Thesis

Antecedents of work stress

Findings on the effects of moral identity, social support and ethical leadership on work stress
Statement of originally

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Who would have thought at the graduation of my Vocational degree that I would ever be able to obtain a Master’s degree. Without the encouragement and guidance of several people I wouldn’t reach this far.

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I hereby proudly present my thesis.

Jorien Blom
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Abstract

One of the negative outcomes of our fast moving and demanding economy is the stress we experience in our work in order to keep up with continuously increasing expectations. Yet, little empirical research focuses on multiple antecedents of work stress measured simultaneously. Understanding these could contribute in reducing stress at work. To create this understanding this paper examines the effects of moral identity, social support and ethical leadership on work stress.

Using a sample of 191 employees, it was found that the most important antecedent of work stress is social support. Specifically, the outcomes of this study demonstrate that increased social support from co-workers and the supervisor of the employee reduces work stress. This study also indicates that moral identity has a significant effect on work stress, employees with a stronger moral identity have a higher level of work stress. Although it was expected that ethical leadership would be an antecedent of work stress as well, no significant effect has been found.

Concluding, the results of this study suggest that when multiple antecedents of work stress are measured simultaneously, some antecedents of stress are less important than could be expected from previous studies that mainly focused on a single antecedent of work stress. Implications and directions for future research are provided.

Keywords: Work stress; Burnout; Absenteeism; Moral identity; Ethical leadership; Social support
1. Introduction

Our fast moving and demanding economy has many upswings but one of its negative outcomes is the stress we experience in our work in order to keep up with the day-to-day expectations. In the Netherlands work related stress results in 7.5 million days of absenteeism annually representing a cost of 1.8 billion euros (TNO, 2015). Understanding the determinants of work stress could therefore help to prevent or reduce work stress and it associated costs.

1.1 Research question and motivation

A definition of stress by Cooke and Rousseau (1984) describes that stress is generally regarded to be an emotional state of nervousness, tension, and strain. The result of stress is the failure to respond adequately to emotional, physical or mental demands (Selye, 1956). Research shows that a job may be the most common source of stress (Sulsky and Smith, 2005). In the past three decades work stress has been investigated in a large number of studies, which focused on the negative behavioural outcomes associated with high levels of stress and sources of work stress (e.g. Grossi, Keil, & Vito, 1996; Lambert, Edwards, Camp, & Saylor, 2005; Ulleberg & Rundmo, 1997; Rabkin & Struening, 1976). Stress in workplace settings can have consequences for both the person and the organization and is in most cases a daily occurrence at a workplace (Griffin, 2006). Negative behavioural outcomes of work stress can be burnout and absenteeism (Xiaobo et al., 2015; Triplett, Mullings, & Scarborough, 1996; Harrison & Harrison, 1998).

The research related to work stress provided important contributions regarding the relationship between personal health, work environment and personal well-being. Despite the large number of studies about the antecedents of work stress, little empirical research focused on explaining the effect on stress by multiple antecedents simultaneously. Therefore, it is difficult to determine which antecedents of work stress are the most important in reducing work stress. To
better understand the antecedents that are relevant in reducing work stress, the aim of this study is to examine multiple antecedents of work stress.

Most theories of work stress contain a mix of causes, namely: 1) personality; 2) demographic characteristics; 3) job-related attitudes; 4) social context; 5) decision-making mechanisms (Harrison & Martocchio, 1998). Brookshire (1960) used the following groupings to determine the antecedents of stress: 1) personal characteristics (e.g. some employees tend to be more absent than others), 2) situations external to the work relationship (e.g. life stress), and 3) situations in the work relationship (e.g. poor direct supervision). This study is based on the three antecedents of stress as described by Brookshire (1960) and focuses specifically on 1) moral identity as a dimension of personality, 2) non-work social support as a situation external to work and 3) work social support and ethical leadership as situations in the work relationship. This approach results in three antecedents of work stress, which will be examined in this study: moral identity, social support (non-work and work) and ethical leadership. For this reason the objective of this study is to investigate the following research question:

“Can moral identity, social support and ethical leadership be seen as antecedents of work stress?”

The importance of the variables moral identity, social support and ethical leadership is threefold. First of all, solid reviews are available about specific personality traits in related to work stress (e.g. Bakker et al., 2006; Garbarino, Chiori & Magnavita, 2014; Porter & Steers, 1973) Strömer & Fahr, 2012) only limited attention has been payed to the characteristics of a moral person in relation to work stress.

Moral identity is conceptualized as a mental representation of one's moral character that an individual has internally and projected to others (Aquino, Duff & McFerraiiy, 2010). Aquino
& Reed (2002) selected nine traits of a moral person: caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind. According to VanSandt and Neck (2003) an individual can experience work stress because there is a discrepancy between the organizational and individual moral values. This can indicate that a strong moral identity could increase the level of work stress.

Furthermore, the studies about the causes of work stress in the context of social support are mainly focused on the work-family conflict or social support in relation to the supervisor and employee (e.g. Burke, 1988; Greenhaus, Bedeian & Mossholder, 1987; Carlson & Perrewé, 1999; Anderson, Coffey & Byerly, 2002). “Social support is an interpersonal transaction that involves emotional concern, instrumental aid, information, or appraisal” (House, 1981). Cohen and Wills (1985) describes social support as a caring network of persons offering positive experiences and resources. According to McCubbin et al. (1980) supportive social networks can result in lower levels of stress. However Himle et al. (1991) found support for the role of social support in decreasing stress, a study by Ducharme and Martin (2000) otherwise failed to find support for the effect of social support in decreasing stress. Despite inconsistent findings and limited studies with a focus on multiple sources of social support (e.g. non-work and work-related social support) investigating the impact of social support in reducing work stress could clarify these inconsistent findings and thereby contributing to the existing research.

Finally, studies have explicitly investigated the role of leadership (element of causes job-related attitudes and social context) as an important factor of influence on work stress (e.g. Tharenou, 1993, Landeweerd & Bouwmans, 1994; Zaccaro et al., 1991). However limited studies have researched the effect of ethical leadership on work stress. The last decade there is a growing interest for the development and promotion of ethical leadership. Ethical leadership is about moral values and fairness in decision making and to clearly communicate to employees about how their actions at work contribute to the overall organization (Bello, 2012). Ethical leadership
is important because of the impact that leaders may have on followers and their experienced level of work stress (Aronson, 2001; Kanungo & Mendonca, 2001; Treviño et al, 2003). For example according Elçi et al. (2012) ethical leadership affects work stress negatively, which implies that ethical leadership reduces work stress. Based on these arguments, trying to understand the impact of ethical leadership on work stress would contribute to existing research. Understanding whether moral identity, social support and ethical leadership relate to work stress may help to enrich the literature on the antecedents of work stress. Moreover, exploring the effects of these variables simultaneously may help to determine the relative effectiveness of these antecedents.

1.2. Thesis outline

This thesis consists of five chapters, including the introduction. Chapter two provides an overview of the literature on dependent variable work stress and the independent variables moral identity, social support and ethical leadership. In chapter three the hypotheses, the research method and the conceptual model are discussed. Chapter four describes the quantitative analysis of the data and the findings of the analysis. Finally, in chapter five, the research findings, its implications, limitations, future research directions and the conclusions are outlined.
2. Literature review

This study focuses on the antecedents of work stress. Therefore relevant articles of work stress are analysed first, followed by a literature review of the variables moral identity, social support and ethical leadership. Relevant articles and their implications will be discussed, together with their hypothesised link to work stress.

2.1 Work Stress

In the last few decades the attention for work related stress has increased and can be considered as a concern for employers and employees (Sulsky and Smith, 2005). Moeller & Chung-Yan (2012) describe that stress involves the perception of a demand (stressor), an individual’s response to the experience (appraisal and coping), and any consequences thereof (strains). Stress can be experienced in all aspects of life (Moeller & Chung-Yan, 2012). Castle & Martin (2006) have divided two categories of predictors of stress, namely 1) those stemming from the work environment (e.g. work overload, low job control, lack of social support) and 2) those pertaining to employees’ demographic and background characteristics (e.g. age, educational level, gender). A definition of stress by Cooke and Rousseau (1984) describes that stress is generally regarded to be an emotional state of nervousness, tension, and strain. The result of stress is the failure to respond adequately to emotional, physical or mental demands (Selye, 1956). Stress is caused by forces from the inside or outside world that affect an individual’s physical or mental health and is related to both external and internal factors (Stöppler, 2015). Examples of external factors are relationships with others, the physical environment you’re in and the expectations an individual is confronted with on a daily basis. Internal factors determine the ability of an individual to respond to the external stress factors. Stress can be a neutral, negative, or positive experience (Stöppler, 2015).
Research shows that a job may be the most common source of stress (Sulsky and Smith, 2005). Work-related stress is conceptualized as psychological discomfort or tension which is associated with the type of work done by an individual (Newton & Keenan, 1985). Work stress can also be described as the individual response to strain within the work environment (Armstrong & Griffin, 2004; Triplett, Mullings, & Scarborough, 1996). Work-related stress can lead to psychological work-related discomfort or anxiety, as well as physiological or health-related issues (Dowden & Tellier, 2004). Other research indicates that work stress is associated with occupational ill-health, decreased job satisfaction, lower productivity and human error (Catano et al, 2007; Gillespie et al, 2001). Overall research in an organizational context have found that stress can affect psychological well-being, work performance and physical health (Sauter & Murphy, 1995; Kahn & Byosiere, 1992). As mentioned in the introduction negative behavioural outcomes of job stress can be burnout and absenteeism (Byrd, Cochran, Silverman, & Blount, 2000; Triplett, Mullings, & Scarborough, 1996). In the following section therefore stress will be described more in detail on the basis of the variables burnout and absenteeism.

2.1.1 Burnout

Work stress is strongly related to burnout (Maslach, Schaufeli & Leiter, 2001). The term burnout has been used since the 1970s in the United States and stems from the novel ‘A Burn-Out Case’ by Greene, 1961 (Schaufeli and Leiter, 2001). In the 1970s the existence of burnout was to describe this phenomenon and to show that burnout was not an uncommon response (Freudenberger, 1975; Maslach, 1976). Burnout is a response to chronic work-related stress (Pisanti et al., 2012). Leave the workforce and high turnover rates can be an outcome of burnout (Schaufeli and Leiter, 2001). According to Maslach et al. (2008), emotional exhaustion, cynicism and lack of professional efficacy are the key dimensions of burnout. Emotional exhaustion refers to “the feeling of being drained or used up and emotionally unable to face a
day’s work” (Maslach & Leiter 1996). Cynicism describes an impersonal and distant attitude toward the job of an employee. Professional efficacy describes feelings of achievement in work of the employee (Maslach & Leiter, 2008).

In the 1980s several measures of burnout were developed. The approach that has been used most commonly and has the strongest psychometric properties to measure (Maslach & Leiter, 2008) is the Maslach Burnout Inventory (Maslach & Jackson, 1981). This approach proposes that three dimensions (emotional exhaustion, depersonalization, and reduced personal accomplishment) can result in burnout (Golembiewski & Munzenrider 1988). Maslach & Goldberg (1998) describes two ways how to deal with burnout, divided in changing the individual and changing the organization. In the remaining sections no distinguish between stress and burnout will be made, and there will be refer to stress when referring to both.

2.1.2 Absenteeism

A typical response to work stress or burnout could be absenteeism. Absenteeism means the failure of employees to report on their jobs when they are scheduled to work (Brookshire, 1960). Absentees are employees who are for example ill or injured, employees who quit without notice and have not been removed from the payroll, as well as employees who are unauthorized time away from the job (Brookshire, 1960). The causes of absenteeism are described quite varied in the literature. Brookshire (1960) used the following groupings to determine causes of absenteeism: 1) situations external to the work relationship (e.g. life stress); 2) personal characteristics (e.g. some employees tend to be more absent than others); and 3) situations in the work relationship (e.g. poor direct supervision). The categories are interrelated. Absenteeism costs the employer money. Costs for absenteeism can be loss of production, additional costs for training replacements and replacement costs. Due to the effects of absenteeism on organizational costs it is a problem that requires management attention to be
solved (Brookshire, 1960). In a review of employee absenteeism by Harrison & Martocchio (1998) is stated that little is known of the effect of absenteeism on individuals and their social environment (work and non-work related). Another conclusion of the study by Harrison & Martocchio (1998) is that future research could further advance the understanding of the links between personality dimensions and absence.

While absenteeism is actually a possible result of stress, this study will regard absenteeism as a proxy for stress, in order to keep the research model clear. Next the focal antecedents of this study will be discussed.

2.2 Moral identity

A description of moral identity is “one kind of self-regulatory mechanism that motivates moral action” (Blasi, 1984). Moral identity is conceptualized as a mental representation of one's moral character one's moral character that an individual has internally and projected to others (Aquino and Reed, 2002) Hart et al.’s (1998) describe moral identity as “a commitment to one’s sense of self to lines of action that promote or protect the welfare of others”. What is central to a moral identity of a person can vary in content. Even though a moral identity has certain beliefs, attitudes, and behaviours (Cheryan & Bodenhausen, 2000) and research by Kihlstrom & Cantor (1984) suggests that several traits characteristic a moral person. Aquino & Reed (2002) selected nine traits of a moral person: caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind.

2.2.1 Moral identity and work stress

Literature about predictors of stress that relate the moral identity is limited (Reynolds, Owens & Rubenstein, 2010).
Work stress in relation to a moral identity can occur when there is “an incongruence between organizational and individual perspectives on ethical matters” (Wyld and Jones 1997). According to VanSandt and Neck (2003) an individual can experience work stress because of a discrepancy between organizational and individual morals. A study by Leary (2007) described that “people feel guilty when they think they did a bad thing but feel ashamed when they think they are a bad person”. To do good and to avoid doing bad can provide the motivational force, and positive feelings of pride and self-approval can be the result (Kroll & Egan, 2004).

However empirical evidence that supports a relationship between moral identity and work stress remains limited. Therefore similarities of the nine selected traits of being a moral person by Aquino & Reed (2002) as described earlier in relation to other studies about personality traits and work stress have been researched. Various studies measured the relationship between personality traits and stress (e.g. Bakker et al., 2006; Garbarino, Chiori & Magnavita, 2014; Porter & Steers, 1973) Strömer & Fahr, 2012) focusing on predictors of stress that relate to the Big Five personality traits. Big Five personality traits is a widely used model of personality traits (McCrae and Costa, 1985), and shows that individual differences in personality can be organized in five traits: extraversion, neuroticism, conscientiousness, agreeableness and openness to experience (McCrae and John, 1992). Moral identity corresponds most closely with the Big Five trait agreeableness. Agreeableness involves a pro-social and communal attitude toward others and includes sub traits such as helpful, altruism, straightforwardness, friendly, compliance, trust, and modesty (McCrae and Costa, 1985, McCrae and John, 1992). Results of studies showed the negative relationship between agreeableness and burnout. Piedmont (1993) for example reported in two studies that agreeableness correlates negatively with stress and people who scored high on agreeableness were less likely to report feelings of emotional exhaustion. Findings by Bakker et al. (2006) showed that agreeableness under stressful circumstances is negatively related to stress.
In line with this result Garbarino et al. (2004) and Törnroos et al. (2012) suggested that higher scores on agreeableness is associated with lower work stress. Some studies found no relationship between agreeableness stress, for example a study by Deary et al. (1996) and a study by Zellars et al. (2000). Based on these arguments, it appears that the traits of a moral person as described by Aquino & Reed (2002) can be associated with lower absence. The following hypothesis therefore tests this prediction:

*H1: Moral identity (IV) will be negatively related to work stress (DV)*

### 2.3 Social support

“Social support is an interpersonal transaction that involves emotional concern, instrumental aid, information, or appraisal (House, 1981)”. Cohen and Wills (1985) describe social support as a caring network of persons offering positive experiences and resources. Social support provides dependable interpersonal relationships that for example result in social inclusion and material aid (Cohen and Wills, 1985). House (1981) classified social support in four types: 1) instrumental support (assistance or concrete help); 2) emotional support (listening and showing trust); 3) Informational support (direction and advice how to approach); 4) Appraisal support (feedback or evaluating). An individual can have social support in both the work and non-work related environments (Carlson & Perrewé, 1999). Social support in the work environments can come from co-workers, the supervisor, and the organization itself. Social support in the non-work related environment may come from the family as a whole or other relationships in a private setting. According to McCubbin et al. (1980) supportive social networks can result in lower levels of stress. On the contrary low support from social networks can be associated with higher levels of stress (Holohan & Gilbert, 1979). Good open relationships with social networks have been found to be associated with less work stress (Roskies & Lazarus, 1980).
Employees with higher levels of stress are more likely to think about leaving the employer, while employees who receive greater social support were less likely to think about leaving (Nissly, Barak and Levin, 2005). However Himle et al. (1991) found support for the role of social support in decreasing stress, where a study by Ducharme and Martin (2000) otherwise failed to find support for the effect of social support in decreasing stress. Cohen and Wills have explained the inconsistent findings by suggesting that the type and source of experienced social support match the stressor. For example non-work support may not have a positive effect in reducing work stress (La Rocco et al., 1980). Social support can reduce the negative effect of stressors that can lead to stress of an employee (Gore, 1987; Thomas & Ganster, 1995). According to Cohen and Wills (1985) studies about work stress report that social support may effectively decrease individuals’ stress experience. Reviews shows (Carlson & Perrewé, 1999) that the role of social support is not entirely clear and has confusing views regarding the strain-reducing effects of social support.

Based on the distinction of the different sources of social support by Carlson & Perrewé (1999) in this study social support will be subdivided in 1) co-worker social support, 2) supervisor social support, and 3) non-work social support. According to this subdividing the following sections focus further on research about social support related to work stress.

2.3.1 Co-worker social support and work stress

Social support from co-workers is a part if work social support. Work social support can be defined as a form of social support that helps individuals to accomplish their work (Carlson & Perrewé, 1999). A growing body of literature shows that work social support affects how workers responds to stress (Carlson & Perrewé, 1999). For example research by Rhoades and Eisenberger (2002) shown that work-related support can reduce stress. Support from co-workers also have been examined as an important factor influencing work stress by Triplett,
Mullings, & Scarborough (1996), Stamper and Johlke (2003) and Viswesvaran et al. (1999). However Cullen et al. (1985) found little evidence to support the relationship between support by co-workers and work stress. Carlson & Perrewé (1999) give as mechanism behind the relationship of social support from co-workers and work stress is, that when individuals perceive high work social support, they are less likely to experience their environment as stressful. Thus, therefore the expectation of this study is:

\[ H2: \text{Co-worker social support will be negatively related to work stress.} \]

2.3.2 Supervisor social support and work stress

Social support by the supervisor is the “degree to which employees perceive that leader offer employees support, encouragement and concern” (Burke, Borucki and Hurley, 1992). A non-supportive supervisor may fail to communicate well with their employees (Burke, Borucki and Hurley, 1992). Even if employees know what to do, they may not be able to execute tasks because the supervisor has not provided social support (Rizzo, House and Lirtzman, 1970). An example of social support by the supervisor is involving employees. If an employee perceived involvement of the supervisor, this will lead to a positive effect on the employee and increase work stress (e.g. Kopelman et al., 1990; Ulleberg & Rundmo, 1997) concluded that social support from a supervisor had a main effect on strain. Employees who had been absent from work experienced most strain, confirming a negative effect of strain on stress. Other studies have shown that social support from the supervisor can have a positive effect on the employee's well-being (e.g. Parkes et al. 1994, Haines et al. 1991). My expectation is therefore that social support from the supervisor has a negative effect on work stress. Therefore the following hypotheses can be formulated:

\[ H3: \text{Leader social support will be negatively related to work stress.} \]
2.3.3 Non-work social support and work stress

When employees feel that their non-work relationships are supportive of their work, they are also less likely to experience increased work stress or family-to-work conflict (Powell & Greenhaus, 2006). Family pressures and demands are generally the strongest, most direct predictors of family-to-work conflict which can lead to increased perceived work stress (Greenhaus & Parasuraman, 1999). This conflict occurs when the demands imposed by the family domain create a number of opportunities for conflict or pressure that can ultimately impact one’s work (Greenhaus & Parasuraman, 1999). The family-to-work conflict was also linked to work stress and absenteeism by Anderson, Coffey & Byerly (2002). Non-work related support suggest that non-work relationships is a support mechanism which influence positively when managing job demands or the non-work relationships are aware of the job demands (Carlson & Perrewé, 1999). Lower levels of stress can be produced when non-work social support is perceived by an individual, by awareness of the individual’s job demands and intrude into the work domain only for important reasons (Carlson & Perrewé, 1999; Cohen & Wills, 1985). Therefore:

H4: Non-work social support will be negatively related to work stress.

2.4 Ethical Leadership

The last decade there is a growing interest in the development and promotion of ethical leadership. Ethical leadership is important because of the impact it has on organizational performance (Aronson, 2001; Kanungo & Mendonca, 2001; Treviño et al, 2003). Treviño et al. (2003) indicated that the ethical dimension of leadership is important to influence the behaviours of employees. Treviño et al. (2003) also described two aspects of ethical leadership; 1) a moral manager (related to lead on ethical dimension, allow employees to know what is expected and hold them accountable) and 2) a moral person (related to a good character).
Ethical leadership is about moral values and fairness in decision making and clearly communicate to employees how their actions at work contribute to the overall organization (Bello, 2012). Khuntia & Suar (2004) state that ethical leaders are making efforts to incorporate moral principles in their beliefs, values and behaviour and are committed for example to higher purpose, pride and patience. Characteristics of an ethical leader are being honest, fair, trustworthy, caring (Brown et al., 2005). According to Brown et al. (2005) ethical leaders communicate at a transparent and open level with his/her employees and promotes and rewards ethical attitudes. The approach of Kalshoven et al. (2011) of an ethical leader is broader and also consists of clear clarification of expectations and responsibilities to employees. An outcome of ethical leadership can be commitment to and loyalty of its employees (Mulki et al., 2007).

2.4.1 Ethical leadership and work stress

There are a number of determinants that have a positive effect of more positive work environment for an individual. For example a leader who is supportive can make the work situation less stressful by discussing non-work related problems and being flexible. Only a few determinants of stress are completely within the control of the manager (Frooman, Mendelson & Murphy, 2012). One of the determinants is the leadership style (Bernard Bass, 1997). Studies have measured the effect of leadership behaviours and work stress, with outcomes that indicate significant negative relationships (Gaudine & Saks, 2001; Johns, 1978). Although studies have measured the effect of leadership and stress, the effect of ethical leadership and work stress is largely unknown. Only a few studies have investigate the relationship between ethical leadership and work stress. An ethical leadership protect individual employee rights, which result in employee having greater feelings of empowerment (Zhu et al. 2004). Empowerment has been found negative related to work stress (Gill et al., 2010).
According to Elçi et al. (2012) ethical leadership affect work-related stress negatively, which implies that ethical leadership reduce work stress. Elçi et al. (2012) give two reasons as an explanation for this finding, namely: 1) ethical leadership can realize confidence and loyalty of their followers; 2) an ethical leader provides employee commitment and loyalty. As a result of confident and loyal employees, employees experience decreased work-related stress. A study by Ganji (2014) about the relationship between ethical leadership and work stress on nurses also reported a negative, significant association. As argument for this finding Ganji (2014) state that open communication, a part of ethical leadership, reduces work stress.

Despite this research about ethical leadership and work stress, yet the direct relationship about ethical leadership and work stress is still mostly unexplored. As the studies show that leadership has a positive effect on the organizational performance it is expected that ethical leadership will also reduce work stress. This will be tested by the following hypothesis:

\[ H5: \text{Ethical leadership will be negatively related to work stress} \]

### 2.5 Conceptual Model

Based on the previous sections and its hypotheses the following conceptual model can be presented.
3. Method

In this chapter the method, data collection and used research techniques to answer the research question and to test the hypotheses are described.

3.1 Procedure

The research design is based on quantitative methods. The study can be defined as explanatory inferences, where observations from respondents will be used to learn about the relationship between the proposed antecedents moral identity, social support and ethical leadership on work stress. To gain information about the respondent according to the variables the overall design will is a survey. To get as many respondents as possible, an online survey is considered to be the best option (Saunders, Lewis & Thornhill, 2012). The survey was designed in Qualtrics (Online Survey Software), which was made available by the University of Amsterdam. The statistical software program Statistical Package for the Social Sciences (SPSS) was used to analyse the data.

All respondents received a questionnaire-link by e-mail to participate and were asked to forward the questionnaire to other possible respondents. Social media channels like Facebook and LinkedIn were also used, to create a snowball effect. See Appendix I for the invitation letter and the questionnaire in Dutch. In the invitation letter it was described that people could only respond to the online survey if they had at least one colleague and a manager, because many questions concerned a work related context.

The survey was distributed on October 19th 2015 and closed one month later at the November 19th 2015. A reminder has been sent after seven days. The respondents were informed that the completion of the questionnaire was voluntary and that their responses would be anonymous and confidential as part of a master thesis.
3.2 Population and sample

The population of the study are employees who at least have one co-worker and a supervisor. The target sample was defined as Dutch Employees who at least have one colleague. Because of the limited time of the research, it was impossible to represent this population in totality. Therefore a valuable sample of N=191 was collected from different companies located in the Netherlands.

The respondent group (N=191) consisted of 99 females (51,8%) and 92 males (48,2%). The average age of the respondents is 41 with an average tenure of 9 years. 117 respondents (61,3%) have a fulltime contract (> 36 hours a week) and 74 respondents have a part-time contract (< 36 hours a week).

As for the educational background of the sample set: 100 respondents (52,4%) have a Bachelor’s degree, 56 respondents (29,3%) have a Master degree, 26 respondents (13,6%) have a Vocational degree and the remaining 9 respondents (4,7%) have another educational background. The respondents are working in multiple sectors, with 27,7 % (53 respondents) working in health sector, 15,7% (30 respondents) working in social services sector, 9,9 % working in building sector and the remaining 89 respondents (46,7%) working in other sectors. The number of employees of an employer ranged from 1 to over 1000 employees, where 36,1% (69) of the respondents is working in an organisation with more than 1000 employees.

3.3 Measures

All items used in the questionnaire were based on existing questionnaires. Because all of the respondents are Dutch speaking employees, the original items were translated into Dutch using also studies that already translated the originally English items into Dutch (see Appendix I for the questionnaire in Dutch).
Each variable will be explained in the following sections. In the survey of this study a five point Likert-scale is used to create uniformity in response options in the survey, ranging from 1 (strongly disagree) to 5 (strongly agree). For absenteeism other response options were possible, which is described in the concerned section.

3.3.1. Work stress

The measurement of stress was based on six items derived from the work stress scale (Cullen et al, 1985). There is an acceptable internal consistency for the stress scale by Cullen et al. (1985) $\alpha = .80$. Examples of the items are “When I’m at work, I often feel tense or uptight”, “A lot of the times, my job makes me very frustrated or angry”, and “Most of the time when I am at work, I don’t feel I have much to worry about”.

3.3.2 Burnout

The Maslach Burnout Inventory – Student Survey (Maslach et al., 1996), was used to measure the variable Burnout. The Maslach Burnout Inventory – Student Survey is originally a self-assessment, originally at a seven-point Likert-type scale, with categories ranging from "never" to "every day". In the survey of this study the five point Likert-scale is used as described in the introduction of this chapter, to create uniformity in response options in the survey. The questions in the Student Survey by Maslach apply to the experienced situation at the study. Therefore the questions of the Student Survey by Maslach have been transformed in questions that apply to the situation at work.

The instrument consists of 15 items, which represent three subscales, namely emotional exhaustion (e.g. “I feel burned out from my work”) with 5 items, cynicism with 4 items (e.g. “I have become more cynical about the potential usefulness of my work”) and professional
efficacy with 6 items (e.g. “In my opinion I am good at my job”). The 15 items showed an acceptable internal consistency reliability of $\alpha = .70$.

### 3.3.3 Absenteeism

For the measurement of absenteeism respondents were asked to indicate the number of times of absenteeism at work in the last month, in the last two months and in the last twelve months (three items). These items have internal consistency reliability of $\alpha = .70$, which is acceptable.

### 3.3.4 Moral Identity

To measure the moral identity of a respondent nine items were used. Five of the nine items to measure self-identity of ethnic identity (Larkey & Hecht, 1995) and four of the nine items to measure a range of actions that represent socially symbolic demonstrations of one’s moral identity (Aquino & Reed, 2002). Based on a set of nine traits that activate a person’s moral identity respondents were asked to imagine a person (themselves or someone else) which has the following personality traits: caring, compassionate, fair, friendly, generous, helpful, hardworking, honest and kind were measured (Aquino and Reed, 2002). When the respondents had a clear vision of how this person would be they we asked to answer for example the following questions: “It would make me feel good to be a person who has these characteristics”, “Having these characteristics is not really important to me”, and “I am actively involved in activities that communicate to others that I have these characteristics”. The obtained Cronbach’s alpha reliability estimate was $\alpha = .72$ for moral identity, indicating there is an acceptable internal consistency estimate reliability (George & Mallery, 2003).
3.3.5 Social Support

Six items were used to measure social support in relation to the co-workers, the supervisor and the non-work related relationships of the respondent. The six items measured each of the functional properties of social support that consists affect, affirmation, and aid (Kahn, 1979). As an example the following examples can be given: “My supervisor make me feel liked”, “I can trust my supervisor”, and “My supervisor should help me if I need his/her help”. The originally questions designed by Kahn (1979) were changed into statement to measure on the same scale as the other questions in the survey. The obtained Cronbach’s alpha reliability estimate for social support in relation to co-workers is $\alpha = .90$, in relation to the non-work related social support is $\alpha = .96$ and for social support from the supervisor is $\alpha = .91$. The measures indicating there is an excellent internal consistency estimate reliability (George & Mallery, 2003).

3.3.6 Ethical Leadership

Perceived ethical leadership was measured based on a set of ten items of the Ethical Leadership Scale developed by Brown, Treviño and Harrison (2005). Examples of the used items are “My manager listens to what employees have to say”, “My manager makes fair and balanced decisions” and “My manager defines success not just by results but also the way that they are obtained”. The obtained Cronbach’s alpha reliability estimate was $\alpha = .91$, indicating there is an excellent internal consistency estimate reliability (George & Mallery, 2003).

3.3.7 Control Variables

Eleven questions, including demographic questions, were asked at the end of the survey to create an understanding of the sample. Four question were used as control variables, namely: 1) “What is your age, completed in years?”
2) “Indicate the frequency of physical exercise in a week”. Ranging from 0 to 5 or more times a week.

3) “How often do you have interaction with your supervisor?”. Ranging from daily to less than once a month.

4) “How many employees are working at your employer?”. Ranging from 1 to more than 1000 employees or unknown.
4. Results

This chapter contains a detailed description of the outcomes of this research by describing the correlation analysis and regression analysis.

The original sample size of this research was N=191. After checking for missing values, the sample of N=191 remained unchanged. For all questions a response was compulsory and only a single answer was possible, which resulted in no missing values.

Several items of the variables moral identity (2 out of 9 items), work stress (2 out of 6 items), burnout (5 out of 15 items), had counter-indicative items. The negatively-keyed items were recoded before analyzing.

4.1 Correlation analysis

The collected data has been analysed using Statistical Package for the Social Sciences (SPSS) to find support for the hypotheses. In order to analyse the data, a correlation matrix of this research was made, see Table 1. In the table means, standard deviations, correlations and Cronbach’s alpha of all variables are exhibited.
<table>
<thead>
<tr>
<th>Variables</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<td>0.25**</td>
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<td>0.78**</td>
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<td>0.36**</td>
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<td>-0.02</td>
<td>0.04</td>
<td>-0.05</td>
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<td>0.15**</td>
<td>-0.19**</td>
<td></td>
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<td>-0.16*</td>
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<td>-0.03</td>
<td>-0.08</td>
<td>-0.13</td>
<td>-0.17*</td>
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<td>0.00</td>
<td>0.05</td>
<td>-0.34**</td>
<td>0.11</td>
<td>0.30**</td>
<td>-0.04</td>
<td>-0.01</td>
<td>-0.18*</td>
<td>-0.04</td>
<td>0.28**</td>
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<td>0.02</td>
<td>-0.04</td>
<td>0.02</td>
<td>-0.02</td>
<td>-0.10</td>
<td>0.01</td>
<td>-0.16*</td>
<td>0.00</td>
<td>0.23**</td>
<td>0.28**</td>
<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 1: Correlation Matrix (Means, Standard Deviations, Correlations and Cronbach’s Alpha)
Table 1 shows several significant correlations. As mentioned in the method section the dependent variable work stress is measured in three dimensions (work stress, burnout and absenteeism). The correlation matrix confirms the mutually correlations between work stress, burnout and absenteeism. Burnout (r = .36, p < 0.01) is positively related to absenteeism, work stress (r = .33, p < 0.01) is positively related to absenteeism and work stress (r = .55, p < 0.01) is positively related to burnout. The positive relations indicate for example that respondents who experience high levels of work stress are also experience high levels of the burnout indicators.

When looking at the dependent variables work stress, burnout and absenteeism in relation to the independent variables moral identity, social support and ethical leadership, two significant correlations can be found. Burnout is negatively related to supervisor social support (r = -.19, p < 0.01) and ethical leadership (r = -.15, p < 0.05), which indicate in this sample that people who experience a higher level of supervisor social support and ethical leadership tend to experience less burnout.

Significant negative correlations were found between the control variable physical exercise (sport) and all the three measurements of the dependent variable work stress; absenteeism, burnout and work stress (p < 0.01). A decrease in the physical exercise a week is correlated with increases of the level of stress. A negative correlation was found between the control variable age with experienced supervisor social support (r = -.16, p < 0.05) and with Stress (r = -.16, p < 0.05), indicating in this sample that a decrease of age is correlated with an increase in the level of social support experienced by the employee from the supervisor and work stress. In addition the correlations with the control variable number of employees is interesting. Higher number of employees has a negative correlation with work stress (r= -.16, p < 0.05), indicating lower levels of stress when an organization has employed a higher number of employees.
Number of employees is also positive correlated with age ($r = .23, p < 0.01$) and interaction with the supervisor ($r = .28, p < 0.01$). Therefore in this sample indicating the higher the number of employees at an organization, the higher the age of an employee and the higher the amount of interaction with the supervisor. Age is positively correlated with moral identity ($r = .18, p < 0.05$), indicating in this sample that the elder people are they tend to identify themselves more with the characteristics of a moral identity, compared to the younger people are. When looking at the control variable interaction with the supervisor, it is notable that it is positively correlated with age ($r = .28, p < 0.01$). An indication of this correlation can be that employees of a higher age have more contact with its supervisor.

Not surprisingly is that this study confirms that there is a positive correlation between ethical leadership and social support from the supervisor. What is surprising, is that ethical leadership is positively related with non-work related social support ($r = .18, p < 0.05$), which indicates that people who experience an ethical leader tend to experience more non-work related social support. Social support form co-workers ($r = .18, p < 0.05$) and non-work related social support ($r = .18, p < 0.05$), is positively correlated with moral identity, indicating in this sample that people who experience more social support from a co-worker and in non-work related relations tend to have a stronger moral identity.

The implications of the correlations will be tested through a Regression Analysis in the following section of this research.

### 4.2 Regression Analysis

To test the five hypotheses a regression analysis was used. It examined the linear relation between the independent variables moral identity, social support and ethical leadership and the dependent variable work stress. Hierarchical multiple regressions were performed.
The control variables age, sport (physical exercise), frequency of leader-follower interaction and number of employees were added to the regression analysis in the first step. In the second step the variables of main interest were added. In total three models were tested based on the three dimensions of the dependent variable work stress, namely; absenteeism, burnout and work stress.

4.2.1 Work Stress

In the first step the four control variables were entered. This model is statistically significant F (4, 186) = 4.82; p < .05 (p = .00) and explained 9.4% of variance in work stress. After entry of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership at step 2 the total variance explained by the model as a whole was 16.7% F (9, 181) = 4.04 and is statistically significant p = .00. The introduction of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership explained additional 7.3% variance in work stress (R2 Change = .07; F (5, 181) = 3.19; p < 0.05 (p = .01).

In the final model six out of nine predictor variables were statistically significant. The independent variables which are statistically significant are supervisor social support recoding Beta value β = -.24, p = .04, non-work social support recoding Beta value β = .20, p = .01 and moral identity recording Beta value of β = .14, p = .05. As expected are employees who experienced higher social support from the supervisor were less likely to report a higher level of work stress. In contrast what was expecting that employees who had higher scores at non-work social support and moral identity are more likely to report a higher level of work stress. The control variables which are statistically significant are age recoding a Beta value β = -.16, p = .03, interaction supervisor (β = -.20, p = 01) and physical exercise (sport) recording Beta value of β = -.22, p = .00 and. This model shows that the younger the employees are, the more they likely to report a higher level of stress.
For the amount of interaction between supervisor and employees and the frequency of physical exercise it shows that employees who score higher at these variables are less likely to report a higher level of work stress. The results of the regression can be found in table 2.

<table>
<thead>
<tr>
<th>Stress</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
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<td><strong>Step 1</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sport – physical exercise</td>
<td>-10</td>
<td>.03</td>
<td>-20</td>
<td>-2.81</td>
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<td>-12</td>
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<td>.20</td>
</tr>
<tr>
<td><strong>R²</strong></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sport – physical exercise</td>
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<td>.03</td>
<td>-22</td>
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<td>.03</td>
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</table>

Table 2: Hierarchical Regression Model of Stress

4.2.2 Burnout

In the first step the four control variables were entered. This model is not statistically significant F (4, 186) = 2.08; p > .05 (p = .09) and explained 4.3% of variance in burnout. After entry of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership at step 2 the total variance explained by the model as a whole was 11.4% F (9, 181) = 2.58 and is statistically significant p = .01. The introduction of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership explained additional 7.1% variance in Burnout (R2 Change = .071; F (5, 181) = 2.898; p < 0.05 (p = .02).
In the final model three out of nine predictor variables were statistically significant, with physical exercise (sport) recording Beta value of $\beta = -0.17, p = 0.02$, Age recording Beta value of $\beta = -0.18, p = 0.02$ and supervisor social support recording Beta value of $\beta = -0.29, p = 0.02$. As expected, the direction of the effects shows that employees who experienced higher supervisor social support were less likely to report a higher level of burnout. The direction of the significant effect at physical interaction indicate that when an employee scored higher on times of physical exercise a week scored lower at the burnout indicators. The results of the regression can be found in table 3.

<table>
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<tr>
<th>Burnout</th>
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<th>$\beta$</th>
<th>t</th>
<th>p</th>
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</table>

Table 3: Hierarchical Regression Model of Burnout

4.2.3 Absenteeism

In the first step the four control variables were entered. This model explained 4.9% of the variance in absenteeism but was not statistically significant $F (4,185) = 2.36; p > .05 (p = .55)$. 
After entry of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership at step 2 the total variance explained by the model as a whole was 6.6% and was also not statistically significant $F (9, 180) = 1.42; \ p > .001 \ (p = .18)$. The introduction of moral identity, social support (co-workers, non-work and supervisor) and ethical leadership explained additional 1.8% variance in absenteeism ($R^2$ Change = .018; $F (5, 180) = 0.683; \ p > .001 \ (p = .64)$).

In the final model only the variable co-worker social support out of nine predictor variables was statistically significant, with a Beta value $\beta = -.19 \ (p = .01)$, indicating that the more employees experience social support from co-workers, the lower their reported absenteeism. The results of the regression can be found in table 4.

<table>
<thead>
<tr>
<th>Absenteeism</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport – physical exercise</td>
<td>-.08</td>
<td>.03</td>
<td>-.19</td>
<td>-2.63</td>
<td>.01</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
<td>.00</td>
<td>-.05</td>
<td>-7.2</td>
<td>.47</td>
</tr>
<tr>
<td>Interaction Supervisor</td>
<td>.00</td>
<td>.03</td>
<td>-.01</td>
<td>-0.8</td>
<td>.94</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>-.02</td>
<td>.02</td>
<td>-.09</td>
<td>-1.14</td>
<td>.25</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport – physical exercise</td>
<td>.12</td>
<td>.09</td>
<td>.10</td>
<td>1.36</td>
<td>.17</td>
</tr>
<tr>
<td>Age</td>
<td>.03</td>
<td>.06</td>
<td>.04</td>
<td>.51</td>
<td>.61</td>
</tr>
<tr>
<td>Interaction Supervisor</td>
<td>.09</td>
<td>.09</td>
<td>.13</td>
<td>1.04</td>
<td>.30</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>-.01</td>
<td>.06</td>
<td>-.02</td>
<td>-1.9</td>
<td>.85</td>
</tr>
<tr>
<td>Moral Identity</td>
<td>-.06</td>
<td>.09</td>
<td>-.07</td>
<td>-1.63</td>
<td>.05</td>
</tr>
<tr>
<td>Social Support Co-workers</td>
<td>-.08</td>
<td>.03</td>
<td>-.19</td>
<td>-2.67</td>
<td>.01</td>
</tr>
<tr>
<td>Social Support Supervisor</td>
<td>.00</td>
<td>.00</td>
<td>-.06</td>
<td>-1.78</td>
<td>.43</td>
</tr>
<tr>
<td>Social Support Non-work</td>
<td>.01</td>
<td>.03</td>
<td>.02</td>
<td>.20</td>
<td>.84</td>
</tr>
<tr>
<td>Ethical Leadership</td>
<td>-.02</td>
<td>.02</td>
<td>-.08</td>
<td>-1.09</td>
<td>.28</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 4: Hierarchical Regression Model of Absenteeism*
5. Discussion

In this section theoretical implications, limitations & future directions, practical implications and conclusions of the study are described.

The purpose of this study was to contribute to the literature by exploring the effects of moral identity, social support and ethical leadership simultaneously in relation to work stress. In one model moral identity significantly affected the level of experienced stress. However the effect was opposite to what was expected, a stronger moral identity lead to a higher degree of work stress. Further, in each model a dimension of social support significantly affected the level of stress experienced by the employer. Ethical leadership was in no model to be found significantly related to work stress.

As expected in two models, namely burnout and work stress, a negative relationship between work stress and social support from their supervisor was found. This indicates that employees who experienced stronger social support from the supervisor reported a lower level of work stress. In addition, support was found for the negative relationship between the degree of social support of co-workers and the amount of absenteeism. Surprisingly, the degree of non-work social support had a positive relationship with work stress. Thus, employees who experienced a lower level of non-work social support had a lower level of work stress.

To summarize, hypothesis 1 is not supported because moral identity is positively related to work stress instead of negatively related. The outcomes do support hypothesis 2 (the degree of work social support is negatively related to work stress) and hypothesis 3 (the degree of social support by the supervisor has a negative relationship with work stress). Because of the positive relation with work stress hypothesis 4 (non-work social support is negatively related to work stress) is not supported. Hypothesis 5 (ethical leadership is negatively related to work stress) is not supported and therefore rejected.
Other significant findings of the control variables were found in the model burnout and model work stress. The outcomes for these two models related age and physical exercise (sport) to work stress. More specifically, employees for which the frequency of physical exercise is higher scored a lower degree of work stress. For the determinant age the results demonstrated that the younger the employees are, the more likely they will report a higher level of stress.

5.1 Theoretical implications

The study makes a number of theoretical implications. Through quantitative research, this research confirms that strong social support from the supervisor will reduce the level of stress in line with the research by Koppelman et al. (1990). Social support from the co-workers can be seen as an antecedent in reducing absenteeism, not directly as an antecedent of burnout and work stress as stated by Eisenberger et al. (1986). A possible reason of this finding may be that an individual does not want to bother his/her co-worker(s) with more work if they were ill and therefore would continue to work because of social pressure (Brennan, 1997). This does have to mean that a co-worker is an antecedent in reducing work stress.

Striking, is the finding that a lower level of non-work social support is more likely to report a lower level of work stress. This outcome contradicts with what was expected based on a study of Greenhaus & Parasuraman (1999). A reason for this result can be that the source of the experienced social support (in this case non-work) does not match the stressor (in this case at work); Cohen and Wills (1985). As already mentioned in the literature review, non-work support may not have a positive effect in reducing work stress (La Rocco et al., 1980).

The assumption that moral identity would have a positive impact in reducing stress based on the studies about the relationship of personality and stress by McCrae & John (1992) and Strörmer & Fahr (2013) has not been proven in this study. Leary (2007) and Kroll & Egan (2004) have described that a moral person can feel guilty in case of an immoral action, while a
moral action will lead to positive feelings. Therefore in line with the literature, when the moral values of a person do not meet the moral values of the organization, the person can experience more work stress.

Although research about supportive management styles like ethical leadership measured the effect on work stress, with outcomes that indicated significant relationships (Gaudine & Saks, 2001; Johns, 1978), no support was found for these finding in this study. The studies in the literature only focused on the relationship between ethical leadership and stress and did not study other variables simultaneously. Apparently, despite a negative correlation between burnout and ethical leadership, other antecedents as social support are more important. In this study social support of the supervisor is an antecedent of work stress. Although social support perceived from the supervisor and ethical leadership show similarities, they are not the same. Similarities of ethical leadership and supervisor social support are, the importance of creating trust, commitment, loyalty and a helpful environment. The difference of ethical leadership and supervisor social support, is that an ethical leader also focuses on being a role model, addressing inappropriate behaviour in relation to ethical norms and defining success not only in terms of results, but also the way the results are achieved. Therefore this study suggests that these differences are obviously not so relevant to an employee.

**5.2 Practical Implications**

The findings of this research suggest three main practical implications. First, as already mentioned, previous research has clearly demonstrated that social support can reduce work stress and absenteeism of an employee. Although correlated to work stress, focus on ethical leadership and non-work social support are less important in reducing job stress because no significant relation has been found.
Given these findings the focus should be on social support from the supervisor and also on social support from co-workers. The focus on these themes can have a positive effect on reducing work stress and absenteeism. Supervisors may find it valuable to encourage strong social support networks among leaders and co-workers to reduce work stress. Organizations can organize mentoring by supervisor programs for employees to increase social support experienced at work (Mullen, 1994). Increased mentoring received by the respondents resulted in a study by Sosik and Godshalk (2000) to less work stress.

A second major practical implication is the finding in this study that a person with the characteristics of a strong moral identity (e.g. helpful, hardworking and generous) experienced a higher level of stress. As mentioned in the theoretical implications ‘to do good and avoid doing bad’ is important for a moral person (Kroll & Egan, 2004). Organizations should therefore be aware, when hiring an employee, if the moral values of the person about what is good and bad corresponds with the moral values of the organization. A mismatch between those two may lead to an increase level of stress for the employee.

Furthermore, the significant impact of age and physical exercise (sports) on work stress are determinants were a supervisor or organization should focus on. This study shows that younger employees experience a higher level of stress and employees who do physical exercise (sports) multiple times a week experience a lower level of stress. Being aware of the vitality of an employee and offering programs to increase the vitality can contribute in a positive manner to reduce the level of stress an employee experiences. Apparently younger employees experience higher levels of stress, organizations would be recommended to research the cause of work stress among younger employees. These findings enables organizations and managers to determine what they can do to reduce work related stress among their employees. As a result it can save the organisation costs for absenteeism and unproductive employees.
5.3 Limitations and future directions

This study has eight important limitations that are relevant for future research. First, the use of a convenience sample, making it hard to draw conclusions for a larger population. The generalizability of the results may be limited because the study was based on a selected group of organizations in the Netherlands. The study should be replicated in different samples, adopting longitudinal designs for testing the antecedents of stress and the stability of the measures. This study is depending on cross-sectional analysis and therefore the causality is questionable. The outcomes of a longitudinal research can help to generalize the outcomes of this study.

Second, the measurement of ethical leadership is based on very broad and simple terms which could have influenced the result. Future research could focus on a more complex and precise measurement of ethical leadership. The developed multi-dimensional Ethical Leadership at Work (EWL) scale, which is based on 46 items, could possibly contribute for further research about the relative effect of ethical leadership on work stress (Kalshoven et al., 2011).

Furthermore, only three possible antecedents of stress are measured in this study. In the literature other antecedents have been researched. To give a complete picture of the antecedents of stress it would be recommended to include more measures simultaneously. Other antecedents of job stress can be role ambiguity and role conflict (Moncrief et al., 1997).

A fourth limitation is the extent of socially desirable responses. A larger, more diversified sample from different organizations, cultural values and economic regions could enhance the generalizability of the findings and could provide stronger evidence.

The fifth limitation, is that the reason for the effect of moral identity on job stress remains unknown. Moral identity is only a part of someone’s personality. To get a complete picture it would be recommended to include more dimensions of a personality and the other antecedents
in relation to stress. Other dimensions of a personality could be the Big Five traits (e.g. extraversion and neuroticism) as mentioned in the literature reviews (McCrae and John, 1992). Another recommendation for future research is, besides the measurement of the moral identity of an individual, to also include the measurement of the moral values of the organization. The direction of the relation between moral identity on work stress (negatively of positively), can be caused by the match or mismatch between the moral identity of an individual and the moral values of the organization, based on the arguments as mentioned in the practical implications.

Further, other contextual factors of the organization may be important to determine the level of experienced work stress. Perceptions of work stress are likely to differ in different organizational contexts. A contextual factor of the organization that would be recommended to research further in relation to work stress is the ethical climate of the organization as a whole (Schwepker, 2001).

Finally, the survey was a self-report study, for which respondents selected a response by themselves. The validity therefore can be a problem. For example, respondents may under-report the symptoms in order to make their situation less worse. For future research it would be recommended to involve a researcher interference which can contribute to the validity of the study.

5.4 Conclusion

In this quantitative study of antecedents of work stress, Dutch employees were surveyed. Concerns about work stress have dominated the news in the Netherlands recently. Therefore, more than usual, systematic research on the antecedents of work stress was needed. This study shows possible antecedents of work stress from multiple views (moral identity, social support and ethical leadership simultaneously). Analysis of the survey showed important
results which can be used to further research. When multiple antecedents of work stress are measured simultaneously, apparently other antecedents of stress are less important than expected from the literature. Additional research will be required to understand more about the interactions of the various antecedents of stress to be able to generalize the findings and use these to prevent or reduce work stress.
References


Appendix I - Invitation letter and questionnaire

Beste deelnemer,

Allereerst wil ik u hartelijk bedanken voor uw medewerking aan dit onderzoek. De enquête maakt deel uit van mijn afstudeeronderzoek aan de Universiteit van Amsterdam. Naast mijn studie ben ik werkzaam als Procesregisseur bij ArboNed. In februari 2016 verwacht ik met uw hulp af te studeren voor mijn Master Bedrijfskunde. Het invullen van de enquête zal maximaal 15 minuten in beslag nemen. Het onderzoek wordt vanzelfsprekend volledig anoniem en strikt vertrouwelijk behandeld, niet aan derden verstrekt en de resultaten zullen niet herleidbaar zijn tot een specifieke organisatie of tot u als persoon. Voor mijn onderzoek ben ik geïnteresseerd in hoe u relaties ervaart op uw werk en in privésfeer. Er zullen u vragen gesteld of voorgelegd worden die betrekking hebben op u persoonlijk, uw werksituatie of uw privésituatie. Let op: u kunt alleen aan het onderzoek deelnemen als u in loondienst bent en 1 of meer collega’s hebt. Toelichting: - De antwoordcategorieën kunnen per onderdeel verschillen. - Er kunnen geen vragen overgeslagen worden en er is steeds maar één antwoord per vraag mogelijk. - Wanneer u twijfelt over een antwoord, probeer dan een zo goed mogelijke keuze te maken. Uw eerste reactie op een vraag is vaak het beste antwoord. - Er zijn geen goede of foute antwoorden op de vragenlijst, vul de vragenlijst zo waarheidsgetrouw mogelijk in. Succes met het invullen van de enquête. Indien u benieuwd bent naar het resultaat van het onderzoek kunt u mij hiervoor persoonlijk benaderen via jorienblom@gmail.com.

Jorien Blom - Masterstudent Bedrijfskunde aan de Universiteit van Amsterdam
In welke mate bent u het oneens/eens met de volgende stellingen? Mijn direct leidinggevende...

<table>
<thead>
<tr>
<th></th>
<th>Helemaal mee oneens (6)</th>
<th>Mee oneens (7)</th>
<th>Neutraal (8)</th>
<th>Mee eens (9)</th>
<th>Helemaal mee eens (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...luistert naar wat de werknemers te zeggen hebben (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...tikt werknemers op de vingers als zij ethische normen schenden (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...leeft zijn/haar persoonlijk leven op een ethische manier (3)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>...houdt rekening met het belang van zijn/haar werknemers (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...neemt eerlijke en gebalanceerde beslissingen (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...is een betrouwbaar iemand (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...bespreekt het belang van ethiek en waarden binnen de organisatie met werknemers (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
...geeft het goede voorbeeld hoe te handelen op een ethische manier (8)
...definieert succes niet enkel in termen van de resultaten die men bereikt, maar ook in termen van de manier waarop deze resultaten behaald zijn (9)
...is een persoon die voordat hij/zij een beslissing neemt zich afvraagt wat de juiste manier van handelen is (10)
In welke mate bent u het oneens/eens met de onderstaande stellingen in relatie tot uw direct leidinggevende?

<table>
<thead>
<tr>
<th></th>
<th>Helemaal mee eens (1)</th>
<th>Mee oneens (2)</th>
<th>Neutraal (3)</th>
<th>Mee eens (4)</th>
<th>Helemaal mee eens (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mijn leidinggevende geeft me het gevoel me aardig te vinden (1)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mijn leidinggevende geeft me het gevoel me te waarderen (2)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Ik kan mijn leidinggevende vertrouwen (3)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mijn leidinggevende ondersteunt mijn acties (4)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mijn leidinggevende helpt me als ik zijn/haar hulp nodig heb (5)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mijn leidinggevende zou me helpen als ik enkele weken ziek zou zijn (6)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>
In welke mate bent u het oneens/eens met de onderstaande stellingen in relatie tot uw collega's in het algemeen? Lees collega in plaats van collega's indien u 1 collega heeft.

<table>
<thead>
<tr>
<th></th>
<th>Helemaal mee oneens (6)</th>
<th>Mee oneens (7)</th>
<th>Neutraal (8)</th>
<th>Mee eens (9)</th>
<th>Helemaal mee eens (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mijn collega's geven me het gevoel me aardig te vinden (1)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Mijn collega's geven me het gevoel me te waarderen (2)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Ik kan mijn collega's vertrouwen (3)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Mijn collega's ondersteunen mijn acties (4)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Mijn collega's helpen me als ik hen nodig heb (5)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Mijn collega's zouden er voor me zijn als ik enkele weken ziek zou zijn (6)</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
<td>♦</td>
</tr>
</tbody>
</table>
In welke mate bent u het oneens/eens met betrekking tot relaties in uw privésituatie (bijvoorbeeld familie en vrienden) in het algemeen?

<table>
<thead>
<tr>
<th></th>
<th>Helemaal mee eens (6)</th>
<th>Mee oneens (7)</th>
<th>Neutraal (8)</th>
<th>Mee eens (9)</th>
<th>Helemaal mee eens (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaties in mijn privésituatie geven me het gevoel me aardig te vinden (1)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Relaties in mijn privésituatie geven me het gevoel me te waarderen (2)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Ik kan relaties in mijn privésituatie vertrouwen (3)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Relaties in mijn privésituatie ondersteunen mijn acties (4)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Relaties in mijn privésituatie helpen me als ik hen nodig heb (5)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Relaties in mijn privésituatie zouden er voor me zijn als ik € 10,- moet lenen, een lift naar de huisarts of andere hulp nodig heb (6)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
Stelt u zich een persoon voor (uzelf of iemand anders) met de volgende persoonlijkheidskenmerken: - Zorgzaam- Meelevend- Rechtvaardig- Vriendelijk- Grootmoedig- Behulpzaam- Hardwerkend- Eerlijk- Aardig Stelt u zich nu voor hoe deze persoon zou denken, voelen en zich zou gedragen.

<table>
<thead>
<tr>
<th>Activiteit</th>
<th>Helemaal mee eens (6)</th>
<th>Mee oneens (7)</th>
<th>Neutraal (8)</th>
<th>Mee eens (9)</th>
<th>Helemaal mee eens (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Het zou mij een goed gevoel geven een persoon te zijn die deze kenmerken bezit (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>De activiteiten die ik in mijn vrije tijd onderneem (hobby’s etc.) laten duidelijk zien dat ik een persoon ben die deze kenmerken bezit (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik zou me schamen als ik een persoon zou zijn die deze kenmerken heeft (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>De boeken en tijdschriften die ik lees laten zien dat ik een persoon ben die deze kenmerken bezit (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Het hebben van deze kenmerken is niet belangrijk voor mij (5)</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
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</tr>
<tr>
<td>Ik communiceer aan anderen dat ik deze kenmerken bezit door mijn lidmaatschap van bepaalde organisaties (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ik ben actief betrokken bij activiteiten die aan anderen laten zien dat ik deze kenmerken bezit (7)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Iemand zijn die deze kenmerken bezit is een belangrijk deel van wie ik ben (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ik wil heel graag een persoon zijn die deze kenmerken bezit (9)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
In welke mate bent u het oneens/eens met de volgende stellingen?

<table>
<thead>
<tr>
<th>Stelling</th>
<th>Helemaal mee oneens (6)</th>
<th>Mee oneens (7)</th>
<th>Neutraal (8)</th>
<th>Mee eens (9)</th>
<th>Helemaal mee eens (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Het proberen te voldoen aan werkeisen op werk belemmert mijn persoonlijke groei en welbevinden. (1)</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Ik heb het gevoel dat mijn werkeisen mij ervan weerhouden mijn persoonlijke doelen te halen en me te ontwikkelen (2)</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Over het algemeen heb ik het gevoel dat mijn werk mijn presteren in de weg staat (3)</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Het proberen te voldoen aan eisen van mijn leidinggevende belemmert mijn persoonlijke groei en welbevinden (4)</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Ik heb het gevoel dat de eisen van mijn leidinggevende mij ervan weerhouden mijn persoonlijke doelen te halen en me te ontwikkelen (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Over het algemeen heb ik het gevoel dat mijn leidinggevende mijn presteren in de weg staat (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Als ik aan het werk ben, voel ik mij vaak gespannen. (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mijn werk maakt mij vaak erg gefrustreerd of boos (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Op mijn werk maak ik mij meestal geen zorgen over zaken (9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meestal ben ik ontspannen en op mijn gemak als ik aan het werk ben (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik heb meestal het gevoel onder grote druk te staan als ik aan het werk ben (11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Er zijn veel zaken op mijn werk waar ik mij erg druk over kan maken (12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hoe vaak, in de afgelopen maand, heeft u zich ziek gemeld? (Geef '0' aan indien nooit)

Hoe vaak, in de afgelopen 2 maanden, heeft u zich ziek gemeld? (Geef '0' aan indien nooit)
Hoe vaak, in de afgelopen 12 maanden, heeft u zich ziek gemeld? (Geef '0' aan indien nooit)

Hoe vaak, in de afgelopen maanden, wilde u zich ziekmelden maar bent u toch naar uw werk gegaan? (Geef '0' aan indien nooit)
Hoe vaak in de afgelopen maand...

<table>
<thead>
<tr>
<th></th>
<th>Nooit (1)</th>
<th>Soms (2)</th>
<th>Regelmatig (3)</th>
<th>Vaak (4)</th>
<th>Altijd (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...had u het gevoel dat u geen controle had over belangrijke zaken in uw leven? (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...voelde u zich zeker over uw vermogen om met uw persoonlijke problemen om te gaan? (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...had u het gevoel dat dingen goed voor u uit zouden pakken? (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...had u het gevoel dat dingen zich zover opstapelden dat u ze niet meer kon overwinnen? (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nu volgt de laatste series met stellingen. We zijn bijna aan het einde gekomen van het onderzoek. Geef aan hoe vaak u de volgende ervaringen heeft.

<table>
<thead>
<tr>
<th></th>
<th>Nooit (1)</th>
<th>Soms (2)</th>
<th>Regelmatig (3)</th>
<th>Vaak (4)</th>
<th>Altijd (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ik voel me mentaal uitgeput door mijn werk (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik twijfel aan het nut van mijn werk (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Een hele dag werken vormt een zware belasting voor mij (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik weet de problemen in mijn werk adequaat op te lossen (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik voel me ‘opgebrand’ door mijn werk (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik heb teveel afstand gekregen van mijn werk (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik ben niet meer zo enthousiast als vroeger over mijn werk (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ik vind dat ik mijn werk goed doe (8)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Als ik iets afrond dat met mijn werk te maken heeft, vrolijkt me dat op (9)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Aan het einde van een werkdag voel ik me leeg (10)
Ik heb met deze baan veel waardevolle dingen geleerd (11)
Ik wil gewoon mijn werk doen en verder niet worden lastig gevallen (12)
Ik voel me vermoeid als ik 's morgens opsta en er weer een werkdag voor me ligt (13)
Ik ben cynischer geworden ten opzichte van mijn werk (14)
In mijn werk blaak ik van het zelfvertrouwen (15)
Tot slot nog een aantal demografische vragen.

Hoe lang in jaren is uw leidinggevende al uw leidinggevende? (Afgerond in jaren)

Hoe vaak heeft u contact met uw direct leidinggevende?
- Dagelijks (1)
- Wekelijks (2)
- Maandelijks (4)
- Jaarlijks (5)

Wat is uw leeftijd in jaren?

Wat is uw geslacht?
- Man (1)
- Vrouw (2)

Wat is uw hoogstgenoten onderwijsniveau?
- Geen opleiding (1)
- Lagere school / basisonderwijs (2)
- LBO, VBO, LTS, LHNO, VMBO (3)
- MAVO, VMBO-t, MBO-kort (4)
- MBO, MTS, MEAO (5)
- HAVO, VWO, Gymnasium (6)
- HBO, HEAO, PABO, HTS (7)
- WO (8)
- Anders, namelijk: (9) ____________________
In welke sector bent u werkzaam?

- Accounting / Controlling (1)
- Architectuur / Design (2)
- Beveiliging / Bewaking (3)
- Bouw (4)
- Cultuur / Recreatie / Sport (5)
- Farmaceutisch / Gezondheidszorg (6)
- Financiële Dienstverlening (7)
- Horeca (8)
- Industrie / Techniek (9)
- IT / Automatisering / Telecommunicatie (10)
- Juridische Dienstverlening (11)
- Landbouw / Bosbouw / Visserij (12)
- Maatschappelijke Dienstverlening (13)
- Makelaardij / Vastgoed (14)
- Media (15)
- Anders, namelijk: (16) ________________

Hoe lang bent u werkzaam bij uw huidige werkgever? (Afgelopen in jaren)

Hoe lang bent u werkzaam in uw huidige functie? (Afgelopen in jaren)

Hoeveel werknemers heeft uw werkgever in dienst?

- 1-10 (1)
- 11-100 (2)
- 101-300 (3)
- 301-500 (4)
- 501-700 (5)
- 701-1000 (6)
- Meer dan 1000 (7)
- Weet ik niet (8)

Werkt u fulltime (36 of > 36 uur per week) of parttime (< 36 uur per week)?

- Fulltime (1)
- Parttime (2)
Hoe vaak sport u gemiddeld per week?

- 0 keer (1)
- 1 keer (2)
- 2 keer (3)
- 3 keer (4)
- 4 of meer keer (5)