



Employee's age influence on Work Engagement and Job Satisfaction through Job Crafting behaviours

Differences among older and younger employee's motivations to job craft

Master Thesis Social Psychology: Work and Organizational Psychology

Student: Margarita Marin Hernández

ANR: 273710

Supervisor: Dr. M. Bender

2nd assessor: Dr. S. Breugelmans

Theme: Job crafting, differences among young and old employees.

Period: January-August 2017

Abstract

The aim of the research was to examine how people craft their jobs and what motivates them to do it. Based on the Job Demands-Resources model, the occurrence of job crafting behaviours has an impact on both satisfaction and engagement at work. Two types of participants were recruited for this study, older and younger employees. The sample size of the study was N=191 from which N=36 were older employees. Results for the regression analysis showed that Job Crafting is positively related with both Work Engagement and Job Satisfaction and that this relationship is mediated by employees' age. Both older and younger employees act as job crafters, however, they differ on the types of behaviours they use to craft their job. For instance, older employees are more likely to engage on task and cognitive crafting and are mainly motivated by the need of autonomy. In addition, years of experience is considered to be a significant factor for the increase of Job Crafting behaviours, however study level was not related with Job Crafting. Finally, understanding the differences among older and younger employees regarding the way they deal with the organizational environment, will bring valuable inputs for organizational policies and employee's treatment at work.

Key Words: job crafting, work engagement, job satisfaction, age, motives

Table of Contents

1. Introduction.....	5
2. Theoretical framework	8
2.1 Job Crafting into the Job Demand-Resources Model.....	8
2.2 Positive Outcomes of Job Crafting: Work Engagement and Job Satisfaction	9
2.3 Age in work environments	10
2.4 Older and younger employee’s motivations for Job Crafting.....	12
2.5 Demographic factors influence on Job Crafting.....	15
3. Method	16
3.1 Research design	16
3.2 Procedure	17
3.3 Ethical Considerations.....	17
3.4 Population and sample.....	18
3.4 Model & Variables.....	19
3.5 Measures and Materials.....	19
3.5.1 Demographic variables.....	19
3.5.2 Job Crafting.....	20
3.5.3 Motivations (Needs)	20
3.5.4 Work Engagement.....	20
3.5.5 Job Satisfaction.....	21
3.6 Factor Analysis	21
3.6.1 Job Crafting.....	21
3.6.2 Motivations (Needs).....	22
3.6.3 Work Engagement.....	23
3.6.4 Job Satisfaction.....	23
4. Results	24
4.1 Hypothesis testing.....	24
4.2 Conceptual model <i>B and P- Values</i>	29
5. Discussion	29
5.1 Limitations and recommendations for future research	31
5.2 Theoretical and practical implications.....	33
5.3 Conclusion.....	34
2. References	35
7. Appendix	41
Appendix 1 Demographic Questionnaire.....	41
Appendix 2 Job-Crafting Questionnaire.....	42
Appendix 3 Basic Psychological Need Satisfaction at Work Questionnaire.....	43

Job Crafting, Engagement, Satisfaction and Age

Appendix 4 Work Engagement Questionnaire (UWES).....	44
Appendix 5 The Generic Job Satisfaction Scale.....	45
Appendix 6 Informed consent	45
Appendix 7 Ethical information.....	46
Appendix 8 Demographic tables.....	52
8.1 Ethnicity (Race)	52
8.2 Academic Level	52
8.3. Marital Status.....	52

1. Introduction

Employees play an active role in shaping their jobs; they deal with motivational implications of redefining or modelling their work activities for improving their Person-Job Fit (P-J Fit) (Wrzesniewski & Dutton, 2001). This action of shaping the job physically (changing the form of the task), relationally (changing relations among co-workers) and cognitively (changing the way one sees the job) is known as Job Crafting (Wrzesniewski & Dutton, 2001), and the employees who undertake these actions are considered *Job Crafters* (Su, Murdock, & Rounds, 2015; Wrzesniewski & Dutton, 2001). Chena, Yenb, & Tsai (2014) stated that job crafters are influenced by both, individual factors such as cognitive ability or proactive personality and job factors such as task interdependence or autonomy. Moreover, there are 3 types of job crafting behaviours. First, *task crafting* occurs when an employee changes the set of responsibilities by adding or dropping task, second, *cognitive crafting* involves behaviours for changing the way the tasks are perceive and third *relational crafting* occurs when an employee changes or chooses with whom, when and how interact at work (Berg, Dutton & Wrzesniewski, 2013).

Various studies have focused on how demographic differences influence Job Crafting behaviours and work outcomes. For example, Roczniewska & Bakker (2016), studied how personality traits might influence the way a person craft his/her job; their study was based on the PEN framework (i.e. psychopathy, extraversion, and neuroticism) and the Dark Triad (i.e. narcissism, psychopathy, and Machiavellianism) using. Results of the hierarchical regression analyses used for testing their hypothesis suggested that personality traits play an important role on the way one craft's the job. Bipp & Demerouti (2015), examined by means of experimentation if basic personality traits (i.e. approach and avoidance temperament) were determinants of Job Crafting Behaviours using a sample of international employees. During the study they manipulated personality traits to examine the variation of measurements on job

Job Crafting, Engagement, Satisfaction and Age

crafting behaviours. The results suggested that those employees who scored high on approach temperament tend to seek more for resources and demands, whereas employees who scored high on avoidance tend to reduce demands.

Other authors have also studied the relation among age and job crafting behaviours. For instance, Zacher & Griffin, (2015) seek to analyse older workers age as a moderator between the relationship of career adaptability and job satisfaction. They conducted a longitudinal study based on the Socioemotional Selectivity Theory tested with a hierarchical moderated regression analysis and simple slope analyses. Results showed that older worker's age moderated the relationship between career adaptability and job satisfaction; however, motivation to continue working did not moderate this relationship. Baroudi & Khapova, (2017) explored the effects of age on job-crafting behaviors (i.e., task crafting, relational crafting, and cognitive crafting) and on job-crafting motivations (i.e., the need for personal control, need for positive self-image, and need for human connection). Semi-structured interviews were conducted among older and younger employees. The results showed that both older and younger employees are likely to engage on job crafting behaviours, however young employees are motivated to act as job crafters by fulfilling the needs of personal control and positive self-image.

Age has become an important characteristic for organizations due to the low amount of older employees in the workforce (Kooij, De Lange, Jansen, & Dijkers. 2008) and the constant actions mostly by government policies that seek to free up work places for younger people (Kooij et al., 2008). However, aging workforce is expected to increase through the coming years, this can be due to various factors. On the one side, the benefits of socialization in working settings is influencing employees' decisions to work longer (Charness & Czaja, 2006; Van Dalen & Schippers, 2010); On the other hand the increase of life expectancy and

Job Crafting, Engagement, Satisfaction and Age

decrease of fertility rates all over the world is also causing an increment of the older workforce (Barabasch, Dehmel & van Lo, 2012). Even though organizations tend to perceive older employee's knowledge and skills as obsolete compared to younger employees (Kooij et al., 2008), research has demonstrated that older employees bring positive outcomes such as more job involvement and organizational commitment (Bakker, Albrecht & Leiter, 2011; Kooij et al., 2008).

Hence, understanding the differences among older and younger employees regarding the way they deal with the organizational environment, is essential for assessing factors that can lower stress and its consequences in work settings (DuBose, 2016). Moreover, recognizing age as a multidimensional concept and the variables that might influence it, will bring valuable inputs for organizations due to the fact that the way age is perceived in society will influence Human Resources policies and employees treatment at work (Schalk et al., 2010). Although there is a lot know about job crafting and its behaviours, relatively little is known about how employees' age moderates the relationship between Job Crafting, Work Engagement and Job Satisfaction and the motivations to act as job crafters considering the influence of demographic variables over this relationship. Hence, the present study will seek to answer the following research question:

How do employee's age influence Work Engagement and Job Satisfaction through Job Crafting behaviours?

The next section will focus on the relationship between Job Crafting and both outcomes Work Engagement and Job Satisfaction; for this purpose the Job Demand-Resources Model (JD-R Model) will be introduced as an important theoretical touchpoint.

2. Theoretical framework

2.1 Job Crafting into the Job Demand-Resources Model

The JD-R Model suggests that every occupation can be classified into its own risk factors related to stress into two main categories namely: Job demands and Job Resources. *Job Demands* refer to those physical, psychological or social aspects that require effort and thus are associated with a cost (Bakker & Demerouti, 2006). *Job Resources* refer to physical, psychological or social aspects that are functional for achieving work goals, reduce job demands and stimulate personal growth (Bakker & Demerouti, 2006). Therefore, the model suggests that job demands lead to strain and job resources lead to motivation (Bakker et al., 2016).

Tims, Bakker & Derks, (2012) suggested that the occurrence of job crafting behaviours would reduce job demands and increase of job resources. This proposal has an important background from the JD-R Model (Bakker, Demerouti, & Sanz-Vergel, 2014). Their findings demonstrated that the occurrence of job crafting behaviours positively influence job resources, specifically structural and social resources leading to an increase of engagement and satisfaction at work (Bakker et al., 2014). Moreover, when adding Job Crafting to the JD-R model there are three job crafting behaviours that can be used by employees to shape and redesign their work environment, namely, *seeking resources* (e.g., asking colleagues for advice); *seeking challenges*, (e.g., asking for more responsibilities or new tasks), and *reducing demands* (e.g., reducing emotionally intensive work). The occurrence of these actions lead to reduce job demands, increase job resources, and enhance Work Engagement and Satisfaction (Bakker et al., 2014; Bipp & Demerouti 2015; Tims, Bakker & Derks, 2013). Indeed, this can be considered a continuous or circular process, bearing in mind that engaged and satisfied employees are more likely to act as job crafters (Lu, C., Wang, Lu, Du & Bakker, 2013).

2.2 Positive Outcomes of Job Crafting: Work Engagement and Job Satisfaction

Having engaged and satisfied employees is important for companies considering their positive influence on business success; for example, the employee can drive innovation and help the company to move forward (Attridge, 2009; Humphrey, Nahrgang, J & Morgeson, 2007). As it was stated before the occurrence of Job Crafting behaviours has a positive influence on both Work Engagement and Job Satisfaction. (Bakker et al., 2016; Rogelberg, Allen, Shanock, Scott, & Shuffle, 2010). On the one hand, *Work Engagement* is defined as an active positive state, experience by the employee regarding work activities, this state has a direct effect on performance (Derek, Patrick & David, 2007). It is characterized by three main components: *vigor* (desire of applying effort to work tasks) *dedication* (enthusiasm towards the job) and *absorption* (being concentrated on job activities) (Tims et al., 2013). On the other hand, Job Satisfaction has been described as a multi-faceted construct due to the various perceptions about it among individuals. Some of its more common components or facets are satisfaction with pay, promotion opportunities and supervision (Rogelberg et al., 2010). Job satisfaction is positively related with employee's commitment towards work and decrease of turnover intentions (Sarwar & Abugre, 2013).

In summary, Job Crafting is considered to be a spontaneous action of an employee attempting to adjust and match job with values (Chena et al., 2014), employees manipulate their environment for having a better fit with their day-to-day work tasks and relations (Su et al., 2015). The occurrence of Job Crafting behaviours has a positive influence on both employees engagement and satisfaction (Berg et al., 2013), mainly because by shaping their jobs employees have the chance to meet their own needs and preferences (Tims et al., 2013). As a replication of what has been suggested before, the following hypotheses have been stated:

Job Crafting, Engagement, Satisfaction and Age

Hypothesis 1. There is a positive direct effect on the occurrence of Job Crafting behaviours and Work Engagement.

Hypothesis 1a. There is a positive direct effect on the occurrence of Job Crafting behaviours and Job Satisfaction.

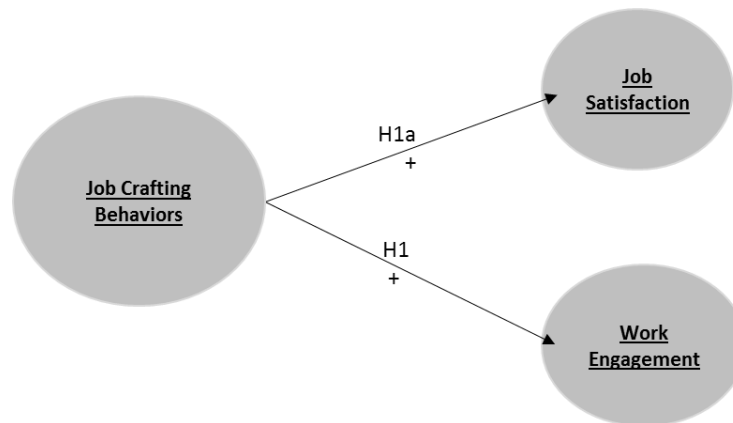


Figure 2. Conceptual model of hypotheses 1 and 1a

2.3 Age in work environments

Diversity includes characteristics such as age, nationality, gender, values or opinions (Thompson, 2015). Work group diversity has been significantly increasing inside the modern workforce compared to the past years (Kochan, Bezrukova, Ely, Jackson, Joshi, Jehn, Leonard, Levine, & Thomas, 2003). Diversity inside an organization has presented both benefits and challenges. Some benefits of having diverse teams are for instance, improved team performance and having multiple viewpoints. Contrary to this, the challenges faced are for example, unconscious homogeneity (i.e. tendency to choose homogeneous instead of diverse group members) and diversity faultlines (e.g. subgroups inside a big whole may cause intragroup conflict) (Thompson, 2015). As a result of the positive outcomes, various organizations have turned to the use of diverse work groups for stimulating innovation (Homan, van Knippenberg, VanKleef, & De Dreu, 2007). Older employees for instance, are a representative sample of diversity, bearing in mind that they differ on chronological age,

Job Crafting, Engagement, Satisfaction and Age

level of expertise, working experience, knowledge and skills when being compared to younger employees (Okunribido & Wynn, 2010).

Age is not a simple concept; it can be analyzed and described in many different ways. The aging process can be defined as “a multidimensional process that encompasses changes in functioning over time” (as cited from Schalk et al., 2010, p. 78); these changes can involve psychological, physiological or social processes (Schalk et al., 2010). Age can be defined objectively or subjectively. The *objective* definition of age refers to the chronological age. However, this definition limits the understanding of various subjective variables that might be related to age, bearing in mind that the aging process refers also to physical, biological and social changes that vary among individuals (Kooij et al. 2008; Okunribido & Wynn, 2010; Schalk et al., 2010). The *subjective* definition of age refers to the self-perception of age, “how old or young an individual perceive themselves to be” (as cited from DuBose, 2016, p.11). Both the subjective and objective perceptions of age are related with the psychological and physical variables associated with stress experienced at work (DuBose, 2016).

The majority of older employees remain healthy and functionally able (Charness & Czaja. 2006), indeed chronological age is not a determinant of illness and disease (Okunribido & Wynn, 2010), however, the constant renovation of organizations as a driver of organizational success (Gilley, Gilley, J & McMillan, 2009) and the transformation of physical and mental abilities of older employees, can cause misalignment between the employees and his/her job (i.e. P-J fit) (Kooij, Tims, & Kanfer, 2015). Chena et al., (2014) demonstrated the positive relation among P-J Fit and Job Crafting Behaviours. As Job Crafting is consider a proactive work behaviour used by older employees for improving P-J Fit (Kooij et al., 2015), and older adults are a more variable group compared to younger

Job Crafting, Engagement, Satisfaction and Age

people regarding performance (Charness & Czaja, 2006), it can be expected that older employees will have more Job Crafting behaviours compared to younger employees to continuously have a good P–J Fit.

Hypothesis 2. Age will positively moderate the relationship between Job Crafting and Work Engagement

Hypothesis 2a. Age will positively moderate the relationship between Job Crafting and Job Satisfaction.

Hypothesis 2b. Older employees are more likely to use Job Crafting behaviours compared to younger employees, because they might need to engage more in adjustments due to misalignment.

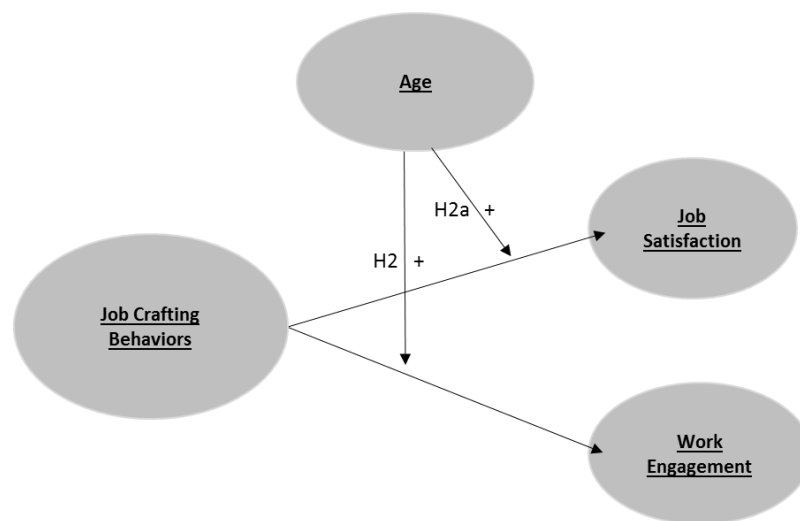


Figure 2. Conceptual model of hypotheses 2 and 2a

2.4 Older and younger employee's motivations for Job Crafting

Various studies have addressed the differences among younger and older employees in work settings. For example, Charness & Czaja (2006) demonstrated that while older employees are able to learn new knowledge and skills of modern technology, their learning is slower compared to younger employees, mainly because older employees prefer accuracy to speed. Also, older and younger employees vary in terms of health and well-being inside work

Job Crafting, Engagement, Satisfaction and Age

scenarios. For instance, older workers report fewer injuries compared to younger employees, however the injuries in older workers are more severe (DuBose, 2016). Moreover, studies had indicated that aging has an influence on the level of performance, for example, musculoskeletal changes when aging lead to a reduction of strength and slow reaction movements (Okunribido & Wynn, 2010). However, the changes in physical abilities are not only related with chronological age but with employees' genetics, lifestyle, working and living conditions (Okunribido & Wynn, 2010).

As stated before, the occurrence of Job Crafting behaviours is also influenced by the motivation to do it. Wrzesniewski & Dutton for example, (2001) proposed three individual needs that can motivate Job Crafting behaviours, namely *Need for autonomy* (i.e. basic human need of having control over its own work environment, mostly described as an intrinsic necessity), *need for positive self-image or competence* (i.e. desire to create and sustain a positive self-image that can be perceived by oneself and others), and *need for human connections* (i.e. reflects the necessity and motivation of people to connect with others as a way to introduce meaning into their lives). Daily life situations that help to fulfil these 3 needs enhance overall well-being (Reis, Sheldon, Gable, Roscoe & Ryan, 2000).

Moreover, the motivational process that leads to the occurrence of job crafting behaviours is linked as well with the one of the prepositions of the JD-R theory. This preposition suggests that job demands and resources are related with two processes namely health impairment process and motivational process. While job demands have a direct positive relation with health impairment outcomes such exhaustion or strain due to the high effort and energy cost; job resources are related with motivational outcomes such as work enjoyment and satisfaction mainly because job resources fulfil the 3 basic individual needs (i.e. autonomy, competence and relatedness) (Bakker et al., 2014; Reis et al., 2000)

Job Crafting, Engagement, Satisfaction and Age

Older workers experience and control job demands differently to younger workers (DuBose, 2016), hence, both groups use different Job Crafting behaviours, bearing in mind that abilities and motives change through the aging process (Kooij et al., 2015). The previous is support by the Socioemotional Selectivity Theory which states that motivations and goals are shaped by subconscious and conscious awareness of age and time left it life. The theory suggests that younger people focus their goals on acquiring more information since they perceive their time as expansive. In contrast, older people perceived their own time as limited; as a result they will become more selective in their environment for optimizing emotional functioning (Turk, Mather & Carstensen, 2003). Since chronological age is related with the time left in life, this process wins priority as people age (Turk et al., 2003).

Hence, it can be expected that young and old employees will have different motivations among them for using Job Crafting behaviours (i.e Autonomy, need for positive self-image and relatedness) (Wrzesniewski & Dutton, 2001). The following hypotheses have been stated.

Hypothesis 3. Older employees will be more motivated by the need of autonomy to use job crafting behaviours.

Hypothesis 3a. Younger employees will be more motivated by the increase of human connections (relatedness) to use job crafting behaviours.

Job Crafting, Engagement, Satisfaction and Age

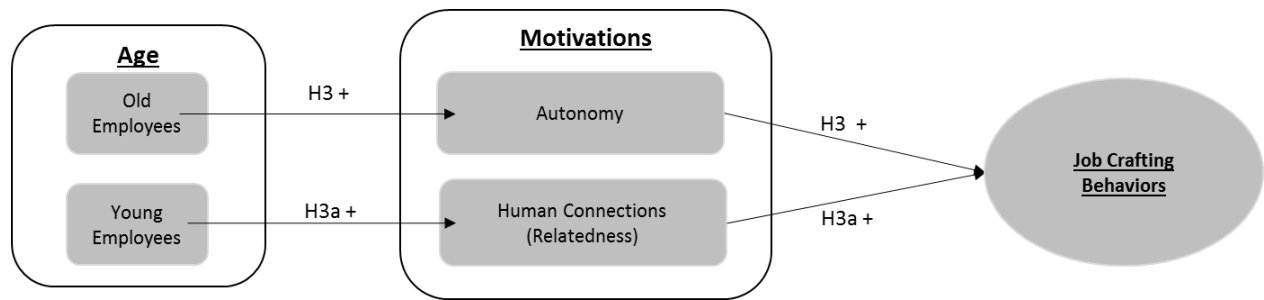


Figure 3. Conceptual model of hypotheses 3 and 3a

2.5 Demographic factors influence on Job Crafting

Age is not the only determinant of health and performance as it is also influenced by both internal and external factors such as lifestyle, nutrition or exercise, that vary among individuals (Okunribido & Wynn, 2010). Indeed, research has shown that employees who perceive themselves as older workers, exhibited more job involvement and organizational commitment (Kooij et al., 2008). These outcomes in older workers are related to intrinsic factors such as remaining active inside the workplace, enjoy working, being creative, and satisfaction for the use of their skills (Kooij et al., 2008).

Furthermore, there are other factors that might also influence the way older and younger employees are motivated to act as job crafters. For instance, degrees of autonomy in job tasks influence the way people craft their jobs; efforts that employees made to act as job crafters are determined by the structural location inside the organization. Indeed, autonomy inside the work has been theorized as one of the predictors for having the opportunity to Job Crafting (Bakker, Rodriguez-Muñoz, Saenz, 2016; Berg, Wrzesniewski & Dutton, 2010; Chena et al., 2014). Various studies have confirmed the direct relationship between higher ranks inside an organization and degree of freedom and autonomy inside work tasks (Berg et al., 2010). Berg et al., (2010) research suggested that employees perception of challenges was determined by the rank inside the organization, “higher rank employees adapt their own expectations and behaviours to make do with perceived opportunities to job craft at work,

Job Crafting, Engagement, Satisfaction and Age

while lower-rank employees adapt others' expectations and behaviours to create opportunities to job craft" (as cited from Berg et al., 2010, P. 158), indeed the potential for the occurrence of Job Crafting behaviours varies depending on work and organizational situations (Wrzesniewski, LoBuglio, Dutton & Berg, 2013). In addition, the Human Capital Theory, states that factors such as years of experience and academic background might influence the way employees are ranked inside an organization (Becker, 2002). Hence, the following hypotheses have been stated.

Hypothesis 4. There is a positive direct effect between years of working experience and the occurrence of Job Crafting behaviours.

Hypothesis 4a. There is a positive direct effect between study level and the occurrence of Job Crafting behaviours.

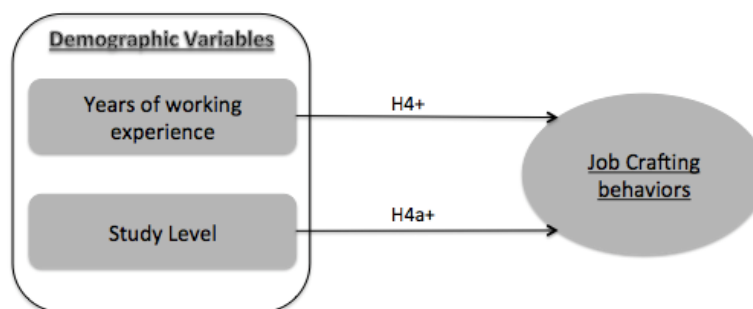


Figure 4. Conceptual model of hypotheses 4 and 4a

The next chapter will explain the used methodology.

3. Method

3.1 Research design

For testing and measuring the effect of the variables a correlational explanatory analysis was conducted. The present study is considered as explanatory bearing in mind that the intention was to determine relationships between the proposed variables and to answer "how" and "why" questions (Gray, 2004). A questionnaire was built using 4 validated scales:

Job Crafting, Engagement, Satisfaction and Age

1) Job Crafting, 2) Work Engagement, 3) Basic Psychological Need Satisfaction, and 4) Job Satisfaction.

3.2 Procedure

The data was collected during the months of May and June of 2017. The questionnaire was applied to the participants using Qualtrics¹. For the recruitment process different ways of social media and personal messages via e-mail were used to distribute the survey. When distributing the questionnaire, it was explained to each participant that the study was part of a master thesis and that the collected data will be only utilized for academic purposes. Information regarding the expected time for completing the survey and the link to the questionnaire was also provided.

The questionnaire had 77 items in total and it took approx. between 15 to 20 minutes to be completed. It was divided in 6 sections: 1) Introduction and Informed Consent, 2) Demographic questionnaire, 3) Job Crafting questionnaire, 4) Work Engagement questionnaire, 5) Basic Needs questionnaire and 6) Job Satisfaction questionnaire. Each questionnaire will be explained in detail on the Measures and Materials section.

3.3 Ethical Considerations

Before the data collection process, the Ethics Review Board of Tilburg School of Social and Behavioural Sciences reviewed and approved the development of the current research since it met all the ethical conditions stated on the APA ethical code and it didn't represent any kind of risk for the participants.

Before starting the survey, participants were informed about the ethical aspects of the study and were provided with a contact email from the Ethics Review Board in case they

¹ Qualtrics is a research survey software use online to capture and create reports.

Job Crafting, Engagement, Satisfaction and Age

considered that unethical procedures were present during the research. Respondents were asked to carefully read the inform consent before starting the questionnaire. They could decide whether give permission or not to use their responses and data “*I give permission to use my data for the purposes described in the information letter*”, and agreed or not to proceed and participate in the study “*By selecting “accept” and progressing to the next page of this survey, I agree to participate in the current research study*” (Appendix 6). The data collection was done anonymously and voluntarily and participants were able to drop the survey at any time during the process if they were willing to do so.

3.4 Population and sample

For the present research, two types of participants were recruited, older and younger employees. The selection of the ages for distinguishing younger and older employees was based on the suggestions of various studies. For example, Avery, McKay & Wilson (2007) suggested that employees begin to perceive themselves as “old” over 55 years. In addition, Ashbaugh & Fay (1987) reviewed more than 100 studies in this area and founded that the mean age when referring to older workers was 53.4 years (Avery et al., 2007). Finally, Kooij et al. (2008) defined old employees as working people who are between 50 and 55 years old and above. Hence, when operationalizing age, younger employees were considered under the age of 49 and older employees over the age of 50 years old and above.

3.5 Model & Variables

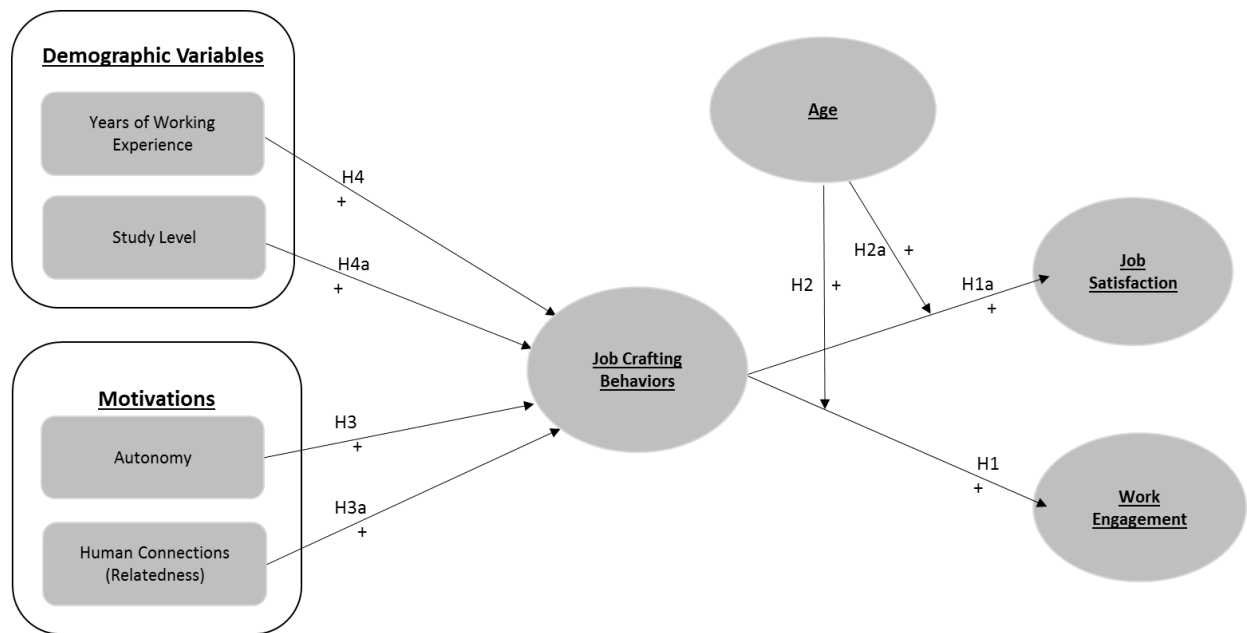


Figure 3. Conceptual model

Antecedents:

IV: Demographic variables: Study Level & Years of Working Experience

IV: Motivation: Autonomy & Human connections

Outcomes:

DVs: Work Engagement and Job Satisfaction

3.6 Measures and Materials

3.6.1 Demographic variables

Participants were asked to provide demographic information such as age, nationality, gender, years of experience, study level and function inside the organization (Appendix 1).

Some of the questions made were: “What is your age? (Please provide your response in years)”, “Ethnicity origin (or Race): Please specify your ethnicity” and “What is your nationality?”

Job Crafting, Engagement, Satisfaction and Age

3.6.2 Job Crafting

Was measured with the Job Crafting Questionnaire developed by Slemp & Vella-Brodrick (2013) which assess the extent to which individuals engage in JC behaviours. The questionnaire consists of 15 items, using a Likert scale from 1 (hardly ever) to 6 (very often) (Tims, Bakker & Derks, 2012). Slemp et al, (2013) tested the convergent validity and reliability (internal consistency) of the Job Crafting questionnaire. Some examples of the questions for the JC questionnaire are: *“Introduce new approaches to improve your work”* or *“Change the scope or types of tasks that you complete at work”* (Appendix 2).

3.6.3 Motivations (Needs)

Was measured using the Basic Psychological Need Satisfaction Scale. This scale contains 21 items that address the need satisfaction at work. The scale is based on the self-determination theory; according to the theory the 3 needs (i.e. need for competence, need for autonomy and need for relatedness) are core aspects for people to develop in a healthy way inside the working (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens. 2010). As measured by questions: *“I feel like I am free to decide for myself how to live my life”* and *“I really like the people I interact with”* (Appendix 3).

3.6.4 Work Engagement

Was measured using the engagement questionnaire Utrecht Bevlogenheid Schaal (UBES-9), designed by Schaufeli & Bakker (2004), which assess the extent to which employees are engaged towards their jobs taking into account the three main characteristics of Work Engagement, namely, vigor, dedication, and absorption. The questionnaire contains 17 questions using a Likert scale from “Never (0)” to “Always (6)”. Schaufeli & Bakker, (2004) tested factorial validity and reliability (internal consistency and test-retest) of the Work Engagement (UBES-9) questionnaire. Some of the questions made for assessing this

Job Crafting, Engagement, Satisfaction and Age

variable are: “*I find the work that I do full of meaning and purpose*” and “*Time flies when I'm working*” (Appendix 4).

3.6.5 Job Satisfaction

Was measured using the Generic Job Satisfaction Scale created by Macdonald & MacIntyre (1997). The Job Satisfaction Scale contains 10 questions to be answered on a Likert scale that goes from “Strongly Disagree” to “Strongly Agree”. Some of the questions of the questionnaire are: “*I receive recognition for a job well done*” and “*I feel good about working at this company*” (Appendix 5).

3.7 Factor Analysis

Various Factor Analyses were made for analysis the collected data. Bearing in mind that some of the questionnaires used are composed of sub-constructs, doing a factor analysis was useful for reducing the data it into one or various factors, this helped summarize each of the concepts into one, considering each of the items that measures it (Kaptein, 2013). The following section will explain the factor analysis process that was run for each of the variables. The results of each factor analysis are showed on table 2.

3.7.1 Job Crafting

For assessing Job Crafting it was considered necessary to run various factor analyses, bearing in mind that the questionnaire assess the 3 different types of Job Crafting behaviours. Hence, a single factor was extracted for the whole Job Crafting category and 3 separate factors were extracted per behaviour. Different steps were done. The factor analyses processes were based on the stated items per construct suggested by Slemp & Vella-Brodrick (2013) in which they recognize the items that measure the corresponding construct.

Job Crafting, Engagement, Satisfaction and Age

Step 1: A factor analysis including all 15 items from the Job Crafting questionnaire was made. A single factor with a significant ($P < .05$) KMO value of .859 was extracted.

Step 2: A factor analysis with items 1 to 5 from the Job Crafting questionnaire was done for generating a single factor for Task crafting. Some examples of the items took are: *“Introduce new approaches to improve your work”* and *“Change the scope or types of tasks that you complete at work”*. The Factor analysis resulted with a significant ($P < .05$) KMO value of .811.

Step 3: A factor analysis for Cognitive crafting was done with items 6 to 10 from the Job Crafting Questionnaire. Some of the questions that measure this behaviour are: *“Think about how your job gives your life purpose”* and *“Remind yourself about the significance your work has for the success of the organization”*. The Factor analysis resulted in a single factor with significant ($P < .05$) KMO value of .847.

Step 4: A factor analysis for Relational Crafting was done with items 10 to 15 from the Job Crafting questionnaire. Some of the items that measure this behaviour are: *“Make an effort to get to know people well at work”* and *“Organize or attend work related social functions”*. The Factor analysis resulted in a single factor with a significant ($P < .05$) KMO value of .759.

3.7.2 Motivations (Needs).

Same process made with the Job Crafting questionnaire was done for the Basic Psychological Need Satisfaction Scale. Various steps were done. A single factor was extracted for the whole Scale and 3 separate factors were extracted per need (i.e Autonomy, competence and relatedness). The factor analyses processes were based on the stated items per construct suggested by Van den Broeck, et al. (2010) in which they recognize the items that measure the corresponding construct.

Job Crafting, Engagement, Satisfaction and Age

Step 1. A factor analysis was done with the 21 total items from the Basic Psychological Need Satisfaction Scale. A single factor was extracted and resulted in a significant ($P < .05$) KMO value of .816.

Step 2. A factor analysis for assessing the Need for Autonomy was done with items 1, 5, 8, 11, 13, 17 & 20 from the Basic Psychological Need Satisfaction Scale. Some examples of the items that measure this construct are: *“I feel like I am free to decide for myself how to live my life”* and *“People I know tell me I am good at what I do”*. The Factor analysis resulted in a single extracted factor with a significant ($P < .05$) KMO value of .739.

Step 3. A factor analysis for Need for Competence was run with items 3, 4, 10, 12, 14, 19 from the Basic Psychological Need Satisfaction Scale. Some examples of the questions that measure this construct are: *“Often, I do not feel very competent”* and *“I feel pressured in my life”*. The Factor analysis resulted in a single extracted factor with significant ($P < .05$) KMO value of .631.

Step 4. Factor analysis for Relatedness was assessed by items 2, 6, 7, 9, 15, 16, 18, and 21 from the Basic Psychological Need Satisfaction Scale. Questions like: *“I get along with people I come into contact with”* and *“I pretty much keep to myself and don't have a lot of social contacts”* measure this construct. The Factor analysis resulted in a significant ($P < .05$) KMO value of .711.

3.7.3 Work Engagement

A Factor Analysis was done with the 17 items of the Work Engagement questionnaire which resulted in a significant single factor ($P < .05$) KMO value of .948.

3.7.4 Job Satisfaction

A Factor analysis was realized with the 10 items of the Job Satisfaction questionnaire, which resulted with a single factor with a significant ($P < .05$) KMO value of .849.

Table 1

KMO, standardized values and Variance of extracted factors

Factor	KMO	P-Value	df	Cumulative %	Chi-Square
Job Crafting	.859	.000	105	38.899	1257.224
Task Crafting	.811	.000	10	57,689	320.075
Cognitive Crafting	.847	.000	10	67,367	472.903
Relational Crafting	.759	.000	10	50,100	209.314
Need/ Motivation	.816	.000	210	25,901	1197.089
Autonomy	.739	.000	21	36,189	217.486
Competence	.631	.000	15	35,153	178.714
Relatedness	.711	.000	28	33,311	268.013
Work Engagement	.948	.000	136	53,635	2207.904
Job Satisfaction	.849	.000	45	41,536	611.864

4. Results

The collected data was entered and analysed using SPSS. A factor analysis was developed for the analysis of Job crafting, Work Engagement, Job Satisfaction and Basic needs questionnaires. As explained previously, for assessing the types of Job Crafting behaviours it was necessary to construct 3 different factors, namely task crafting, cognitive crafting and relatedness crafting (Slemp & Vella-Brodrick, 2013). This same procedure was done for the Basic needs questionnaire from which 3 factors were constructed autonomy, competence and relatedness (Van den Broeck, et al., 2010). For distinguishing older and younger employees, a dummy was created where younger employees were considered between 18 and 49 years old and older employees between 50 years old and above. The same process was made for study level and total years of working experience. Finally, a regression analysis was conducted to examine the direct effects of the proposed hypotheses.

4.1 Hypothesis testing

Hypotheses 1 and 1a stated that there will be a positive direct effect of Job Crafting behaviours on Work Engagement ($B=.696$, $P\text{-value}= .000$) and Job Satisfaction ($B= .479$, $P\text{-}$

Job Crafting, Engagement, Satisfaction and Age

Value=.000). Both hypotheses were confirmed as the coefficients between the dependent and the independent variables were positive and significant at a 1% level (Table 3). Hence, the occurrence of job crafting behaviours will increase employee's engagement and satisfaction towards job.

Table 3

Results of the regression analysis of Job Crafting over Work Engagement and Job Satisfaction

Predictor	Work Engagement			Job Satisfaction		
	B	SE	P	B	SE	P
Job Crafting	.696	.052	.000	.479	.064	.000
R ²	.535			.230		

Hypotheses 2 and 2a stated that age will positively moderate the relationship between Job Crafting and both Work Engagement ($B = .627$, $P\text{-value} = .000$; $B = .018$, $P\text{-value} = .000$) and Job Satisfaction ($B = .416$, $P\text{-value} = .000$; $B = .016$, $P\text{-value} = .001$). These hypotheses were confirmed as the coefficient was positive and significant at a 1% level (Table 4).

Table 4

Results of the regression analysis between Age and Job Crafting

Predictor	Work Engagement			Job Satisfaction		
	B	SE	P	B	SE	P
Job Crafting	.627	.052	.000	.416	.065	.000
Age	.018	.004	.000	.016	.005	.001
R ²	.535			.065		

Hypothesis 2b stated that older employees will be more likely to use Job Crafting behaviours compared to younger employees, because they might need to engage more in adjustments due to misalignment. This hypothesis was confirmed as the coefficient between

Job Crafting, Engagement, Satisfaction and Age

the dependent and the independent variables resulted as positive and significant at a 1% ($B=.486$, $P\text{-Value}=.008$) (Table 5).

Table 5

Results of the regression analysis between Age and Job Crating

Job Crafting			
Predictor	B	SE	P
Dummy Age*	.569	.180	.008
R ²	.037		

*Dummy Age = Older 1 Younger 0

Moreover, for broaden the results of this hypothesis it was considered necessary to analyse each of the Job Crafting behaviours with regards to both outcomes Work Engagement and Job Satisfaction. Two steps were done.

Step 1: A linear regression was done with DVs: Age, Job Crafting behaviours (i.e. task, cognitive and relational crafting) and IV: Work Engagement. Hypothesis was confirmed only for task crafting ($B=.119$, $P\text{-Value}=.050$) and cognitive crafting ($B=.570$, $P\text{-Value}=.000$) but rejected for relational crafting ($B=.078$; $P\text{-Value}=.170$). This means that performing task and cognitive crafting will have a positive influence in Work Engagement.

Step 2: A linear regression was done with DVs: Age, Job Crafting behaviours (i.e. task, cognitive and relational crafting) and IV: Job Satisfaction which resulted positive and significant for cognitive crafting ($B=.378$, $P\text{-Value}=.000$) and relational crafting ($B=.161$, $P\text{-Value}=.029$) but rejected for task crafting ($B=-.021$, $P\text{-Value}=.785$) (Table 6), meaning that performing cognitive and relational crafting will have a positive effect on employee's satisfaction.

Table 6

Results of the regression analysis between Age and Job Crafting types

Predictor	Work Engagement			Job Satisfaction		
	B	SE	P	B	SE	P

Job Crafting, Engagement, Satisfaction and Age

Age	.012	.004	.003	.013	.005	.011
Task Crafting	.119	.060	.050	-.021	.078	.785
Cognitive Crafting	.570	.064	.000	.378	.082	.000
Relational Crafting	.078	.057	.170	.161	.073	.029
R ²	.573			.297		

Hypothesis 3 proposed that older employees will be motivated by the need of autonomy. This hypothesis was confirmed as the coefficient between the dependent and the independent variable result as positive and significant at a 1% level, meaning that both older and younger employees will be motivated by the need of autonomy ($B = .569$, $P\text{-Value} = .002$; $B = -.569$, $P\text{-Value} = .002$) however older employees will be more motivated by the need of autonomy than younger employees (Table 7a). Hypothesis 3a suggested that younger employees will be motivated by the increase of human connections (relatedness). However this hypothesis was not confirmed as the coefficient resulted as not significant ($B = .191$, $P\text{-Value} = .297$; $B = -.191$, $P\text{-Value} = .297$) (Table 7b).

Table 7a

*Results of the regression analysis between Age, Need for Autonomy and Relatedness (Dummy Older)**

Predictor	Need for Autonomy			Need Relatedness		
	B	SE	P	B	SE	P
Older Employees	.569	.179	.002	-.191	.183	.297
R ²	.051			.006		

*Dummy Age Older 1 younger 0

Table 7b

*Results of the regression analysis between Age, Need for Autonomy and Relatedness (Dummy younger)**

Predictor	Need for Autonomy			Need Relatedness		
	B	SE	P	B	SE	P
Younger Employees	-.569	.179	.002	.191	.183	.297
R ²	.051			.006		

*Dummy Age Younger 1 Older 0

Finally, hypothesis 4 stated that there will be a positive direct effect between years of working experience and the occurrence of Job Crafting behaviours. This hypothesis was

Job Crafting, Engagement, Satisfaction and Age

confirmed. The regression analysis showed that there is a positive significant relation between years of experience and the occurrence of Job Crafting Behaviours ($B=.019$, P -Value= .001), this means that employees with more years working experience will be more likely to use Job Crafting behaviours.

Hypothesis 4a stated that there will be a positive direct effect between study level and the occurrence of Job Crafting behaviours. This hypothesis was rejected. The regression analysis showed that for the different academic levels only employees who have a technological degree seem to be engaged on realizing job crafting behaviours ($B= .497$, P -Value= .021), for the other academic levels there was no a significant effect (Table 8).

Table 8

Results of the regression analysis of Working Experience and Study Level over Job Crafting

Predictor	Job Crafting		
	B	SE	P
Total Working Exp.	.019	.006	.001
High School	-.021	.205	.918
Technical Degree	.011	.422	.979
Pre-Master	.497	.214	.021
Master	.145	.194	.455
PHD	.522	.510	.308
R ²		.036	

**base no schooling*

4.2 Conceptual model *B and P- Values*

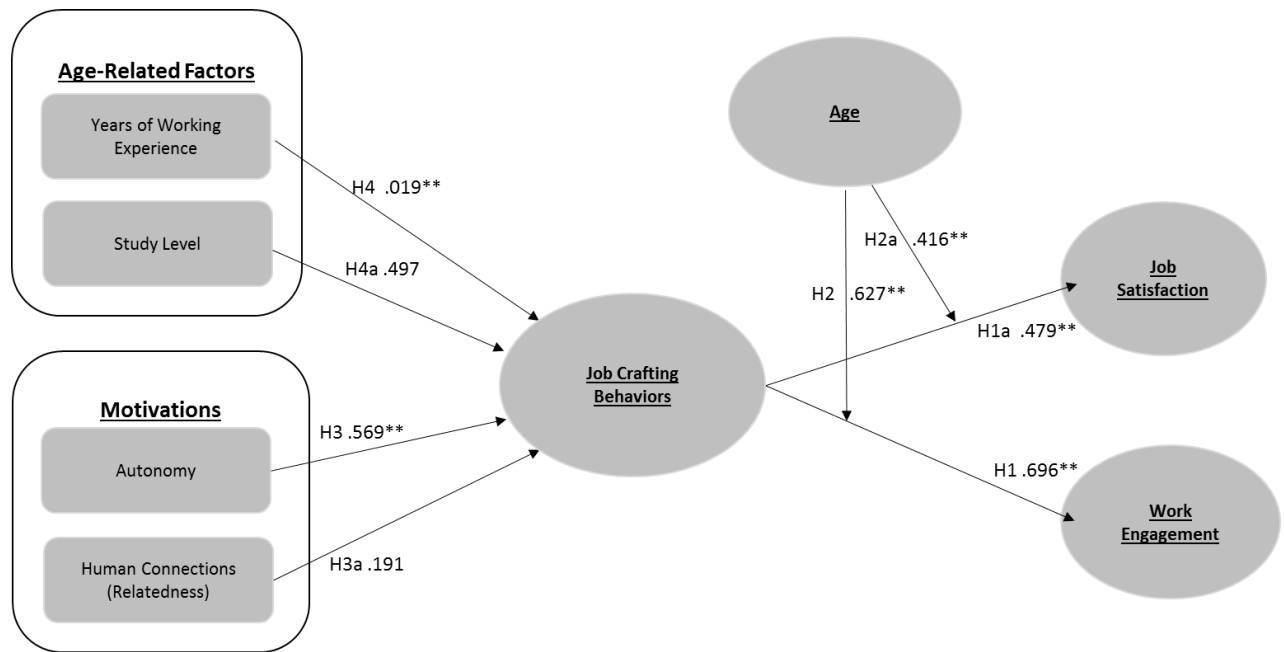


Figure 4. Conceptual model with B and P-values per hypothesis. . **: P<0.01; if not * no significant.

5. Discussion

The objective of this study was to provide more information about Job crafting and the influence of employees’ age when realizing Job Crafting behaviours. As it was stated earlier, there is a considerable amount of information regarding Job Crafting, but still few is known about the influence of age, age related factors and motivations and its effects over Job Crafting behaviours. In addition, this study also wanted to show age as a complex variable that is influenced by other factors such as motivations, study level, and work experience, hence these factors were included and considered as important when influencing the way employees craft their jobs. The following research question was investigated: *How do employee’s age influence Work Engagement and Job Satisfaction through Job Crafting behaviours?*

Job Crafting, Engagement, Satisfaction and Age

Age was confirmed to be a positive and significant factor over the relationship among Job Crafting and its outcomes (i.e. Work Engagement and Job Satisfaction). The results of the different correlation analyses showed that there is a direct significant effect on the occurrence of Job Crafting behaviours that will impact on both Work Engagement and Job Satisfaction and that age will moderate this relationship. This means that the occurrence of Job Crafting behaviours will increase employees' engagement and satisfaction at work and that age will influence the way employees craft their jobs. This results are aligned with the proposed by Bakker et al., (2016) when stating that one of the positive outcomes of Job Crafting is Work Engagement and with Wrzesniewski et al., (2013) when concluding that shaping and redesigning one's job will influence on the way employees experience the meaningfulness of the work, leading to benefits such as satisfaction and performance. The relationship among the occurrence of Job Crafting behaviours and Work Engagement can be described as a circular relation, bearing in mind that the Job Crafting Behaviours lead to work engagement and engaged employees are more likely to act as job crafters (Bakker, 2010).

It was also confirmed as well that older employees will be more likely to use Job Crafting behaviours compared to younger employees. This might be considered a way of aligning the frequent organizational transformation and the changes on either physical or mental abilities that are experience while aging (Gilley et al., 2009). Specifically, it was confirmed that older employees are more likely to use task and cognitive crafting and that the use of this type of behaviours has a significant impact on work engagement, while job satisfaction will be positively influence when performing cognitive and/or relational crafting. This supports the stated by Baroudi & Khapova, (2017) when suggesting that both younger and older employees are likely to act as job crafters. Therefore, all three types of job crafting behaviours are significant for employee's engagement and satisfaction within working

Job Crafting, Engagement, Satisfaction and Age

settings. The occurrence of task crafting has a significant impact on employee's engagement, mainly because when they see that their tasks have certain impact on others they experience their work as meaningful and therefore they become more engaged (Berg et al., 2013).

Relational crafting has a significant influence over job satisfaction bearing in mind that highly quality connections within the world settings lead to more adaptability, commitment and positive work attitudes (Berg et al., 2013), and cognitive crafting has an impact on both engagement and satisfactions by means of adding value and significance to the work tasks (Berg et al., 2013).

Furthermore, the regression analysis showed that both older and younger employees will be motivated by the need of autonomy to act as job crafters, however as it was expected on the proposed hypothesis, older employees seem to be more motivated for the need of autonomy than younger employees. On the other side, work experience was confirmed to be positively related with the occurrence of Job Crafting behaviours; more year of working experience will increase the occurrence of Job Crafting behaviours. This statement will be aligned with the results of hypothesis 2b when supporting that older employees will be more likely to engage on Job Crafting behaviours. Indeed it is expected that older employees will have more years of experience compared to younger people. Finally, study level was not significant for increasing the occurrence of Job Crafting. The obtained data for this hypothesis is considered not enough for realizing a valid discussion.

5.1 Limitations and recommendations for future research

One of the limitations of this study is due to the high dropout response; Even though a total of 278 employees started the survey only 191 finished it. In addition, the small sample size collected for older workers is also considered as a limitation; the few number of responses regarding this population might cause an impact when comparing younger and

Job Crafting, Engagement, Satisfaction and Age

older employees, this can be a result that reflects the low amount of older employees within the workforce (Kooij et al., 2008). Another limitation is due the method used for the data collection; the data was obtained only by using questionnaires, therefore combining a different way of data collection (e.g. interviews) will provide of deeper information and will increase the validity and reliability of the data (Zohrabi, 2013). For increasing internal validity it is recommended to use different ways for gathering data from several sources, this process is known as triangulation, in which the researcher uses different instruments, gathering data from different sources can be useful for corroborate the findings using both qualitative and quantitative data (Zohrabi, 2013). In addition, the operationalization of age based on chronological age is considered as another limitation. Chronological age refers to the calendar age (Kooij et al., 2008). However as it was stated before age is a complex concept that is influenced by various factors (Schalk et al., 2010), and can be conceptualized in many different ways (e.g. chronological age, subjective age or employee's social age), hence including those different conceptualizations on further research is suggested since they are interrelated and each one has different effects on work related topics (Kooij et al., 2008).

Future research should focus more on how employees from different nationalities may differ when crafting their jobs, basing their studies in a cross-cultural perspective bearing in mind that cultural values and characteristics might play an important role when acting as job crafters. In addition, as it was stated before, autonomy is considered as an important aspect that boosts the occurrence of Job Crafting behaviours (Chena et al., 2014), hence addressing employees with different job positions, functions and degrees of freedom in their functions will be also convenient to explore. Finally, diving on the specificity of the 3 Job Crafting behaviours will be also an interesting path for the present topic, this means focusing on the way people perform each behaviours, namely task, cognitive and relational crafting base on

the characteristics proposed by Berg et al., (2013) when establishing that each Job Crafting behaviour has as well specific subdivisions.

5.2 Theoretical and practical implications

The occurrence of Job Crafting behaviours has positive outcomes such as Work Engagement and Job Satisfaction which influence the general well-being of an employee (Wrzesniewski et al., 2013); Job crafting matters and it has to be highlighted as a key for individual and organizational positive outcomes (Wrzesniewski et al., 2013). Moreover, having engaged employees has to be considered as a valuable aspect inside the organizational environment, bearing in mind that engaged employees are healthier, they experience positive emotions including happiness, joy and enthusiasm and are able to transfer their engagement towards their colleagues leading to an improvement of performance (Bakker, 2010).

This study contributes to the knowledge and understanding of the differences among older and younger employees inside work environments, what motivates them, how they craft their job and how this influence positive outcomes like Work Engagement and Job Satisfaction. These results are highly valuable due to the expected increase of older employees through the coming years (Charness & Czaja, 2006; Van Dalen & Schippers, 2010). The information provided by this research will be useful for managers and colleagues inside organizational settings when addressing and approaching older employees in work settings. Getting to know their motivations and the way they shape and redesign their jobs will help them to find a better way to boost their performance, leading to an impact on the organizational success. In addition, recognizing the complexity of age and its perception within society is also useful when building Human Resource policies as this might have an influence on how older employees are perceived in work settings (Schalk et al., 2010).

Job Crafting, Engagement, Satisfaction and Age

In resume, a deep knowledge on Job Crafting and its outcomes is highly important bearing in mind that the constant changes on work environments lead to an increase of complexity and uncertainty on job, added to the fact that nowadays companies are interested on having active, independent and proactive employees, characteristics that help an employee to react to unpredictable conditions by means of job crafting (Kanten, 2014). In addition, as it was showed on the present study, the occurrence is positively related with satisfaction and engagement in work settings. Having engaged and satisfied employees is extremely important for companies due to the fact that employees with this characteristics can drive to the success of the company, are committed towards the organization and their turnover intentions are low (Attridge, 2009; Sarwar & Abugre, 2013).

5.3 Conclusion

This study examined the influence of age over the relationship between Job Crafting and both outcomes Work Engagement and Job Satisfaction. Results showed that employee's age is consider as a positive and significant variable that influence engagement and satisfaction through Job Crafting behaviours. Moreover, there is a difference among younger and older employees on the way they approach and craft their jobs as well as a difference on the motivations that lead to the occurrence of Job Crafting behaviours. Both old and young employees act as job crafters, however, older employees are more likely to use job crafting behaviours because they need to engage more in adjustments due to misalignment. Moreover, young and old employees differ on the types of behaviours they use to craft their job. For instance, older employees are more likely to engage on task and cognitive crafting and are mainly motivated by the need of autonomy. Finally, age related factors such as work experience and study level were tested, however only work experience showed a positive relation on the way older and younger employees craft their jobs.

6. References

- Ashbaugh, D., & Fay, C. (1987). The threshold for aging in the workplace. *Research on Aging, 9*, 417–427.
- Attridge, M. (2009). Measuring and managing employee work engagement: A review of the research and business literatur. *Journal of Workplace Behavioral Health, 24*, 383-398.
- Avery, D., McKay, P., & Wilson, D. (2007). Engaging the Aging Workforce: The Relationship Between Perceived Age Similarity, Satisfaction With Coworkers, and Employee Engagement. *Journal of Applied Psychology, 92*(6), 1542–1556.
- Bakker, A., Rodriguez-Muñoz, A., Saenz, A., (2016). Modelling job crafting behaviours: Implications for work engagement. *Human Relations, the Tavistock Institute, 69*(1) 169–189.
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JD–R Approach. *The Annual Review of Organizational Psychology and Organizational Behavior, 1*, 389-411.
- Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology, 20*(1), 4-28.
- Bakker, A., (2010). Engagement and “job crafting”: engaged employees create their own great place to work. *Handbook of employee engagement, 229-244*.
- Bakker, A., & Demerouti, E., (2006). The Job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*, 309-328.
- Barabasch, A., Dehmel, A & Jasper van Loo, J., (2012). Introduction: The value of investing in an ageing workforce. *European Centre for the Development of Vocational Training (Cedefop), 9-34*.

Job Crafting, Engagement, Satisfaction and Age

- Baroudi, S & Khapova S. (2017). The Effects of Age on Job Crafting: Exploring the Motivations and Behavior of Younger and Older Employees in Job Crafting. *Springer Proceedings in Business and Economics*. 485-505.
- Becker, G. S. (2002). Investment in Human Capital. *The Journal of Political Economy*. 70(2), 9-49.
- Berg, J., Dutton, E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J. Dik, Z. S. Byrne & M. F. Steger (Eds.), *Purpose and meaning in the workplace* Washington, DC: American Psychological Association. 81-104.
- Berg, J., Wrzesniewski, A., & Dutton, Jane. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior*. 31, 158–186.
- Bipp, T., & Demerouti. (2015). Which employees craft their Jobs and how? Basic dimensions of personality and employees' job crafting behaviour. *Journal of Occupational and Organizational Psychology*.
- Burger, J. M., & Cooper, H. M. (1979). The desirability of control. *Motivation and Emotion*, 3, 381-393.
- Charness, N & Czaja, S. (2006) Older Worker Training: What We Know and Don't Know. *AARP Public Policy Institute*. 1-28.
- Chen, C., Yenb, C & Tsai, F. (2014). Job crafting and job engagement: The mediating role of person-job fit. *International Journal of Hospitality Management*. 37, 21–28.
- Derek R., Patrick F., & David C. (2007) Engaging the Aging Workforce: The Relationship between Perceived Age Similarity, Satisfaction With Coworkers, and Employee Engagement. *Journal of Applied Psychology*. 92(6), 1542–1556.
- Draper, N. R. and H. Smith (1998). *Applied Regression Analysis*, 3rd ed. New York: Wiley.

Job Crafting, Engagement, Satisfaction and Age

- DuBose, S. (2016). Demand-Control Interactions in Older Workers: Health and Well-Being as Outcome Measures. *Clemson University, TigerPrints*. 8, (1-47)
- Fioulaine & Martinez, (2010). Time under control: time perspective and desire for control in substance use. 35(8), 799-802.
- Gilley, A., Gilley, J., & McMillan, H. (2009). Organizational Change: Motivation, Communication, and Leadership Effectiveness. *International Society for Performance Improvement*, 21(4), 75–94.
- Gray, D. (2004). Doing Research in the real world. Theoretical Perspectives and Research Methodologies. *Sage Publication*. 3, 16-34.
- Homan, A., van Knippenberg, D., Van Kleef, G., & De Dreu, C. (2007). Bridging faultlines by valuing diversity: The effects of diversity beliefs on information elaboration and performance in diverse work groups. *Journal of Applied Psychology*, 92, 1189-1199.
- Humphrey, S., Nahrgang, J., & Morgeson, F., (2007). Integrating Motivational, Social, and Contextual Work Design Features: A Meta-Analytic Summary and Theoretical Extension of the Work Design Literature. *Journal of Applied Psychology*. 92(5), 1332–1356.
- Kanten, P. (2014). The Antecedents of Job Crafting: Perceived Organizational Support, Job Characteristics and Self-Efficacy. *European Journal of Business and Social Sciences*, 3(5), 113-128.
- Kaptein, M (2013). Analysis and Construction of Questionnaires. 35-56.
- Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Joshi, A., Jehn, K., Leonard, J., Levine, D., & Thomas, D. (2003). The effects of diversity on business performance: Report of the diversity research network. *Human resource management*, 42(1), 3-21.
- Kooij, D., Tims, M., & Kanfer, R. (2015) Successful Aging at Work: The Role of Job Crafting. *Springer International Publishing Switzerland*.

Job Crafting, Engagement, Satisfaction and Age

- Kooij, D., De Lange, A., Jansen, P., & Dijkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age. *Journal of Managerial Psychology*, 23(4), 364-395.
- Lu, C., Wang, H., Lu, J., Du, D & Bakker, A. (2013). Does work engagement increase person–job fit? The role of job crafting and job insecurity. *Journal of Vocational Behavior*. 84, 142–152.
- Macdonald, S & MacIntyre, P. (1997). The Generic Job Satisfaction Scale: Scale Development and Its Correlates. *Employee Assistance Quarterly*, 13 (2), 1-16.
- Okunribido, O & Wynn, T (2010). Ageing and work-related musculoskeletal disorders: A review of the recent literature. *Health and Safety Executive*. 1, 1-35.
- Reis, H., Sheldon, K., Gable, S., Roscoe, J., Ryan, R., (2000). Daily Well-Being: The Role of Autonomy, Competence, and Relatedness. *Personality and Social Psychology Bulletin*. 26 (4), 419-435.
- Roczniewska & Bakker (2016). Who Seeks Job Resources, and Who Avoids Job Demands? The Link Between Dark Personality Traits and Job Crafting. *The Journal of Psychology Interdisciplinary and Applied*. 150(8), 1026–1045.
- Rogelberg, S., Allen, J., Shanock, L., Scott, C., & Shuffler, M. (2010). Employee Satisfaction with Meetings: A Contemporary Facet of Job Satisfaction. *Human Resource Management Wiley Periodicals, Inc*. 49 (2), 149–172.
- Russell, V. (2001). Some practical guidelines for effective size determination. *The American Statistician*, 187-193.
- Sarwar, S & Abugre, J. (2013). The Influence of Rewards and Job Satisfaction on Employees in the Service Industry. *Swansea University. The Business & Management Review*. 3(2). 22-32.
- Schalk, R., Van Veldhoven, M., De Lange, A.H., De Witte, H., Kraus, K., Stamov-RoBnagel,

Job Crafting, Engagement, Satisfaction and Age

- C., Tordera, N., Van der Heijden, B., Zappala, S., Bal, M., Bertrand, F., Claes, R., Crego, A., Dorenbosch, L., De Jonge, J., Desmette, D., Gellert, F.J., Hansez, I., Iller, C., Kooij, D., Kuipers, B., Linkola, P., Van den Broeck, A., Van der Schoot, E. & Zacher, H. (2010). Moving European research on work and ageing forward: Overview and agenda. *European Journal of Work and Organizational Psychology*, 19(1), 76-101.
- Schaufeli, W. B., & Bakker, A. B. (2004). UWES Utrecht Work Engagement Scale Preliminary Manual Version 1.1, *Occupational Health Psychology Unit Utrecht University.1-4*.
- Sarwar, S., & Abugre, J. (2013). The Influence of Rewards and Job Satisfaction on Employees in the Service Industry. Swansea University, the Business & Management Review. 3(2), 22-32.
- Slemp, G. R., & Vella-Brodrick, D. A., (2013). The job crafting questionnaire: A new scale to measure the extent to which employees engage in job crafting. *International Journal of Wellbeing*, 3(2), 126-146.
- Su, R., Murdock, C., & Rounds, J., (2015). Person-environment fit. In P. J. Hartung, M-L.Saviackas & W. B. Walsh (Eds.) *APA handbook of career intervention, Volume 1: Foundations* (pp.81-98). Washington, DC, US: American Psychological Association.
- Thompson, L. (2015). *Making the team: a guide for managers*. Evanston: Northwestern University.
- Tims, M., Bakker, A., & Derks, D. (2012). The development and validation of the Job-crafting Scale. *Journal of Vocational Behavior*, 80, 173-186.
- Tims, M., Bakker, A., & Derks, D. (2013). The Impact of Job Crafting on Job Demands, Job Resources, and Well-Being. *Journal of Occupational and Organizational Psychology*. 18(2), 230–240.

Job Crafting, Engagement, Satisfaction and Age

- Turk, S., Mather, M., & Carstensen, L. (2003). Aging and Emotional Memory: The Forgettable Nature of Negative Images for Older Adults. *Journal of Experimental Psychology: General*. 132(2), 310–324.
- Van Dalen, H., Henkens, K., Schippers, J. (2010). How do employers cope with an aging workforce? Views from employers and employees. *Demographic Research*. 22(32), 1015-1036.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*. 83, 981–1002.
- Wrzesniewski, A., LoBuglio, N., Dutton, J., & Berg, J. (2013). Job Crafting and Cultivating Positive Meaning and Identity in Work. *Advances in Positive Organizational Psychology*. 1, 281–302.
- Wrzesniewski, A., & Dutton, J. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*.
- Zacher, H & Griffin, B. (2015). Older Workers' Age as a Moderator of the Relationship Between Career Adaptability and Job Satisfaction. *Work Aging Retire*.1(2),227-236.
- Zohrabi, M. (2013). Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings. *Theory and Practice in Language Studies*, 3(2). 254-262.

7. Appendix

Appendix 1 Demographic Questionnaire

1. Gender: F___ M___
2. What is your age (please provide your response in years): _____
3. Ethnicity origin (or Race): Please specify your ethnicity.
 - White
 - Native American or American Indian
 - Hispanic or Latino
 - Black or African America
 - Asian/Pacific Islander
 - Other specify_____
4. What is your marital status?
 - Single, never married
 - Married or domestic partnership
 - Widowed
 - Divorced
 - Separated
5. What is your nationality? _____
6. In which country were you born? _____
7. In which country was your mother born? _____
8. I which country was your father born? _____
9. What is your last academic level achieved?
 - No schooling completed
 - pre school
 - High School
 - Bachelor's
 - Technical Degree
 - Pre-Master
 - Master
 - PHD
10. How long have you been working in your current company? (Please specify years and months on your response).

Job Crafting, Engagement, Satisfaction and Age

11. How many years of total working experience do you have? (Please specify years and months on your response).
12. What is your function/position in your company? Please describe your position briefly in a way so that we can understand it.
13. Do you supervise others? Yes/No
14. Please indicate the place(s) in which you develop your working tasks.
 - Private Office
 - Share Office
 - Laboratory
 - Cellar
 - Production workshop
 - Other specify: _____

Appendix 2 Job-Crafting Questionnaire

Please indicate the extent to which you engage in the following behaviours using the following scale: 1 = Hardly Ever, to 6 = Very Often. (Note: 'Very Often' means as often as possible in your workplace)

1. Introduce new approaches to improve your work
2. Change the scope or types of tasks that you complete at work
3. Introduce new work tasks that you think better suit your skills or interests
4. Choose to take on additional tasks at work
5. Give preference to work tasks that suit your skills or interests
6. Think about how your job gives your life purpose
7. Remind yourself about the significance your work has for the success of the organization
8. Remind yourself of the importance of your work for the broader community
9. Think about the ways in which your work positively impacts your life
10. Reflect on the role your job has for your overall well-being
11. Make an effort to get to know people well at work
12. Organise or attend work related social functions
13. Organise special events in the workplace (e.g., celebrating a co-worker's birthday)*
14. Choose to mentor new employees (officially or unofficially)

Job Crafting, Engagement, Satisfaction and Age

15. Make friends with people at work who have similar skills or interests

Note: Items 1 to 5 reflect task crafting, items 5 to 10 reflect cognitive crafting, and items 11 to 15 reflect relational crafting. *indicates items that were adapted or taken from Leana, Appelbaum, & Shevchuk (2009).

Appendix 3 Basic Psychological Need Satisfaction at Work Questionnaire

The following statements are about what motivates you at work. Please read each statement carefully and choose the answer. Use the following scale to respond: 1 (not at all true), 2, 3, 4 (somewhat true), 5, 6, 7 (very true).

1. I feel like I am free to decide for myself how to live my life.
2. I really like the people I interact with.
3. Often, I do not feel very competent.
4. I feel pressured in my life.
5. People I know tell me I am good at what I do.
6. I get along with people I come into contact with.
7. I pretty much keep to myself and don't have a lot of social contacts.
8. I generally feel free to express my ideas and opinions.
9. I consider the people I regularly interact with to be my friends.
10. I have been able to learn interesting new skills recently.
11. In my daily life, I frequently have to do what I am told.
12. People in my life care about me.
13. Most days I feel a sense of accomplishment from what I do.
14. People I interact with on a daily basis tend to take my feelings into consideration.
15. In my life I do not get much of a chance to show how capable I am.
16. There are not many people that I am close to.
17. I feel like I can pretty much be myself in my daily situations.
18. The people I interact with regularly do not seem to like me much.
19. I often do not feel very capable.
20. There is not much opportunity for me to decide for myself how to do things in my daily life.
21. People are generally pretty friendly towards me.

Appendix 4 Work Engagement Questionnaire (UWES)

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way. Please use the following scale: Never (0) Almost never (1) Rarely (2) Sometimes (3) Often (4) Very often (5) Always (6).

1. At my work, I feel bursting with energy* (VI1)
2. I find the work that I do full of meaning and purpose (DE1)
3. Time flies when I'm working (AB1)
4. At my job, I feel strong and vigorous (VI2)*
5. I am enthusiastic about my job (DE2)*
6. When I am working, I forget everything else around me (AB2)
7. My job inspires me (DE3)*
8. When I get up in the morning, I feel like going to work (VI3)*
9. I feel happy when I am working intensely (AB3)*
10. I am proud on the work that I do (DE4)*
11. I am immersed in my work (AB4)*
12. I can continue working for very long periods at a time (VI4)
13. To me, my job is challenging (DE5)
14. I get carried away when I'm working (AB5)*
15. At my job, I am very resilient, mentally (VI5)
16. It is difficult to detach myself from my job (AB6)
17. At my work I always persevere, even when things do not go well (VI6)

Job Crafting, Engagement, Satisfaction and Age

* Shortened version (UWES-9); VI= vigor; DE = dedication; AB = absorption © Schaufeli & Bakker (2003). The Utrecht Work Engagement Scale is free for use for non-commercial scientific research. Commercial and/or non-scientific use is prohibited, unless previous written permission is granted by the authors

Appendix 5 The Generic Job Satisfaction Scale

For each statement please choose the number to indicate your degree of agreement. Please use the following scale: Strongly Disagree (1), Disagree (2), neither agree nor disagree (3), agree (4), strongly agree (5).

1. I Receive recognition for a job well done
2. I feel close to the people at work
3. I feel good about working at this company
4. I feel secure about my job
5. I believe management is concerned about me
6. On the whole, I believe work is good for my physical health
7. My wages are good
8. All my talents and skills are used at work
9. I get along with my supervisor
10. I feel good about my job.

Appendix 6 Informed consent

Dear participant,

You are being asked to take part in a survey on workplace behaviors for a master's thesis by Margarita Marin, carried out at Tilburg University. Before proceeding, please read the following information carefully.

We will present you with questions about how you make decisions related to your work, how you try to make your work fit what you are motivated for, and how this might affect your well-being at work and in general. The survey will be completed within 15-20 minutes.

Job Crafting, Engagement, Satisfaction and Age

If you have any questions, please contact Margarita

Marin or the academic supervisor of this project, Dr. Michael Bender.

Informed Consent

I have read the information letter and the study has been explained to me. I have been given the opportunity to ask questions (via the contact email provided). I have had sufficient time to consider my participation. I understand that I can quit the study at any time if I want to, without consequences.

I give permission to use my data for the purposes described in the information letter. I give permission to store my research data until 10 years after completion of the study. My data will remain anonymous.

Participation in this study is completely voluntary. If you decide not to take part, it will not affect you. If you decide to take part, you are free to withdraw at any time.

By selecting “accept” and progressing to the next page of this survey, I agree to participate in the current research study.

If you have any questions, please contact Margarita Hernandez

or the academic supervisor of this project, Michael Bender, Tilburg University

If you have any remarks or complaints regarding this research, you may also contact the Ethics Review Board of Tilburg School of Social and Behavioral Sciences.

[Appendix 7 Ethical information](#)

1. ETHICAL GUIDELINES

Job Crafting, Engagement, Satisfaction and Age

- The student, and other people involved in data-collection, commit themselves to treat all study participants according to the most recent version of APA ethical code (<http://www.apa.org/ethics/code/>).
- The student guarantees that the participants of the study may discontinue their participation at all times without any consequences. All the involved researchers commit themselves to maximize the quality of the research, statistical analysis and the reports and to respect specific rules and regulations concerning specific methodologies.
- The students guarantees that the participants of the study will be sufficiently informed about the content of the study before taking part by means of an information letter (if applicable) and by signing an informed consent (also signed by the student). After taking part in the study, the participants will be fully debriefed.
- With this signature, the undersigned declares to have described the research project truthfully, with special attention to the ethical aspects of the project.

For agreement:

Name: Margarita Marín Hernández

ANR student: 273710

Date: April 4th 2017

2. INFORMATION ABOUT STUDY AND PARTICIPANTS

1. Please check the relevant study population:

Students

Other, i.e. Employees inside organizations

2. Age category of the study population:

<12 yrs

12-17 yrs

≥ 18 yrs

3. Are the proposed participants able to give informed consent?

Yes

No *

Ability to give informed consent: According to Dutch law, persons younger than 12 are not able to give informed consent, and both parents or caretakers need to sign for participation. In the age category of 12-17 yrs one of the parents as well as the adolescent need to sign the informed consent to be able to participate. In case an adult is unable to give informed consent, the legal guardian needs to sign for participation.

4. Reward for participation (per experiment)

None

Reimbursement of travel expenses

Course credit

Financial reward, i.e. ____ . €/hours

5. Describe in detail the expected burden of the study for the participants with respect to time, mental and physical burden, and any potential negative consequences of participation:

N/A

6. Describe measures that have been taken to protect the study participant (e.g. insurance, debriefing, etc.):

N/A

7. In case of a research line, is it allowed for subjects to participate in more than 1 experiment within the same line?

N/A this is a research proposal for 1 study only

8a. Does this study deviate from standard rules and regulation concerning information giving and privacy?

Job Crafting, Engagement, Satisfaction and Age

Standard rules regarding information: participants or their legal representative are

1. informed study in writing and in advance completely about the nature of the study
2. asked to give written informed consent by means of a consent form
3. debriefed afterwards (in writing and orally) about the goals of the study and reason for potential misleading elements during the experiment

Standard rules regarding research data:

4. data are processed in a coded fashion (and anonymous if possible) and stored confidentially
5. a participant may always look into their own data (except when a study is completely anonymous, then there is no link between personal information and study data)
6. all data must be available for inspection for all investigators involved in the project

No

yes, this study deviates with respect to rule(s):

8b. If the study deviates from the above stated rules on one or more points, please describe how the study deviates from the standard rules per deviation:

9. Additional information

Please use this space to add information that is important to your project but was not asked about in the form.

ERB

Date: 05/04/2017

Name Main investigator (PI): Margarita Marin Hernandez

Department: Tilburg School of Social and Behavioural Sciences

I apply for exemption of expedited or full review: Category 2

Job Crafting, Engagement, Satisfaction and Age

Reason: The present study won't represent risks to the people who participate in it. The data collection will be anonymous and voluntary, the participants will be able to stop participating during the process if they are willing to do so. The different stages of the present research will follow the APA ethical code.

Does your study exclusively concern the analysis of existing data, document or records? **No**.

Are the sources of the existing data, documents or records are publicly available OR is the information will be recorded by the investigator in such a manner that 2 participants cannot be readily identified either directly or through identifiers (such as a code) linked to them?

The existing data, documents and records as well as its outcomes will be publicly available.

- If the study uses de-identified data, does the investigator or study staff have access to the key to the code permitting re-identification of the person whose data are being studied? **N/A**
- The research will involve only the use of anonymous survey procedures, interview procedures or the observation of public behaviour. **Yes**
- Will participants be asked to report their own or others' sexual experiences, alcohol or drug use, or suicidal thoughts, and will their identities be known to you? **No**
- Are any participants confined in a correctional or detention facility? **No**
- The research procedure does not harm or discomfort the individual in any way (e.g., research topic, or study activities). **Yes**
- The topic of research, research methods, and/or the research population concern patients, a vulnerable population (e.g., incapacitated, children, mentally challenged, traumatized, pregnant), an intervention, or a taboo subject (e.g., own or others' sexual activity, hard drug use, suicide thoughts). **No**.

Job Crafting, Engagement, Satisfaction and Age

Please state your research question: How does age moderates the relationship between Job Crafting and Work Engagement?

Please describe your sample in one or two sentences: The sample of the study will be employees, among young and old employees with different years of experiences and functions inside an organization. Younger employees will be consider under the age of 49 and older employees over the age of 50 and 55 years old and above. The employees can belong to different organizations, countries and nationalities. The total sample size will consist of approximately 190 participants (*N*_{older employees} = 95).

The objective is to measure the effect of the variables over the relationship between Job Crafting and Work Engagement; this will be tested using a correlational study. In order to test the moderation effect, a Structural Equation Modeling (SEM) analysis will be conducted. SEM analysis will test whether the suggested model actually describes the proposed empirical data. It will explain both linear relations and effects between the variable. In addition, for the proposed model age can be considered a latent variable, hence the Full Latent Variable model in SEM will be useful for the data analysis process.

Please shortly describe recruitment procedure: The access to the questionnaire will be publicly available; the recruitment process will be sharing the link among fellow partners inside the workplace, as well as partners that have a minimum of 6 months of work experience.

Please describe the methods of data collection briefly: The questionnaire will be applied to the participants using Qualtrics. Each person will receive the link for the online questionnaire. The questionnaire shall first show the instructions and introduction, including the informed consent. It would take approx. 10-15 minutes to fill the whole questionnaire, in which the Job Crafting, Work Engagement, Job Satisfaction and Work-related Basic Need Satisfaction scale and demographic questionnaires are included.

Period of time to which the consent applies (normally the length of the study): The study will take place within 6 months. Starting from the delivery of the research proposal and ending on the presentation of the outcomes. In addition, the data collected on the present research will be stored and encrypted until 10 years.

Appendix 8 Demographic tables

8.1 Ethnicity (Race)

Characteristic		Frequencies	percentage %
Respondents	Total	278	100
	Sample size	191	68.7
Race	White	94	49,2
	Hispanic or Latino	85	44,5
	Black or African American	1	,5
	Asian / Pacific Islander	9	4,7
	Native American or American Indian	1	,5
	Other	1	,5

8.2 Academic Level

Characteristic		Frequencies	percentage %
Respondents	Total	278	100
	Sample size	191	68.7
Academic Level	High School	33	17,3
	Bachelor's	78	40,8
	Technical Degree	6	3,1
	Pre-Master	30	15,7
	Master	40	20,9
	PHD	4	2,1

8.3. Marital Status

Characteristic		Frequencies	percentage %
Respondents	Total	278	100
	Sample size	191	68.7
Marital Status	Single, never married	119	62,3
	Married or domestic partnership	59	30,9
	Widowed	4	2,1
	Divorced	5	2,6

Job Crafting, Engagement, Satisfaction and Age

Separated	4	2,1
-----------	---	-----
