>
<td>Adaptive Performance</td>
<td>5.33 (.46)</td>
<td>4.95 (.81)</td>
<td>1.830</td>
</tr>
<tr>
<td><strong>Mean Performance (1-6)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Performance</td>
<td>5.12 (.34)</td>
<td>4.79 (.62)</td>
<td>-2.036*</td>
</tr>
<tr>
<td>Contextual Performance</td>
<td>5.33 (.46)</td>
<td>4.95 (.81)</td>
<td>1.830</td>
</tr>
<tr>
<td>Adaptive Performance</td>
<td>5.04 (.48)</td>
<td>4.76 (.74)</td>
<td>1.483</td>
</tr>
</tbody>
</table>

4.2. Hypotheses tests

4.2.1. The effects of a Job Crafting intervention

The aim of the first hypothesis set (H1a – H1c) is to find effects of the Job Crafting workshop. The first two hypotheses predict that after the intervention’s completion, the experimental group demonstrates an increase in Job Crafting behavior at T1 (H1a) and T2 (H1b). The first two hypotheses are tested with a paired sample t-test. After running the paired sample t-test comparing T0 and T1 mean scores of the experimental group (N=34), it was concluded that the Job Crafting dimensions did not differ significantly between T0 and T1, except for the seeking challenges dimension. Therefore, hypothesis 1a partly accepted (Table 3).

After running a second dependent sample t-test to compare the experimental group mean score at T0 with the mean at T2 (N=53), it was concluded that optimizing demands, seeking challenges and reducing demands all increased significantly from T0 to T2. Seeking resources did not change significantly between T0 (M = 3.62, SD = 0.62) and T2 (M = 3.72, SD=0.57); t(52)=1.281; p = 0.206. Hypothesis 1b was thus partly confirmed. All Results are found in Table 4 below.

The last hypothesis regarding the Job Crafting intervention examines the effect of the intervention on the experimental group compared to the control group (h1.c). This is done by means of a Two-way Mixed ANOVA. Results are found in Table 5 below. Time is the within-subjects factor (T0-T2) and group (experimental or control) is the between-subjects factor. After the test was run a significant interaction on seeking challenges (F (1,67) = 0.241, p = 0.028, partial η² = 0.070) and optimizing demands (F (1,67) = 5.649, p = 0.020, partial η² = 0.078) was revealed. It must be noted however, that the seeking challenges dimension did not meet the assumptions of homogeneity of variances and Box's M-test (results in Table 16; Appendix I (page 76)). Further analysis on the main time effect revealed interesting results. As expected, the significant interaction effects are explained by a significant time effect of the optimizing demands and seeking
challenges dimensions of the experimental group. Where the experimental group reported an increase in the dimensions (respectively: F(1, 52) = 7.643, p=0.008, partial $\eta^2 = 0.128$; F(1, 52) = 12.597, p=0.001, partial $\eta^2 = 0.195$), the control group did not (respectively: F(1, 15) = 1.239, p=0.283, partial $\eta^2 = 0.076$; F(1, 15) = 0.749, p=0.400, partial $\eta^2 = 0.048$). This suggests the Job Crafting intervention elicited an increase in optimizing demands and challenge seeking behavior. Moreover, a time-effect study on the decreasing hindering demands dimension revealed a significant increase at both the control group and experimental group. A possible explanation for this is provided in the discussion section. Together, this yields partial evidence for hypothesis 1c.

Table 3: Results of the paired sample t-test between the experimental group's T0 and T1 Job Crafting score. ** = significant to the 0.01 level; * = significant to the 0.05 level. Significant results are printed in bold.

<table>
<thead>
<tr>
<th>Seeking resources</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T1 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.62 (0.62)</td>
<td>0.647**</td>
<td>t(34) = 0.080</td>
<td>p = 0.937</td>
</tr>
<tr>
<td>$M_{T1}$ = 3.72 (0.57)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optimizing demands</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T1 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.11 (0.62)</td>
<td>0.357*</td>
<td>t(34) = 0.552</td>
<td>p = 0.585</td>
</tr>
<tr>
<td>$M_{T1}$ = 3.35 (0.64)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seeking challenges</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T1 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.87 (0.75)</td>
<td>0.483*</td>
<td>t(34) = 2.233</td>
<td>p = 0.032</td>
</tr>
<tr>
<td>$M_{T1}$ = 3.92 (0.61)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reducing demands</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T1 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.72 (0.91)</td>
<td>0.688**</td>
<td>t(34) = 1.736</td>
<td>p = 0.092</td>
</tr>
<tr>
<td>$M_{T1}$ = 3.99 (0.66)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Results of the paired sample t-test between the experimental group's T0 and T2 Job Crafting score. ** = significant to the 0.01 level; * = significant to the 0.05 level. Significant results are printed in bold.

<table>
<thead>
<tr>
<th>Seeking resources</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T2 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.62 (0.62)</td>
<td>0.531**</td>
<td>t(52) = 1.281</td>
<td>p = 0.206</td>
</tr>
<tr>
<td>$M_{T2}$ = 3.72 (0.57)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optimizing demands</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T2 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.83 (0.71)</td>
<td>0.524**</td>
<td>t(52) = 2.765</td>
<td>p = 0.008</td>
</tr>
<tr>
<td>$M_{T2}$ = 4.06 (0.50)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seeking challenges</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T2 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.14 (0.62)</td>
<td>0.481*</td>
<td>t(52) = 3.549</td>
<td>p = 0.001</td>
</tr>
<tr>
<td>$M_{T2}$ = 3.49 (0.59)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reducing demands</th>
<th>Mean time (SD)</th>
<th>Correlation T0-T2 score</th>
<th>t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M_{T0}$ = 3.75 (0.82)</td>
<td>0.481**</td>
<td>t(34) = 2.655</td>
<td>p = 0.011</td>
</tr>
<tr>
<td>$M_{T2}$ = 4.02 (0.62)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5: Results of the two-way mixed ANOVA for the Job Crafting dimensions. T0 and T2 indicate the measurement occasion. Groups include control (C) and experimental (EXP). Statistically significant results are printed in bold.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mean time (standard deviation)</th>
<th>Group×Time interaction effect</th>
<th>Mean time effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEAN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| C                  | \( M_{T0} = 3.69 \) (0.59)  
                     | \( M_{T2} = 3.71 \) (0.46)   | \( F(1, 67) = 1.894, p=0.173 \)  
                     | \( \eta^2 = 0.027 \)         | \( F(1, 15) = 0.098, p=0.758 \)  
                     | \( \eta^2 = 0.007 \)         |     |
| Exp                | \( M_{T0} = 3.62 \) (0.52)  
                     | \( M_{T2} = 3.83 \) (0.42)   | \( F(1, 52) = 9.259, p=0.004 \)  
                     | \( \eta^2 = 0.151 \)         |     |
| **Seeking Resources** |                                |                               |                 |
| C                  | \( M_{T0} = 3.44 \) (0.50)  
                     | \( M_{T2} = 3.40 \) (0.52)   | \( F(1, 67) = 0.915, p=0.342 \)  
                     | \( \eta^2 = 0.013 \)         | \( F(1, 15) = 0.218, p=0.647 \)  
                     | \( \eta^2 = 0.014 \)         |     |
| Exp                | \( M_{T0} = 3.62 \) (0.62)  
                     | \( M_{T2} = 3.72 \) (0.57)   | \( F(1, 52) = 1.642, p=0.206 \)  
                     | \( \eta^2 = 0.031 \)         |     |
| **Optimizing demands** |                                |                               |                 |
| C                  | \( M_{T0} = 4.23 \) (0.73)  
                     | \( M_{T2} = 4.08 \) (0.47)   | \( F(1, 67) = 0.241, p=0.028 \)  
                     | \( \eta^2 = 0.070 \)         | \( F(1, 15) = 0.749, p=0.400 \)  
                     | \( \eta^2 = 0.048 \)         |     |
| Exp                | \( M_{T0} = 3.83 \) (0.71)  
                     | \( M_{T2} = 4.06 \) (0.50)   | \( F(1, 52) = 12.597, p=0.001 \)  
                     | \( \eta^2 = 0.195 \)         |     |
| **Seeking challenges** |                                |                               |                 |
| C                  | \( M_{T0} = 3.44 \) (1.03)  
                     | \( M_{T2} = 3.33 \) (0.83)   | \( F(1, 67) = 5.649, p=0.020 \)  
                     | \( \eta^2 = 0.078^{10} \)  
                     | \( F(1, 15) = 1.239, p=0.283 \)  
                     | \( \eta^2 = 0.076 \)         |     |
| Exp                | \( M_{T0} = 3.14 \) (0.62)  
                     | \( M_{T2} = 3.49 \) (0.59)   | \( F(1, 52) = 7.643, p=0.008 \)  
                     | \( \eta^2 = 0.128 \)         |     |
| **Reducing Demands** |                                |                               |                 |
| C                  | \( M_{T0} = 3.64 \) (0.84)  
                     | \( M_{T2} = 3.90 \) (0.70)   | \( F(1, 67) = 0.014, p=0.907 \)  
                     | \( \eta^2 = 0.000 \)         | \( F(1, 15) = 5.040, p=0.040 \)  
                     | \( \eta^2 = 0.252 \)         |     |
| Exp                | \( M_{T0} = 3.75 \) (0.82)  
                     | \( M_{T2} = 4.02 \) (0.62)   | \( F(1, 52) = 7.047, p=0.011 \)  
                     | \( \eta^2 = 0.119 \)         |     |

10 Violation of Box’s M and Levene’s test (results in Table 16, page 77)
4.2.2. Changes of outcome variables

The following section presents the results of the hypotheses regarding outcome effects. In the table below (Table 6), an overview of the results of the Mixed ANOVA is included. Results of the Levene’s and Box’s M test are found in Table 16 in Appendix I (page 76). Further analysis on the development of the mean time effect through time (T0–T1–T2) in the experimental group is presented by means of a One-Way RM-ANOVA in the following sections.

Table 6: Results of the two-way mixed ANOVA on Job Crafting outcomes. T0 and T2 indicate the measurement occasion. Groups include control (C) and experimental (EXP). Statistically significant results are printed in bold.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mean (standard deviation)</th>
<th>Group×Time interaction effect</th>
<th>Mean time effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 2.03 (0.55)</td>
<td></td>
<td>F(1, 15) = 5.603, p=0.032</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 2.33 (0.81)</td>
<td></td>
<td>\eta^2 = 0.272</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 2.21 (0.54)</td>
<td>F(1, 67) = 10.959, p = 0.002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 2.03 (0.48)</td>
<td>\eta^2 = 0.141</td>
<td></td>
</tr>
<tr>
<td>Change Affect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 4.46 (0.79)</td>
<td></td>
<td>F(1, 15) = 0.071, p = 0.793</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.43 (1.00)</td>
<td></td>
<td>\eta^2 = 0.001</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 4.38 (0.93)</td>
<td>F(1, 67) = 0.995, p = 0.759</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.42 (0.71)</td>
<td>\eta^2 = 0.000</td>
<td>\eta^2 = 0.002</td>
</tr>
<tr>
<td>Change behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 4.46 (0.58)</td>
<td></td>
<td>F(1, 15) = 0.093, p = 0.764</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.50 (0.66)</td>
<td></td>
<td>\eta^2 = 0.006</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 4.23 (0.79)</td>
<td>F(1, 67) = 2.602, p = 0.111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.58 (0.55)</td>
<td>\eta^2 = 0.037</td>
<td>\eta^2 = 0.193</td>
</tr>
<tr>
<td>Change Cognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 4.13 (0.73)</td>
<td></td>
<td>F(1, 15) = 0.000, p = 1.000</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.13 (0.97)</td>
<td></td>
<td>\eta^2 = 0.000</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 3.91 (0.81)</td>
<td>F(1, 67) = 2.857, p = 0.096</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.25 (0.58)</td>
<td>\eta^2 = 0.041</td>
<td>\eta^2 = 0.177</td>
</tr>
<tr>
<td>Work Engagement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 4.43 (1.06)</td>
<td></td>
<td>F(1, 15) = 0.012, p = 0.913</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.42 (0.96)</td>
<td></td>
<td>\eta^2 = 0.001</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 4.57 (1.00)</td>
<td>F(1, 67) = 0.010, p = 0.919</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 4.54 (0.83)</td>
<td>\eta^2 = 0.000</td>
<td>\eta^2 = 0.001</td>
</tr>
<tr>
<td>Task Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 5.43 (0.89)</td>
<td></td>
<td>F(1, 15) = 0.074, p = 0.790</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.39 (0.44)</td>
<td></td>
<td>\eta^2 = 0.005</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 5.07 (0.79)</td>
<td>F(1, 67) = 0.318, p = 0.575</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.15 (0.48)</td>
<td>\eta^2 = 0.005</td>
<td>\eta^2 = 0.109</td>
</tr>
<tr>
<td>Contextual Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 5.26 (0.87)</td>
<td></td>
<td>F(1, 15) = 0.066, p = 0.801</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.30 (0.46)</td>
<td></td>
<td>\eta^2 = 0.004</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 4.99 (0.76)</td>
<td>F(1, 67) = 1.216, p = 0.274</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.26 (0.41)</td>
<td>\eta^2 = 0.018</td>
<td>\eta^2 = 0.011</td>
</tr>
<tr>
<td>Adaptive Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>M_{T0} = 5.10 (0.64)</td>
<td></td>
<td>F(1, 15) = 0.380, p = 0.547</td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.00 (0.47)</td>
<td></td>
<td>\eta^2 = 0.025</td>
</tr>
<tr>
<td>EXP</td>
<td>M_{T0} = 4.77 (0.76)</td>
<td>F(1, 67) = 5.462, p = 0.022</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M_{T2} = 5.13 (0.37)</td>
<td>\eta^2 = 0.075</td>
<td>\eta^2 = 0.212</td>
</tr>
</tbody>
</table>
Changes in work-related exhaustion

The first hypothesized effect on an outcome variable relates to exhaustion. It was hypothesized that after the intervention was completed (T2), employees in the experimental group report a decrease in job-related exhaustion, compared to the control group (H2). There was homogeneity of variances (p>0.05) at T0, but not at T2 (p= 0.001). The assumption of covariances was violated as well as assessed by Box’s M (p=0.03). Therefore, a correction has been done to account for this (i.e. Greenhouse-Geisser corrected degrees of freedom). As there are only two levels in time (T0 and T2), there is no need to assess sphericity.

Results indicate evidence for a significant Group×time interaction effect (F(1,67) = 10.959, p = 0.002, partial η² = 0.141) and thus evidence for hypothesis 2 is obtained. The exhaustion score of the control increased from T0 (M = 2.03, SD = 0.55) to T2 (M = 2.33, SD = 0.81). The exhaustion score of the experimental group decreased from T0 (M = 2.21, SD = 0.54) to T2 (M = 2.03, SD = 0.48). Further analysis on the main time effect revealed that both changes are significant (control group: F(1,15) = 5.603, p=0.032, partial η² = 0.272 and experimental group: F(1, 52) = 6.726, p=0.012, partial η² = 0.115). To further analyze when the change in exhaustion score was strongest, a RM ANOVA was conducted on the subsample of the experimental group completing T0, T1 and T2 questionnaires (N=34). It was concluded from the pairwise comparisons that the decrease of exhaustion was strongest between T0 and T1 (ΔM = -0.173; 95% CI [-0.384, 0.038], p = 0.139), and continued towards T2 (ΔM_{T1-T2} = -0.079; 95% CI [-0.161, 0.002], p = 0.058) (Figure 4, Table 7). However, these changes separately (changes from T0 to T1 and from T1 to T2) were not significant.

![Figure 4: The change in mean score of exhaustion in the experimental group over time.](image)

Table 7: Results of the RM ANOVA conducted on exhaustion

<table>
<thead>
<tr>
<th>Mean (SD)</th>
<th>Mauchly’s test</th>
<th>Significance</th>
<th>Mean time effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M_{T0} = 2.29 (0.58)</td>
<td>X²(2) = 32.05, p &lt; 0.001¹¹</td>
<td>F(1.234, 41.941) = 6.820, p=0.009</td>
<td>ΔM_{T0-T1} = -0.173</td>
</tr>
<tr>
<td>M_{T1} = 2.12 (0.56)</td>
<td></td>
<td></td>
<td>95% CI = [-0.384, 0.038]</td>
</tr>
<tr>
<td>M_{T2} = 2.04 (0.51)</td>
<td></td>
<td></td>
<td>p = 0.139</td>
</tr>
</tbody>
</table>

¹¹ Deviations of mean values as compared to Fout! Verwijzingsbron niet gevonden. due to a difference in sample size. The explanation for this is given in section 3.2.

¹² Sphericity assumption violated as Mauchly’s test’s is significant. Greenhouse-Geisser’s Corrected degrees of freedom have been used (ε = 0.617)
Changes in employee change attitude

Secondly, it was hypothesized that employees in the experimental group would report a more positive change attitude when comparing to the control group and the pretest score (H3). After testing for homogeneity of variances and sphericity, it was concluded that the intervention group did not attain a statistically significant increase in mean change attitude compared to the control (F(1, 67) = 2.505, p = 0.118, partial $\eta^2 = 0.036$)\(^\text{13}\). Moreover, there is no significant Group×Time interaction effect for any of the separate dimensions of change attitude. Nevertheless, simple main effect analysis for time did reveal a significant increase in change behavior and change cognition in the experimental group (F(1, 52) = 12.426, p=0.001, partial $\eta^2 = 0.193$ and F(1, 52) = 11.208, p=0.002, partial $\eta^2 = 0.177$ respectively) (Table 6). Further analysis to reveal if the change occurred directly after the intervention (T1) or delayed (T2), a RM ANOVA was conducted on the subsample completing all three questionnaires (T0, T1 and T2); N=35. Interesting to see is that the RM ANOVA reveal even more significant effects (Table 8). Both the overall (mean) change attitude and the three dimensions increased significantly between T0 and T2 measurement. Post hoc analysis (pairwise comparison) revealed that the mean change attitude score significantly increased from T1 to T2 ($\Delta M = 0.244$, 95% CI = [0.067, 0.420], p = 0.004). When switching to the separate dimensions, it should be concluded that the score of change cognition increased significantly between T0 and T2 ($\Delta M = 0.457$, 95% CI = [0.172, 0.735], p = 0.001), as well as between T1 and T2 ($\Delta M = 0.189$, 95% CI = [0.005, 0.372], p = 0.042). As for the behavior component, a statistically significant increase occurred during T0 and T2 ($\Delta M = 0.366$, 95% CI=[0.094, 0.638], p = 0.005). The affective component demonstrated an interesting shift over time. Although not significant, one’s feelings regarding change decreased between T0 and T1 ($\Delta M = -0.327$, 95% CI = [-0.656, 0.002], p = 0.052), it statistically significantly increased between T1 and T2 ($\Delta M = 0.411$, 95% CI = [1.41, .682], p = 0.002). Inferring that directly after the intervention, employees did not have a positive affect towards change which was corrected to the base level after four weeks, as T0 to T2 scores reveal no significant changes (p=1.000). All results are found in Table 8 and Figure 5. Together, this provides partial evidence for accepting hypothesis 3: there is no significant effect when comparing the experimental group with the control, but within-subject scores on change attitude and its dimensions changed significantly.

![Figure 5: The change in mean score of change attitude and its dimensions in the experimental group over time.](image)
Table 8: Results of the one-way repeated measures ANOVA on dimensions of employee change attitude. Significant results are printed in bold. If Mauchly’s test for equality of covariances is violated ($p<0.05$), adjusted degrees of freedom have been used as reported.

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Mauchly’s test</th>
<th>Significance</th>
<th>Pairwise comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEAN</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| $M_{T0}$ | 4.19 (0.54) | $X^2(2) = 1.851 \ p > 0.05$ | $F(2,68) = 7.844, \ p = 0.001; \ \eta^2 = 0.187$ | $\Delta M_{T0-T1} = 0.054$  
95% CI = [-0.159, 0.267]  
$p = 1.000$  
$\Delta M_{T1-T2} = 0.244$  
95% CI = [0.067, 0.420]  
$p = 0.004$ |
| $M_{T1}$ | 4.24 (0.47) |                |              |                     |
| $M_{T2}$ | 4.49 (0.50) |                |              |                     |
| **Affective component** |           | $X^2(2) = 2.650 \ p > 0.05$ | $F(2,68) = 5.966, \ p = 0.004; \ \eta^2 = 0.149$ | $\Delta M_{T0-T1} = -0.327$  
95% CI = [-0.656, 0.002]  
$p = 0.052$  
$\Delta M_{T1-T2} = 0.411$  
95% CI = [0.141, 0.682]  
$p = 0.002$ |
| $M_{T0}$ | 4.43 (0.87) |                |              |                     |
| $M_{T1}$ | 4.10 (0.78) |                |              |                     |
| $M_{T2}$ | 4.51 (0.72) |                |              |                     |
| **Behavioral component** |           | $X^2(2) = 6.884 \ \text{p} = 0.032^{14}$ | $F(1.683,57.225) = 7.056, \ p=0.003; \ \eta^2 = 0.172$ | $\Delta M_{T0-T1} = 0.234$  
95% CI = [-0.042, 0.510]  
$p = 0.119$  
$\Delta M_{T1-T2} = 0.131$  
95% CI = [-0.055, 0.318]  
$p = 0.257$ |
| $M_{T0}$ | 4.28 (0.63) |                |              |                     |
| $M_{T1}$ | 4.52 (0.46) |                |              |                     |
| $M_{T2}$ | 4.65 (0.53) |                |              |                     |
| **Cognitive component** |           | $X^2(2) = 8.186 \ \text{p} = 0.017^{15}$ | $F(1.640,55.752) = 10.542, \ p<0.001; \ \eta^2 = 0.193$ | $\Delta M_{T0-T1} = 0.268$  
95% CI = [-0.013, 0.549]  
$p = 0.065$  
$\Delta M_{T1-T2} = 0.189$  
95% CI = [0.005, 0.372]  
$p = 0.042$ |
| $M_{T0}$ | 3.85 (0.71) |                |              |                     |
| $M_{T1}$ | 4.12 (0.39) |                |              |                     |
| $M_{T2}$ | 4.31 (0.53) |                |              |                     |

Changes in employee work engagement

Hypothesis 4a states that after the intervention has been completed, the employees in the experimental group report an increase in work engagement when compared to the control group and their pre-test scores. There was no evidence to accept this hypothesis as both the Mixed ANOVA and the repeated measures ANOVA did not provide statistically significant results (Table 6), nor did the RM ANOVA (Table 9). As both tests did not reveal significant results, there was no post-hoc test on the RM ANOVA. Lastly, there is no evidence to support hypothesis 4.

---

14 Sphericity assumption violated as Mauchly’s test’s is significant. Greenhouse-Geisser’s Corrected degrees of freedom have been used ($\epsilon = 0.842$)

15 Sphericity assumption violated as Mauchly’s test’s is significant. Greenhouse-Geisser’s Corrected degrees of freedom have been used ($\epsilon = 0.820$)
Table 9: Results of the RM ANOVA conducted on work engagement and its dimensions.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mean (SD)</th>
<th>Mauchly’s test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td></td>
<td></td>
<td>F(2,68) = 0.060, p = 0.942; η² = 0.002</td>
</tr>
<tr>
<td>M₁₀</td>
<td>4.57 (1.05)</td>
<td>X²(2) = 2.712 p &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>M₁₁</td>
<td>4.53 (0.92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M₁₂</td>
<td>4.58 (0.84)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td></td>
<td></td>
<td>F(2,68) = 0.344, p = 0.239; η² = 0.010</td>
</tr>
<tr>
<td>M₁₀</td>
<td>4.50 (1.07)</td>
<td>X²(2) = 2.865 p &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>M₁₁</td>
<td>4.62 (0.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M₁₂</td>
<td>4.52 (0.88)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td></td>
<td></td>
<td>F(2,68) = 0.403, p=0.670; η² = 0.102</td>
</tr>
<tr>
<td>M₁₀</td>
<td>4.48 (1.33)</td>
<td>X²(2) = 4.681 p &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>M₁₁</td>
<td>4.30 (1.03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M₁₂</td>
<td>4.37 (1.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption</td>
<td></td>
<td></td>
<td>F(2,68) = 0.450, p = 0.640; η² = 0.013</td>
</tr>
<tr>
<td>M₁₀</td>
<td>4.75 (1.14)</td>
<td>X²(2) = 0.030 p &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>M₁₁</td>
<td>4.68 (1.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M₁₂</td>
<td>4.84 (0.76)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Changes in employee job performance

The last outcome hypothesis entails effects on employee job performance. It is hypothesized that four weeks after the intervention (T₂), employees in the experimental group report an increase in task (H₅a), contextual (H₅b) and adaptive (H₅c) performance, compared to the control group. The mixed ANOVA did not reveal a significant Group×Time interaction except for adaptive performance (F(1, 67) = 5.462, p = 0.022, partial η² = 0.075) (Table 6). Further analysis revealed significant simple time effects for contextual performance (F(1, 52) = 6.379, p = 0.015, partial η² = 0.109) and adaptive performance (F(1, 52) = 0.140, p<0.001, partial η² = 0.212) in the experimental group. This provided a base for a RM ANOVA on the performance dimensions (Table 10). Interestingly, contextual performance now reveals no significant time effect (F(2, 68) = 0.949, p = 0.392; partial η² = 0.027). This is explained in the discussion section. Nevertheless, the RM ANOVA revealed significant increase in adaptive performance score (F(1.574,51.610) = 7.922, p=0.002, η² = .189). Post-hoc analysis uncovered this effect mainly occurred during the intervention (ΔM₁₀₋₁₁ = 0.317, 95% CI = [0.047, 0.588]; p = 0.017) and stabilized over the 4 weeks after the intervention (ΔM₁₁₋₁₂ = 0.006, 95% CI = [-0.149, 0.161]; p = 1.000). An overview of these findings is also depicted in Figure 6 below. This suggests effectiveness of the Job Crafting intervention in achieving increased adaptive performance as the control group did not report an increase in adaptive performance over time. Overall, it is concluded that hypothesis H₅a and H₅b must be rejected, whereas H₅c is empirically supported. It is noted however, that both contextual and task performance are positively trended, which will be elaborated on in the discussion section.
Table 10: Results of the Repeated Measures ANOVA conducted on the performance dimensions of contextual performance, task performance and adaptive performance. Significant results are printed in bold.

<table>
<thead>
<tr>
<th>Performance</th>
<th>Mean (SD)</th>
<th>Mauchly’s test</th>
<th>Significance</th>
<th>Pairwise comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(_{T0}) = 5.07 (0.62)</td>
<td>(\chi^2(2) = 3.273) p &gt; 0.05</td>
<td>F(2, 68) = 1.223, p = 0.301; (\eta^2 = 0.035)</td>
<td>(\Delta M_{T0-T1} = 0.114) 95% CI = [-0.140, 0.368] p = 0.795</td>
<td></td>
</tr>
<tr>
<td>M(_{T1}) = 5.18 (0.51)</td>
<td></td>
<td>F(2, 68) = 0.949, p = 0.392; (\eta^2 = 0.027)</td>
<td>(\Delta M_{T1-T2} = 0.017) 95% CI = [-0.176, 0.210] p = 1.000</td>
<td></td>
</tr>
<tr>
<td>M(_{T2}) = 5.20 (0.50)</td>
<td></td>
<td>F(2, 68) = 7.922, p=0.002; (\eta^2 = 0.189)</td>
<td>(\Delta M_{T1-T2} = 0.097) 95% CI = [-0.080, 0.274] p = 0.527</td>
<td></td>
</tr>
<tr>
<td><strong>Contextual performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(_{T1}) = 5.19 (0.37)</td>
<td>(\chi^2(2) = 0.952) p = 0.621</td>
<td>F(2, 68) = 0.949, p = 0.392; (\eta^2 = 0.027)</td>
<td>(\Delta M_{T1-T2} = -0.013) 95% CI = [-0.209, 0.183] p = 1.000</td>
<td></td>
</tr>
<tr>
<td>M(_{T1}) = 5.18 (0.44)</td>
<td></td>
<td>F(2, 68) = 0.949, p = 0.392; (\eta^2 = 0.027)</td>
<td>(\Delta M_{T1-T2} = 0.097) 95% CI = [-0.080, 0.274] p = 0.527</td>
<td></td>
</tr>
<tr>
<td>M(_{T2}) = 5.27 (0.41)</td>
<td></td>
<td>F(2, 68) = 7.922, p=0.002; (\eta^2 = 0.189)</td>
<td>(\Delta M_{T1-T2} = 0.317) 95% CI = [0.047, 0.588] p = 0.017</td>
<td></td>
</tr>
<tr>
<td><strong>Adaptive performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(_{T0}) = 4.80 (0.62)</td>
<td>(\chi^2(2) = 12.610) p = 0.002(^{16})</td>
<td>F(1.518, 51.610) = 7.922, p=0.002; (\eta^2 = 0.189)</td>
<td>(\Delta M_{T1-T2} = 0.006) 95% CI = [-0.149, 0.161] p = 1.000</td>
<td></td>
</tr>
<tr>
<td>M(_{T1}) = 5.11 (0.40)</td>
<td></td>
<td>F(1.518, 51.610) = 7.922, p=0.002; (\eta^2 = 0.189)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(_{T2}) = 5.12 (0.37)</td>
<td></td>
<td>F(1.518, 51.610) = 7.922, p=0.002; (\eta^2 = 0.189)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: The change in mean score of the performance dimensions in the experimental group over time.

Changes are related to an increase in Job Crafting behavior.

Hypothesis set 6 predicts that Job Crafting behavior is related to - and predicts - the changes in the outcome variables. As discussed in the method section, this hypothesis is assessed using Spearman’s rho instead of Pearson’s correlation coefficients as scatterplots did not reveal a monotonic relationship. If

\(^{16}\) Sphericity assumption violated as Mauchly’s test’s is significant. Greenhouse-Geisser’s Corrected degrees of freedom have been used (\(\varepsilon = 0.759\)).
correlations were significant, blocked regression was used to assess Job Crafting behavior as a predictor variable predictivity. The independent variable was the change in Job Crafting behavior whereas the dependent variable was the change in the outcome variables.

The correlation study revealed that only change behavior is positively related to all Job Crafting dimensions. Change cognition is positively related to the seeking challenges dimension and adaptive performance is positively related to optimizing demands (Table 11).

Table 11: Overview of the correlation between the change in outcome variable and change in Job Crafting dimension. The level of significance is included in brackets. Significant results are printed in bold.

<table>
<thead>
<tr>
<th></th>
<th>ΔSeeking Resources</th>
<th>ΔSeeking Challenges</th>
<th>ΔOptimizing demands</th>
<th>ΔReducing demands</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔExhaustion</td>
<td>0.119 (0.398)</td>
<td>-0.155 (0.268)</td>
<td>0.049 (0.727)</td>
<td>-0.119 (0.397)</td>
</tr>
<tr>
<td>ΔChange affect</td>
<td>0.027 (0.850)</td>
<td>0.236 (0.089)</td>
<td>0.152 (0.279)</td>
<td>0.187 (0.180)</td>
</tr>
<tr>
<td>ΔChange behavior</td>
<td>0.371 (0.006)</td>
<td>0.454 (0.001)</td>
<td>0.448 (0.001)</td>
<td>0.363 (0.008)</td>
</tr>
<tr>
<td>ΔChange cognition</td>
<td>0.144 (0.302)</td>
<td>0.426 (0.009)</td>
<td>0.131 (0.348)</td>
<td>-0.037 (0.795)</td>
</tr>
<tr>
<td>Δwork engagement</td>
<td>0.125 (0.374)</td>
<td>0.112 (0.426)</td>
<td>0.172 (0.217)</td>
<td>0.273 (0.048)</td>
</tr>
<tr>
<td>Δtask performance</td>
<td>-0.223 (0.112)</td>
<td>0.142 (0.314)</td>
<td>0.023 (0.872)</td>
<td>0.102 (0.474)</td>
</tr>
<tr>
<td>Δcontextual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>performance</td>
<td>-0.176 (0.208)</td>
<td>0.158 (0.259)</td>
<td>0.177 (0.204)</td>
<td>0.060 (0.669)</td>
</tr>
<tr>
<td>Δadaptive</td>
<td>0.012 (0.933)</td>
<td>0.107 (0.446)</td>
<td>0.278 (0.044)</td>
<td>0.051 (0.719)</td>
</tr>
</tbody>
</table>

Next, blocked regression was used to determine if an increase in Job Crafting behavior can predict the change in change behavior change cognition and adaptive performance. The T2 score of the variable was the dependent variable which is predicted by the T0 score (block 1) and the Job Crafting dimension that significantly correlated (block 2). Table 12-Table 14 display the results of this analysis and it must be concluded that the predictive power of the Job Crafting dimensions is not statistically significant. It must thus be concluded that hypotheses set 6 is rejected as there is no evidence to suggest that the change in outcome variables can be predicted from a change in Job Crafting behavior.
Table 12: Output of the blocked regression. Predicting the T2 behavioral component of change attitude as dependent variable from T0 change behavior and the change in job crafting dimensions. ** = significant to the 0.01 level.

<table>
<thead>
<tr>
<th>model</th>
<th>Variables</th>
<th>T2 change attitude (behavior)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B (SE)</td>
</tr>
<tr>
<td>1 (R²=0.229)</td>
<td>(constant)</td>
<td>3.183** (0.365)</td>
</tr>
<tr>
<td></td>
<td>T0 change attitude (behavior)</td>
<td>0.330** (0.085)</td>
</tr>
<tr>
<td>2 (R²=0.383)</td>
<td>(constant)</td>
<td>2.669** (0.390)</td>
</tr>
<tr>
<td></td>
<td>T0 change attitude (behavior)</td>
<td>0.436** (0.088)</td>
</tr>
<tr>
<td></td>
<td>∆Job Crafting (seeking resources)</td>
<td>-0.068 (0.145)</td>
</tr>
<tr>
<td></td>
<td>∆Job Crafting (seeking challenges)</td>
<td>0.161 (0.86)</td>
</tr>
<tr>
<td></td>
<td>∆Job Crafting (reducing hindering demands)</td>
<td>0.010 (0.113)</td>
</tr>
<tr>
<td></td>
<td>∆Job Crafting (optimizing demands)</td>
<td>0.207 (0.133)</td>
</tr>
</tbody>
</table>

Table 13: Output of the blocked regression. Predicting T2 adaptive performance as dependent variable from T0 adaptive performance and increase in optimizing demands. ** = significant to the 0.01 level.

<table>
<thead>
<tr>
<th>model</th>
<th>Variables</th>
<th>T2 adaptive performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B (SE)</td>
</tr>
<tr>
<td>1 (R²=0.169)</td>
<td>(constant)</td>
<td>4.171** (0.302)</td>
</tr>
<tr>
<td></td>
<td>T0 adaptive performance</td>
<td>0.201** (0.063)</td>
</tr>
<tr>
<td>2 (R²=0.171)</td>
<td>(constant)</td>
<td>4.201** (0.318)</td>
</tr>
<tr>
<td></td>
<td>T0 adaptive performance</td>
<td>0.194** (0.066)</td>
</tr>
<tr>
<td></td>
<td>∆ optimizing demands</td>
<td>-0.020 (0.060)</td>
</tr>
</tbody>
</table>

Table 14: Output of the blocked regression. Predicting the T2 cognitive component of change attitude as dependent variable from T0 change cognition and change in seeking challenges. ** = significant to the 0.01 level.

<table>
<thead>
<tr>
<th>model</th>
<th>Variables</th>
<th>T2 change attitude (cognitive)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B (SE)</td>
</tr>
<tr>
<td>1 (R²=0.454)</td>
<td>(constant)</td>
<td>2.989** (0.355)</td>
</tr>
<tr>
<td></td>
<td>T0 change attitude (cognitive)</td>
<td>0.323** (0.089)</td>
</tr>
<tr>
<td>2 (R²=0.455)</td>
<td>(constant)</td>
<td>2.940** (0.397)</td>
</tr>
<tr>
<td></td>
<td>T0 change attitude (cognitive)</td>
<td>0.332** (0.095)</td>
</tr>
<tr>
<td></td>
<td>∆Job Crafting (seeking challenges)</td>
<td>0.027 (0.060)</td>
</tr>
</tbody>
</table>
5. Conclusions and Discussion

The main goal of this master thesis was to increase overall employee job performance at IKEA Eindhoven's Logistics department. Employee performance during (organizational) change intentions (i.e. adaptive performance) required attention as this department is one of the most rigid departments, unwilling to engage in change endeavors. Moreover, an increase of overall employee motivation (i.e. work engagement) and a decrease of job-related exhaustion was asked for. This was required as the implementation of IKEA's Standard Operating Procedures was heavily resisted to, yielding a motivation dip and increased exhaustion amongst employees according to their manager. Moreover, the department expected a new, significant reorganization.

Supported by scholarly works on the relationship between Job Crafting and organizational change implementation, Job Crafting was suggested as a means to achieve the above-mentioned changes. There is theoretical and empirical evidence that Job Crafting behavior (i.e. seeking resources, optimizing demands and seeking challenges) is related to increased motivation, decreased exhaustion and increased performance. Moreover, there is preliminary (theoretical) evidence to suggest that these Job Crafting dimensions are related to a more positive change attitude. A Job Crafting intervention (based on the JD-R Theory and the Social Cognitive Theory) focusing on seeking resources, optimizing demands and seeking challenges has previously been found to indeed result in increased Job Crafting behavior in individuals. For Job Crafting strategies to be successful, a stimulating environment in which employees are provided sufficient task autonomy is required (Petrou et al., 2012; Van den Heuvel et al., 2015; Wrzesniewski & Dutton, 2001). IKEA is known for its inspiring culture: it has been awarded the most inspiring organization in the Netherlands three times (Synergie, 2017). Additionally, a culture in which employees are stimulated to make mistakes - to learn from them - and find better ways to engage in everyday activities is found at IKEA. As both theory and practice align, the problem statement was converted to the following research question: “Can a Job Crafting intervention aid in decreasing employee job-related exhaustion, creating a more positive change attitude and increase their work engagement and (adaptive) performance?” It was expected that a Job Crafting intervention would result in increased Job Crafting behavior (i.e. seeking resources, optimizing demands and seeking challenges). It was furthermore predicted that this would consequently result in decreased exhaustion, increased employee work engagement (i.e. vigor, dedication and absorption), a more positive change attitude (i.e. change affect, behavior and cognition) and increased employee job performance (i.e. contextual, task and adaptive performance). Moreover, this was expected to result in increased employee job performance.

The current study revealed evidence to suggest that a Job Crafting intervention based on the JD-R Theory and the Social Cognitive Theory can lead to increased Job Crafting behavior (i.e. seeking challenges, optimizing demands and surprisingly reducing hindering demands) in employees. This effect was measurable four weeks after the intervention. Moreover, exhaustion in employees significantly decreased four weeks after the intervention was completed. Within-subject differences of change attitude and its dimensions revealed that employees participating in the Job Crafting intervention attained a significantly more positive outlook on change. Their feelings, thoughts and behavioral intentions with regard to change initiatives were significantly more positive compared to their pre-test score. Lastly, there is evidence to state that employees participating in the Job Crafting intervention scored higher on adaptive performance, both compared to the control group and their pre-test scores. Even though employees participating in the experimental group did report an increase in Job Crafting behavior and a change in exhaustion, change attitude and adaptive performance, no correlation between a change in the Job Crafting behavior and a change in the outcome variables has been found. Consequently, there is no rigid empirical evidence to suggest that the changes in outcome variables are a consequence of the Job Crafting intervention.
5.1. Discussion of theoretical implications

In this section, first the change in Job Crafting behavior is discussed and the theoretical implications of the findings are presented. Thereafter, the changes in the outcome variables are discussed and the section is concluded by listing the limitations of the study.

5.1.1. Change in Job Crafting behavior

The current study was first and foremost aimed theoretically at developing a further understanding of the Job Crafting intervention’s effectiveness. The study followed the intervention design of Van den Heuvel et al. (2012), however optimizing demands substituted reducing hindering demands as a Job Crafting dimension as suggested by Demerouti & Peeters (2017). Moreover, the current intervention is conducted in a novel research context (retail). Whereas previous studies have focused on the public sector (Van den Heuvel et al., 2015; Van Wingerden, Bakker, et al., 2017a, 2017b), health care (Gordon et al., 2018) or among Greek employees (Demerouti et al., 2017), the current study focusses on a diversely aged experimental sample in a retail environment with different educational backgrounds and employment duration. This answers to the identified future research direction in the study of Van Wingerden, Bakker et al. (2017a) who request future intervention studies to be conducted in different occupational groups. This intervention is a welcome addition to the limited existing literature on Job Crafting interventions.

The results of the current study align with previous results on Job Crafting interventions: the intervention can lead to increased seeking challenges and increased optimizing demands (Gordon et al., 2018; Van Wingerden, Bakker, et al., 2017a). The latter is specifically important as this Job Crafting dimension is newly suggested in the Job Crafting literature. Optimizing demands is proposed to replace the reduction of hindering demands dimension (Demerouti & Peeters, 2017), as this dimension has been found to lead to negative job outcomes (Petrou et al., 2012; Weseler & Niessen, 2016b). Interestingly, although not trained towards, employees participating in the Job Crafting intervention did report an increase in hindering demand reduction behavior. An increase in demand reduction behavior was however also found in the control group. The explanation for this may be twofold First, the increase in demand reduction behavior in the experimental could be explained by the fact that optimizing demands and reducing hindering demands are closely linked as they both are forms of reduction oriented crafting (Demerouti & Peeters, 2017; Petrou et al., 2012). Nevertheless, the effect size of optimizing demands was slightly higher, suggesting that the Job Crafting intervention training did also induce behavior in which bypassing strenuous working methods (i.e. optimizing demands) were chosen over avoiding those (i.e. reducing hindering demands). The increased demand reduction behavior in the control group may be explained through the reported increase in exhaustion. Reducing job demands includes behaviors targeted towards minimizing emotional, mental or physical job aspects to reduce one’s workload or pressure (Petrou et al., 2012). During the measurement period, workload at IKEA Breda may have increased, resulting in increased exhaustion symptoms. Consequently, demand reduction strategies may have occurred as a natural coping mechanism to deal with this increased workload (Demerouti, Bakker, & Halbesleben, 2015; Petrou et al., 2012). In contrast to previous studies, there is no evidence that the current Job Crafting intervention can yield resource seeking behavior. An explanation for this is that some employees may have found it difficult to ask for advice or feedback from colleagues, partly due to the dynamic working environment and perceived time pressure to complete their tasks and partly because of their notion that they do not need help from colleagues as concluded from the evaluative sessions. Together, this study forms a valuable addition to the scholars’ knowledge on the effects of a Job Crafting intervention on Job Crafting behavior.

5.1.2. Change in outcome variables.

Secondly, the effect of increased Job Crafting behavior on outcomes as exhaustion, change attitude, work engagement and job performance has been studied. New findings on these variables are of value as findings regarding the effect of Job Crafting behavior on these outcomes differ amongst studies. As suggested by scholars, further evidence on this must be gathered to draw rigid conclusions (Gordon et al., 2018; Van Wingerden, Bakker, et al., 2017a). This study answers to this request. As the study sample and
context strongly differs from earlier studies, findings are extremely relevant for overall generalizability of the results of a Job Crafting intervention. In line with previous findings and the author’s expectation, feelings of exhaustion amongst employees have decreased significantly between the start of the intervention (T0) and 4 weeks after the intervention (T2). Hence, employees now feel less exhausted than before the intervention. As the decline did not stagnate between T1 and T2, it might be reasonable to assume that a further decrease of exhaustion symptom scan be expected. This is in line with the suggestion that Job Crafting is a skill to be learned and remains effective after the intervention is completed (Van Wingerden, Bakker, et al., 2017b). Moreover, it has been suggested and supported by scholars that Job Crafting can be contagious (Demerouti & Peeters, 2017; Mäkikangas, Bakker, & Schaufeli, 2017; Peeters et al., 2016), which could also explain the continuance of the decrease in exhaustion.

Theoretically novel and statistically relevant is the inclusion of change attitude in the Job Crafting literature. Results have revealed that employees in the experimental group are more positively oriented towards change endeavors. It has been found that their feelings, thoughts and intentions to act upon change have been positively influenced, as was hypothesized. These findings are exciting as, to the author’s knowledge, this is the first Job Crafting intervention study in its form including employee change attitude as an outcome variable of Job Crafting behavior. Although Job Crafting behavior has previously been linked to organizational change (Petrou et al., 2018). Attention has been focused on increasing adaptive performance through Job Crafting behavior. This study presents preliminary empirical evidence that employee change attitude may be influenced by Job Crafting behavior, providing an avenue for further research. Furthermore, these findings further strengthen suggestions by Van den Heuvel et al. (2010) that personal resources lead to a more positive change attitude.

Based on the results, work engagement did not increase in the experimental group. Scores on work engagement remained about equal both compared to the control as compared to pre-intervention scores. Although in line with previous findings (Van Wingerden, Derks, et al., 2017), this was not expected but may be explained. First, as stated in the JD-R Theory, work engagement is the result of an optimal balance between job demands and resources (Bakker & Demerouti, 2014). The lack of significant increase in work engagement might therefore be explained by a lack of balance. Employees might still experience a high workload and perceive a lack of resources to deal with them. Moreover, there might be a time lag in the general increase of employee work engagement as discussed in (Bakker & Albrecht, 2018). The authors explain that work engagement may fluctuate as a function of daily demands.

Lastly, the change in employee job performance. Employee job performance was stated to be comprised of three dimensions: task, contextual and adaptive performance. First there was no significant increase in employee task performance, however there is a positive trend. The explanation for a lack of significant improvement is twofold. First, the participants in the experimental group already rated high on task performance (M=4.99 on a scale from 1-6). Therefore, there is only little room to improve. Especially since 6 would indicate perfect performance. Second, it must be noted that the repeated measures ANOVA made use of the subsample which consisted of only 39 respondents. Furthermore, it was found that the subsample’s T0 score was higher compared to the T0 score of participants completing only T0 and T2 questionnaires, leaving also little room for improvements to be discovered with the RM ANOVA. Hence, the changes were non-significant, but positively trended. For contextual performance, the same may hold. Scores were already high, and thus significant improvements may be difficult to attain. While there was a mean time effect of within-subjects changes there was no significant group interaction effect. Moreover, RM ANOVA on the subsample did not reveal any significant changes. This might be explained by the difference in base score of the subsample and the full sample, in which the subsample scored higher in the base score. Again, the contextual performance dimension was positively trended. On a different line of reasoning, seeking resources has been linked to contextual performance (Gordon et al., 2018) and was not changed. Therefore, a lack of change in this performance dimension might also be explained by a lack of change in resource seeking behavior of the participants. Indeed, it seems viable that a lack of change in
strategies as seeking help, advice and feedback from others, results in a lack of change in contextual performance as there are limited possibilities to help others. Third and last, adaptive performance changed significant. Based on several scholarly works, this was expected. Job Crafting (intervention) studies have frequently addressed the role of Job Crafting behavior in positively influencing adaptive performance of individuals. In e.g. works of Gordon et al. (2018), Peeters et al. (2016) and Demerouti et al. (2017) it was found that adaptive performance is positively related to seeking challenges and seeking resources. Opposed to these findings, it was found in the current study that the change in optimizing demands behavior (and not seeking challenges or resources) is significantly and positively related to the change in adaptive performance. According to the employees, the main reason that adherence to the Standard Operating Procedures (SOP) was not attained before the intervention was because of expected workload increase. By optimizing demands, employees may have found a work-around to still achieve adherence to the SOP while minimizing the increase in workload, explaining the correlation. In contrast to previous findings, it seems logical that the change in seeking resources behavior does not relate to the change in adaptive performance as the change was not significant. However, for the seeking challenges dimension, results were not as expected.

5.1.3. Limitations of the current study
Although carefully designed and executed, some limitations of this study must be noted. First, the research design and context brings forth some limitations. First, the study may have been influenced by organizational factors. For example, the perceived workload may have increased during the study due to managerial decisions, a new team manager and deputy team manager were hired, and a large organizational restructuring has been announced. This consequently may have influenced the work experience of the employees. Furthermore, it must be noted that due to the quasi-experimental study design, some limitations exist. The control group consisted of IKEA Breda’s Logistics department and was thus not randomly chosen from the participating employees. This brings forth several limitations with regard to validity and reliability. As the store used is different, management is different which may influence outcomes. It is furthermore unknown if any (organizational) changes occurred between the two measurements at IKEA Breda. Lastly, the sample size of the control group is small, which may impede reliability of the results. Nevertheless, the potential benefits of using a physically separated location as a control group was reckoned to be of increased value as it prevents cross contamination between the experimental and the control group. Quasi experimental field studies are prone to issues regarding internal validity due to differences in demographics of the experimental versus control group as there is no strict random sampling. It is concluded however, that these differences are negligible as independent t-tests revealed no significant differences to exist. Moreover, by including IKEA Breda as control group a benefit was yielded. A larger experimental sample was obtained as the employees of the IKEA Eindhoven store were not split into two groups.

Moreover, there are limitations with regard to the results. Due to the very specific research context, generalizability of the results is limited. The current study was conducted in a very specific context, in a company the differs in culture and organization compared to other companies due to its inspiring, stimulating culture (Synergie, 2017). This might influence the openness to Job Crafting in a positive fashion. Moreover, as opposed to previous studies conducted amongst health care professionals, the job activities in the current sample require less skills. Commitment, understanding and consequently outcomes of Job Crafting may be different in jobs which require more mental or emotional exertion.

Second, there are two identified limitations regarding the intervention workshop. The workshop was not performed by a professional trainer. Previous intervention studies may have used a professional – or experienced – trainer to promote the Job Crafting behavior. This may have limited the effectiveness of the intervention. Nevertheless, it was tried to enhance the workshop experience by including an HR representative and the respective team’s manager. Moreover, participation was not voluntary, and all employees were urged to part-take in the workshop preceding the Job Crafting period. This may limit
effectiveness as it has been argued that the training is more effective if employees voluntarily participate (Van den Heuvel et al., 2015). This is argued to increase commitment to the training. Moreover, Job Crafting is seen as self-initiated behavior and should not be forced (Petrou et al., 2015). Consequently, the results of the effectiveness of the training could have been biased by the unwilling, reluctant or hesitant employees, thereby impairing the strength of the drawn conclusions.

Third and last, there are several limitations regarding the questionnaire. First, they are self-report measures which may be biased. Second, the used questions were translated from English to Dutch. Although this was done with care, it is possible that some questions may have lost their power. Nevertheless, Cronbach’s alpha measures were deemed sufficient. The scale for adaptive performance was created for this specific context and no CFA was conducted. Cronbach’s alpha was lower than desired but still acceptable. An explanation may be that the questions with regard to the SOP are very diverse and measure several dimensions of the operating procedures. Next, participants found some questions of the questionnaire too difficult to answer, impairing reliability. Lastly, some questions were reversely coded. Although a common technique and prevailing wisdom (Larson & Farber, 2012) to counter response bias, it is also seen as not advisable as it may impair response accuracy. (Schriesheim & Hill, 1981)

5.1.4. Directions for further research
The current study is unique due to the special research context. The retail environment with a mix of employees with different educational and demographical backgrounds may very well influence the results as suggested by Demerouti (2014). Therefore, more intervention studies with a variety of backgrounds in the study sample is reckoned to be of added value. Moreover, this study is another in the series of Job Crafting interventions with Dutch participants. Future research may also focus on Job Crafting interventions (based on the JD-R Theory and the SCT) in an international setting.

It may furthermore be of value to develop an enhanced understanding of the Job Crafting dimensions. Recently, optimizing demands has substituted the dimension of reducing hindering demands in the literature (Demerouti & Peeters, 2017). However, the current study reveals that even though not trained for, employees engage in demand reduction strategies alongside optimizing job demand strategies. A better understanding and explanation for this can be valuable to optimize future results regarding the outcomes of Job Crafting since demand reduction (as opposed to optimizing demands) strategies have been affiliated with negative job outcomes (i.e. increased exhaustion and decreased engagement) (Petrou et al., 2015; Tims, Bakker, Derks, et al., 2013).

A very interesting and novel avenue for future research is the inclusion of employee change attitude as outcome variable. It should be investigated if employee change attitude can serve as explicatory mechanism for changes in adaptive performance after the Job Crafting intervention. Change attitude may present to (fully) mediate the effects of Job Crafting behavior on adaptive performance. In the same vein, an understanding of the effects of Job Crafting behavior on change attitude may be further developed. Theoretically, several explanations for the change in employee change attitude have been discussed. Scholars are invited to further draw upon this and see which theories (if any) explain the effects best.

5.2. Practical implications
The current study finds practical use through multiple lines of reasoning. Generally, within organizations there remains lot to gain to streamline organizational change as still many change attempts fail or are evaluated as less successful (Werkmann, 2009). The aid of Job Crafting in this process is new and as it has been argued and found it can be of great significance in the change process. This makes this study practically relevant to especially managers or leaders experiencing difficulty in implementing organizational change. By using Job Crafting, these managers or leaders acquire a new means to streamline organizational change, thereby possibly increasing the chances of success. Moreover, although not currently studied, there is preliminary evidence (e.g. Van Wingerden, Bakker, et al., 2017b) that Job Crafting behavior may continue
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to occur far after the intervention as it seems to be contagious (Bakker, Rodríguez-Muñoz, & Sanz Vergel, 2016; Peeters et al., 2016; Tims, Bakker, Derks, et al., 2013). Moreover, a Job Crafting intervention can aid to develop a resilient workforce. After the Job Crafting intervention, employees can be skilled to seek resources to adapt to increased job demands. Moreover, by optimizing their job demands through seeking smarter ways to work, they can further find a balance between demands and resources on the job. Lastly, by being intrinsically motivated to seek challenges, they can safeguard their own motivation (i.e. work engagement). This may create room for management to reprioritize their work as the workforce is provided the skills to manage their own motivation and health (Bakker et al., 2012). Therefore, a Job Crafting intervention may therefore be a cost-effective tool in establishing a motivated, healthy and well-performing workforce.

More specifically, this study yielded important insights and results for IKEA Eindhoven. First and foremost, change attitude and adaptive performance was positively influenced. Increased adaptation to IKEA’s Standard Operating Procedures was obtained, resulting in a safer working environment. Furthermore, with a forthcoming, considerable, organizational change pending, it is essential to have a workforce with a positive outlook on change. Additionally, the employees have been taught a skill to be able to manage their own resources and demands to deal with this change. Consequently, the effects of the change endeavor on employee motivation, health and performance, characteristic for organizational change (Werkman, 2009), remain limited. Second, IKEA Eindhoven has been acquainted with a tool to establish a proactive workforce, ready to manage their resources and demands bottom-up. This is particularly important as IKEA is known for its dynamic environment in which workload varies per day and per season. By providing the employees an adequate amount of autonomy to deal with those changes bottom up, management may be alleviated from this task, creating room for other tasks. Third and last, although the current study focused only on employees of the logistics department, the intervention may also be applied in other departments (e.g. Customer Relations or Sales). This may result in multi-faceted gains (e.g. increased well-being, motivation and performance) throughout the company.

5.3. Conclusion

Overall, it is concluded that the current study partly satisfied the main research objective and successfully answered the related research question. The main objective was to decrease employee exhaustion, create a positive change attitude and increase employee work engagement and (adaptive) job performance. The significance of Job Crafting in achieving this has been theoretically argued and empirically justified. Moreover, it is concluded that although not all results were as expected, the Job Crafting intervention was a success. It has been shown that after the Job Crafting intervention, employees engage in more challenge seeking behavior and optimize their experienced work-related demands. Moreover, employees report to be less exhausted, report an increase in adaptive performance, and attain a more positive change attitude. This again stresses the importance of Job Crafting to achieve successful (adaptation to) organizational change.
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A. Evaluation of conducted Job Crafting interventions

An intervention at a Dutch police district (Van den Heuvel et al., 2015)
This is the first Job Crafting intervention based on the JD-R Theory. In this quasi-experimental field study, the authors aimed at boosting job resources, affective well-being, and self-efficacy by means of a Job Crafting intervention. 39 employees received a 1-day training after which they had 4 weeks to work towards self-set Job Crafting goals. The intervention was concluded by a half-day reflection session in which experiences were exchanged. They included a control group (N=47) in their study. Their study revealed several beneficial outcomes on for example self-efficacy, positive affect, leader-member exchange and development opportunities within the company. Repeated Measures ANOVA’s did not reveal significant change, but dependent sample t-test did. An explanation for this is given by the authors. They reason authors that the used measure for Job Crafting behavior was not complete, some behavior was not measured (like applying for a new job). Additionally, the authors state that the effects might need more time to emerge. Lastly, they state that the sample size might have been too small.

Concluding their article, the authors give some recommendations for future interventions. First, the authors suggest including scales for general proactive behavior alongside a more specific scale to assess Job Crafting. Next the authors suggest using a larger sample size. Furthermore, it is advised to divide the intervention into modules over several weeks, separating the type of Job Crafting activities (e.g. cognitive crafting or reflection activities). Continuing, the authors strongly advise to use group crafting as this increases the learning experiences and thereby strengthening the effects of the intervention, which is advised by other scholars as well (McClelland, Leach, Clegg, & McGowan, 2014). Lastly, close contact with the crafters might increase effectiveness according to the authors.

An intervention in a Japanese hospital setting (Sakuraya et al., 2016)
The next successful intervention took place in Japan. The participants of the intervention were managers of a private company of a private hospital. The program consisted of two 120-minute sessions with two weeks in between. There were 3 assessment moments: at the beginning of the intervention (T0); after the second intervention (T2) and one month after the second intervention (T3). The authors found a significant positive effect on work engagement, increased Job Crafting behavior and reduced psychological distress. Some limitations however need to be stated: there was no control group. Therefore, it remains unclear whether the effects were due to the intervention. Additionally, the sample size was mediocre (N=50), limiting statistical power. Third, the subjects were all senior staff, who are suggested by the authors to have more discretion. Fourth, the authors state that the follow-up period was too short to determine longitudinal effects. Fifth, the effect of the intervention on resources (an essential Job Crafting dimension) was not measured.

Job Crafting interventions in Healthcare (Gordon et al., 2018)
In two studies, Gordon et al. (2018) tested the impact of a general and a specific Job Crafting intervention on well-being and job performance, both subjective and objective. In both studies, participants received a training and set individual Job Crafting goals for a period of three consecutive weeks. Participation was voluntary and yielded 119 and 58 participants respectively. It was found that participation in the intervention was positively linked to an increase in Job Crafting behaviors. Empirical evidence suggests that there was an increase in well-being: health, work-engagement and reduced exhaustion. Additionally, findings suggest an increase in subjective job performance, relative to a control group. The authors conclude that Job Crafting is a “promising job redesign intervention strategy that individual employees can use to improve their well-being and job performance” (Gordon et al., 2018, p. 98).

17 Strong resemblance with the strain concept as discussed in the JD-R Theory.
The authors discuss some limitations. First, self-report measures may induce common method biases. Furthermore, they stress the limitations of quasi-experiments, yet obtaining completely randomized samples was not feasible as participation may not be enforced. Cross contamination was also a concern, as control groups and experimental groups work in the same hospital setting. Moreover, they authors explain that only more engaged employees may have participated as several employees did not fill in the surveys.

Fostering well-being through a Job Crafting intervention (Van Wingerden, Bakker, et al., 2017a)

The aim of this study was to assess the impact of a Job Crafting intervention on participants’ (41 teachers) work engagement. The intervention was aimed at optimizing job demands and resources. The intervention consisted of exercises and goal setting to increase social job resources, increase challenging demands and increase job resources. There were three training sessions over a six-week period. The first and second session were on one day, whereas the last one took place 4 weeks later. The first session contained a person and job analysis, the second session contained a person-job analysis and the formulation of goals and the third session evaluated the success and provided an experience-sharing environment. They also discussed what was needed to sustain Job Crafting behavior.

The authors found that employees’ Job Crafting behavior can be increased through a Job Crafting training. In contrast to the study of van den Heuvel, Demerouti, & Peeters (2015), it was found that a significant increase of employee’s Job Crafting behavior was achieved compared to a control group. Additionally, they achieved an increase in basic need satisfaction. The longitudinal effect of this intervention was positive as well as discussed in (van Wingerden, Bakker, & Derks, 2017b)

As the authors focus on points of improvement in a teaching setting, they are not general. Therefore, they are omitted from this discussion. One may argue however, in line with the earlier mentioned suggestions that the sample size was too small. Additionally, the sample size consisted of mainly female individuals which the authors claim is representative of the specific occupational group, it does limit the generalizability.

A Job Crafting intervention to adapt to changes due to austerity (Demerouti et al., 2017)

The last intervention to be discussed took place in a Greek municipality. The intervention consisted of a one-day training aimed at an increase in seeking resources and reducing demands. 72 participants took part voluntarily and there was a control group. The subjects filled out a pre-test questionnaire, went through a 1-day (3-hour training) intervention and completed a post-test questionnaire. During the training the subjects were familiarized with the JD-R Theory and the Job Crafting concept. Then a personal crafting plan was made after a discussion about crafting change on the workplace. Participants in the intervention showed higher levels of demand reduction as well as higher positive affect and openness to change. Seeking resources did however not increase. Overall the authors conclude that stimulating employees to part-take in Job Crafting relates to improvements in well-being, openness to change and adaptation over time.

The authors list several limitations. The authors used self-report measures and suggest the objectivity may be increased by using more objective measures. The authors further state the use of a small sample size (72 participants). The authors also indicate that the intervention group consisted of people that scored lower on the openness to change scale compared to the control group. Individuals who are open to change may react differently on the intervention. Lastly, as the effects of the intervention were measured 4 weeks after the intervention, it is unknown what the short-term or longitudinal effects are.
B. Further discussion of the JD-R Theory
In this appendix entry the constructs as mentioned in the JD-R Theory (Figure 7) are discussed more elaborately. Resources, motivation, demands, strain and job performance will be discussed consecutively.

The motivational path in the JD-R Theory
The motivational path in the JD-R Theory consists of resources, motivation and a positive relation with performance. Resources are all means an individual has access to in order to function in a working environment. This may be differentiated towards job resources and personal resources. Job resources have been defined by many scholars. The first known definition, used in the JD-R literature, was made by Demerouti, Bakker, Nachreiner, & Schaufeli (2001). From then on, it has been adopted by many other scholars; see for example Füllemann, Brauchli, Jenny, & Bauer (2016); Hakanen, Schaufeli, et al. (2008); Xanthopoulou, Bakker, Demerouti, & Schaufeli (2007). The definition as made by Demerouti, Bakker, Nachreiner, & Schaufeli (2001, p. 501) reads as follows:

“Job resources refer to those physical, psychological, social or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands at the associated physiological and psychological costs; (c) stimulate personal growth and development.”

Personal resources are “aspects of the self that are generally linked to resiliency” (Hobfoll, Johnson, Ennis, & Jackson, 2003, p.632). Hobfoll, Johnson, Ennis, & Jackson (2003) continue to elaborate on this by defining personal resources as an individual’s perception of their capacity to control and influence their environment successfully, which was also adopted, amongst others, by Schaufeli & Taris (2014). Personal resources are, as opposed to job resources, thus directly linked to the individual and their perception of the self and the environment.

The motivation construct in the motivational process consists of all factors regarding employee motivation at work. This Motivational component of the employee has been found to be, as opposed to the strain component in the Health-Impairment Process, beneficial for employee Job Performance (e.g.: Bakker & Demerouti, 2014, 2017; Xanthopoulou et al., 2009). The most important and most studied element of the motivation component is work engagement. Work engagement has been defined by many scholars, and
many small deviations exist. Nevertheless, most of the definitions do seem to overlap and define work engagement as a positive, affective-motivational and fulfilling, work related, state of mind. Typically, this state of mind demonstrates signs of vigor, dedication and absorption (see e.g. Bakker, 2011; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Hakanen, Bakker, & Schaufeli, 2006; Hakanen, Schaufeli, & Ahola, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Bakker (2011, p. 265) illustrates that “Employees who are engaged in their work are fully connected with their work roles. They are bursting with energy, dedicated to their work, and immersed in their work activities”, thereby again referring to dedication, vigor and absorption. Contemporary works provide equal definitions, see for example Albrecht & Marty (2017); Hakanen, Seppälä, & Peeters (2017); Karatepe & Eslamlou (2017).

The Health-Impairment Process in the JD-R Theory
The Health-Impairment Process consist of job Demands and strain. Job Demands are stated to refer to: “[...] those physical, social or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g. exhaustion)” (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001, p. 501). This definition has been adopted by many scholars throughout the past decade-and-a-half, see for example Bakker, Demerouti, & Euwema, (2005); Hakanen, Bakker, & Schaufeli, (2006); Hakanen, Schaufeli, & Ahola, (2008); Petrou, Demerouti, Peeters, Schaufeli, & Hetland, (2012) and Schaufeli & Salanova, (2014). It is well-known that high Job Demands may lead to increased strain when resources are inadequate. On contrary, increased job demands may also increase motivation (through moderation) when resources are sufficiently available (Bakker et al., 2007).

There are two distinctive types of job demands. Van den Broeck, de Cuypier, de Witte, & Vansteenkiste (2010) report about energy-draining job demands as well as energy depleting and stimulating job demands. The former being labeled hindering demands (e.g. role ambiguity, work constraints) and the latter being labeled challenging demands (e.g. time pressure, workload). Both types of demands may be seen as stressors causing strain. Challenges however, potentially add to the motivational process (job motivation, job satisfaction) as well as to Health-Impairment Process (strain) (Van den Broeck et al., 2010; Zapf et al., 2014). Indisputably, job hindering demands influence strain negatively. Zapf, Semmer, & Johnson (2014) legitimately state that challenges, even though they may positively influence motivation, are a “double edged sword” (p. 97) and still may result in increased strain when resources are insufficient.

Strain is an aggregate constituted from many different constructs that impact health negatively in a work context. Strain can be defined as a state in which people experience (psychosomatic) exhaustion (Bakker & Demerouti, 2007, 2014, 2017; Bakker et al., 2005; Demerouti et al., 2001; Hakanen, Schaufeli, et al., 2008; Schaufeli & Salanova, 2014; Zapf et al., 2014), job related anxiety (Bakker & Demerouti, 2007, 2017), dissatisfaction, (Bakker & Demerouti, 2007) and depression (Xanthopoulou et al., 2007). The Oxford dictionary of English defines a state of strain as: “[a state in which] a severe or excessive demand [is exercised] on the strength, resources, or abilities of someone or something” and as: “a force tending to pull or stretch something to an extreme or damaging degree” (Stevenson, 2010, p. 9063), which is in line with the above mentioned terms proposed by scholars.

Due to this negative -health impairing- state in which employees have to perform, performance is influenced negatively. Increased strain has been linked to increased absence duration (Bakker, Demerouti, de Boer, & Schaufeli, 2003), increased turnover intention and poor commitment (Schaufeli & Salanova, 2014), reduced overall in-role performance (Bakker et al., 2004, 2008; Petrou et al., 2015; Schaufeli & Salanova, 2014) and burn out (Bakker & Demerouti, 2017; Bakker et al., 2005, 2004, 2008; Demerouti et al., 2001). Concluding, strain is a negative state with several health-impairing consequences. This state leads (at best) to poorer performance at work and may eventually impair performance altogether (burnout).
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C. Powerpoint presentation used during the Job Crafting workshop
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**Work analysis**

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**Waarom deze workshop?**

- Voel interview gehouden met collega's. Iedereen geeft aan dat ze graag dingen willen verbeteren.
- Samen met afdeling
- Voor niemand past het werk nu 100%
- Veel geboden over afhankelijkheid (van leiding, collega’s, klanten, etc.)
- Na deze training kun je zelf je werk dichter bij je voorliefden brengen:
  - Meer plezier in je werk
  - Meer energie en toewijding
  - Minder vermoeidheid

---

**Hoe dan?**

---

**Leuk, maar...**

... hier heb ik geen tijd voor.
... de leiding kustent niet.
... ik heb al viscer nieuwe werkmethode aangetekend, die zijn ook niet ingevorderd.
... ik heb hier geen zin in.

---

**Leuk, maar...**

... er zijn altijd redenen om dingen niet te doen.
... er zijn altijd redenen om het juist wel op te pakt en:
- Nauwkeurigheid
- Vervullen van verantwoordelijkheid
- Wandel op zijn eigen werkzaamheden
- Weerspiegeld van verantwoordelijkheid
- Het kan werken, bij voldoende eigen inzet!

---

**Oké, ik doe mee, geweldig?**

- Slaap dan het zelf, op eigen initiatief, aan dingen waar je zelf groter en invloed op hebt en van een kantoorlijke voorziening voor kan nemen.
- Je werk zal pas tassen niet veranderen.
- Je werk kan wel anders, vinden aanvoelen als het beter bevest.
- Dit kun je ook doen met wervendigen: zorg dat je er iets uitziet voor jezelf: ontwikkeling, officieel, nut, etc.
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Bewezene effecten
- Persoonlijke effecten
  - Mental fit (hoog, optimisme, werktuigen, zelfvertrouwen)
  - Minden mentale en fysieke uitputting
  - Minder spanning
- Werkgerelateerde effecten
  - Social support (werkteam)
  - Betere werkmethode
  - Meer motivatie (werkteunaderheid, vertrouwen, werktuigen)

Een betere gezondheid en fijner werkplek!

Zelf aan de slag: Werkanalyse
- Probeer de vragen in het werkboekje te beantwoorden. [20 min.]
- Overleggen met de baas en collega's.
- Bedenken en implementeren van aanvullende effecten.
  - Waar je energie van houdt
  - Waar je belangstelling hebt
  - Waar je extra kracht en vertrouwen heeft
- Denk aan samenwerking, communicatie, ondersteuning relaties met betrokkenheid, zorg en cliënten.

Bedenk afzien diogen waar je zelf invloed op hebt en kan hebben.

Bespreking werkanalyse

Pauze!

Van werkanalyse naar Doelen
- Het doel van deze training: zelf de regie nemen op je werk
  - Aankomst: werkanalyse
  - In kaart gebracht: wat in, wat niet
  - Wat minder fijn in zak
  - Hoe je makkelijker/ effectiever kan werken
  - Nu doelen stellen en acties plannen.

Job Crafting: Recap
Wanneer mensen proactief hun werk aanpassen (belangstelling, taken en/of relaties) met als doel
hun werkbeleving positief te beïnvloeden.
(Arendse & Schaufeli, 2018)
- Werkbelasting verminderen
- Taaktaken optimaliseren
- Uitdaging zoeken.
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- **Doelen stellen en actieplan maken**
  - **SMART-doelen**
  - Specific:Precies geformuleerd.
  - Maatbaar:Wanneer het je doel bereikt?
  - Aanmatig:> 100% onderschreven gaat.
  - Realistisch:Haalbaar doel.
  - Tiendagenband:Wanneer ga je het doen? Hoel je het bereikt?
  - Acties koppelen
  - Hoe bereik ik mijn doelen?

- **Voorbeeld hulpbronnen creëren en gebruiken**
  - **Analyse:**
  - “Ik haal energie uit kwestie/plan doen.”
  - **Doel:**
  - “In de komende week vraag ik 3 collega’s om feedback over hoe ik mijn werk beter kan doen.”
  - **Actie:**
  - “Tijdens het vullen wil ik met kantoor samen werken, in de loop van week vraag ik of mijn collega’s iets heeft.”

- **Voorbeeld taakkaarten optimiseren**
  - **Analyse:**
  - “Ik haal energie uit efficiënt werken.”
  - **Doel:**
  - “Tijdens mijn eenvoudigste zaak wil ik een mes, een pen, een werkende stift, een werkende ROT, een goed hoge en eventueel een telefoon kunnen gebruiken zodat ik efficiënt kan werken.”
  - **Actie:**
  - “Voordat ik mijn volgende zaak begin, controleer ik of ik een mes, pen, werkende stift, werkende ROT en eventueel een telefoon bij me heb.”

- **Voorbeeld uitdagingen zoeken**
  - **Analyse:**
  - “Ik werk graag voor de klant.”
  - **Doel:**
  - “De komende week wil ik minimaal 3 beschadigde producten afleveren.”
  - **Actie:**
  - “Tijdens mijn dienst ga ik proactief beschadigde goederen afschrijven en laat ik deze niet liggen.”
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D. Information booklet used during the workshop
Introductie

Het wordt vaak gezegd, maar je hoeft je eigen werk nooit in de hand dan je zelf in de eerste instantie denkt. Door nu te gaan waar het werk niet beginnet aan, of je eerste beknopte, kun je zelf aanpassingen maken. Op deze manier zorg je ervoor dat je werk wel weer bij jou past. Dit heeft verschillende voordelen: werk dat je zelf vindt, doe je liever en het kan eenvoudiger worden dat je liever werkt met meer plezier doet. Het is natuurlijk altijd moeilijk om je werk te doen dat je leuk vindt, in plaats van dat je werk doet. Belangrijk: Naar mis is dat je de juiste werk te passen hebt, daardoor een optimale resultaat dat je je werk als voldoende vindt. Omdat de workshop erg veel informatie bevat, staat alle informatie ook nog een keer in deze brochure. Zo kun je altijd nog wat informatie raadplegen!

In deze brochure vind je alle informatie over het concept Job Crafting. Daarna kun je nog een keer terugkijken op de manieren die je kunt doen om je werk te verbeteren.
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L.M.A. Soyer, 2018
E. Personal action plan booklet used during the workshop

Zelf de regie nemen

Actieplan

TD/e
Technische Universiteit
Eindhoven
University of Technology

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Doelen stellen en acties koppelen

Na gaan we dit koppelen aan doelen en acties. We gaan proberen om de werkanalyse van het eerste deel te gebruiken om richting te geven aan het organiseren van werkkrachtpunten, het optimaliseren van taakketens en het zoeken van uitdaging. Dit doen we door middel van het opstellen van doelen. Doelen kan je opstellen volgens de SMART-methode. Een doel moet dan voldoen aan de volgende eisen:

- Specifiek: precies geformuleerd
- Meetbaar: hoeveel is je doel bereikt?
- Aantrekkelijk: 100% erachter staan
- Realistisch: haalbaar doel
- Tijdsgebonden: Wanneer ga je het doel hebben je bereikt?

Het is de bedoeling dat je per week gaat proberen om 1 doel te bereiken. De eerste week draait het om het verhogen van werkkrachtpunten, de tweede week om het optimaliseren van taakketens en de derde week om het vinden van uitdaging in je werk.

Tijdens de vierde week heb je de kans om doelen die je niet hebt gehaald nogmaals na te streven.

Een voorbeeld voor het verhogen van werkkrachtpunten:

“Tijdens mijn werk merk ik dat ik veel energie krijg van een tijd samenwerking met collega’s. Mogelijk werken we erg gehaast en bellen we aan het einde van de dag/he, als het werk niet af is. Ik wil graag een positieve gezellige werksfeer om in te werken”

Mijn doel op werkkrachtpunten te verhogen:

Ik wil aan het eind van mijn volgende dienst stilstaan bij dingen die goed zijn gegaan.

Mijn gekoppelde actie:

Aan het einde van mijn volgende dienst bespreken ik met mijn collega’s de dingen die we vonden aan het werk van die dag en sluiten we positief af.”

Zelf de regel nemen
Workshop Job Crafting
Increasing Employee Job Performance – A Job Crafting Intervention at IKEA

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Afronding

Tijdens vier weken Job Craften heb je geprobeerd om je werk dichter bij je eigen voorkeuren te brengen. Ik vraag je nu om dit eenvoudige boekje in te leveren in het Job Crafting postvakje bij de ingang van de afdeling logistiek. Bij je eigen postvakje zal je een vragenlijst vinden. Ik wil je vragen om deze dan in te vullen en weer in te leveren. Daar kan ik mijn onderzoek vervolgen. Over een aantal weken zal er een bijeenkomst zijn om de eerste resultaten met elkaar te bespreken.

Om dit boekje te koppelen aan de vragenlijsten wil ik je vragen om onderstaande versie te vullen om te zorgen dat alles anoniem blijft, maar dat het resultaat wel aan elkaar kan koppelen.

| CG1  | Ik heb vooruitgang geboekt in het bereiken van de door mij gestelde doelen in week 1. | 1 | 2 | 3 | 4 | 5 | 6 |
| CG2  | Ik heb vooruitgang geboekt in het bereiken van de door mij gestelde doelen in week 2. | 1 | 2 | 3 | 4 | 5 | 6 |
| CG3  | Ik heb vooruitgang geboekt in het bereiken van de door mij gestelde doelen in week 3. | 1 | 2 | 3 | 4 | 5 | 6 |
| CG4  | Ik heb vooruitgang geboekt in het bereiken van de door mij gestelde doelen in week 4. | 1 | 2 | 3 | 4 | 5 | 6 |

Anoniem?

Wil je de antwoorden van de volgende vragen in de tabel hieronder invullen? Als je het antwoord niet weet, mag je een 9 invullen.

1. De 2e letter van de voornaam van je moeder?
2. De 1e letter van de voornaam van je vader?
3. Heb je een broer (ouder of jonger)? 1 voor ja, 0 voor nee.
4. Heb je een zus (ouder of Jonger)? 1 voor ja, 0 voor nee.
5. De laatste letter van de voornaam van je moeder (om没有人)?
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F. Voucher for free basket of strawberries
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### Table 15: Significance of Shapiro-Wilks test on mean scores. Significant results are printed in bold.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Crafting</strong></td>
<td>MEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeking Resources</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>Optimizing Demands</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Decreasing Demands</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>Seeking Challenges</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td><strong>Change Attitude</strong></td>
<td>MEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>Behavior</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Cognition</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td><strong>Work Engagement</strong></td>
<td>MEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Dedication</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Absorption</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td><strong>Exhaustion</strong></td>
<td>MEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>MEAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Contextual</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>Adaptive</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
</tr>
</tbody>
</table>
I. Results of Box’s M and Levene’s test for the mixed ANOVA

Table 16: Results of Box’s M-test and Levene’s test for the Mixed ANOVA

<table>
<thead>
<tr>
<th>Construct</th>
<th>Dimension</th>
<th>Levene’s test</th>
<th>Box’s M-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>T0</td>
<td>T2</td>
</tr>
<tr>
<td>Job Crafting</td>
<td>Seeking resources</td>
<td>F(1,67)=1.920, p=0.170</td>
<td>F(1,67)=0.665, p=0.418</td>
</tr>
<tr>
<td></td>
<td>Optimizing demands</td>
<td>F(1,67)=0.017, p=0.896</td>
<td>F(1,67)=0.700, p=0.406</td>
</tr>
<tr>
<td></td>
<td>Seeking challenges</td>
<td>F(1,67)=5.347, p=0.024*</td>
<td>F(1,67)=1.159, p=0.285</td>
</tr>
<tr>
<td></td>
<td>Reducing demands</td>
<td>F(1,67)=0.000, p=0.987</td>
<td>F(1,67)=0.797, p=0.375</td>
</tr>
<tr>
<td></td>
<td>Exhaustion</td>
<td>F(1,67)=0.065, p=0.800</td>
<td>F(1,67)=12.366, p=0.001</td>
</tr>
<tr>
<td>Change</td>
<td>Affect</td>
<td>F(1,67)=0.026, p=0.873</td>
<td>F(1,67)=0.353, p=0.555</td>
</tr>
<tr>
<td>Attitude</td>
<td>Behavior</td>
<td>F(1,67)=0.016, p=0.901</td>
<td>F(1,67)=0.109, p=0.743</td>
</tr>
<tr>
<td></td>
<td>Cognition</td>
<td>F(1,67)=1.752, p=0.190</td>
<td>F(1,67)=1.048, p=0.310</td>
</tr>
<tr>
<td></td>
<td>Work engagement</td>
<td>F(1,67)=0.160, p=0.690</td>
<td>F(1,67)=0.828, p=0.366</td>
</tr>
<tr>
<td>Performance</td>
<td>Task</td>
<td>F(1,67)=1.743, p=0.191</td>
<td>F(1,67)=0.212, p=0.647</td>
</tr>
<tr>
<td></td>
<td>Contextual</td>
<td>F(1,67)=1.549, p=0.218</td>
<td>F(1,67)=0.34, p=0.854</td>
</tr>
<tr>
<td></td>
<td>adaptive</td>
<td>F(1,67)=0.003, p=0.958</td>
<td>F(1,67)=1.383, p=0.244</td>
</tr>
</tbody>
</table>