



Master Thesis

Intrinsic Motivation in the Context of Low-Skilled Work: The Influence of Intrinsic Job Quality and Demands-Abilities Fit

Human Resource Studies

August 21th, 2014

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Project Period: January 2014 – August 2014

Project theme: HRM and Balanced Outcomes in Non-Standard Contexts

Abstract

Intrinsically motivated employees are valuable to organizations, since motivation leads to performance. A multitude of previous studies have indicated that the characteristics of the job (i.e. the intrinsic job quality) are important factors positively influencing this intrinsic motivation. However, whether this is also the case in the context of low-skilled work remained virtually unexamined. Furthermore, whether this positive effect decreases when the abilities of the employee do not fit with the demands of job, has not been examined in past research. Therefore, the present study examines the moderating impact of Demands-Abilities fit on the relationship between intrinsic job quality dimensions (i.e. skill use, autonomy and participative decision making) and intrinsic motivation in the context of low-skilled logistics work. Data was collected using questionnaires, distributed among 144 Dutch respondents. The results of this study indicate that the higher the perceived intrinsic job quality, the more intrinsic motivation employees report. In addition, insignificant results were found regarding the moderating impact of D-A fit. This implies that intrinsic job quality influences intrinsic motivation, regardless of employees' level of D-A fit. However, due to the relatively little studies examining the moderating effect of D-A fit, future studies should examine its impact on a larger sample size and within other contexts. By this means, future studies can examine to what extent the context of this study influenced current results.

Keywords: Low-skilled work, intrinsic job quality, skill use, autonomy, participative decision making, intrinsic motivation, D-A fit, P-J fit

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1. Introduction

Although the educational level of the Dutch workforce is rising, 30% of Dutch employment still consists of low-skilled work (Josten, 2010). Interestingly, particularly in transport/logistics functions, there has been a significant increase in low-skilled work. Currently, logistics jobs comprise 17% of Dutch low-skilled jobs (Josten, 2010). Moreover, logistics jobs together contribute to 11% of production in the Netherlands (*Monitor Topsectoren*, 2012). Therefore, the Dutch economy is fairly dependent on this workforce and its performance, and thereby this context deserves further exploration.

An important factor influencing performance is employee motivation, as identified by the Ability-Motivation-Opportunity (AMO) model of individual performance (Blumberg & Pringle, 1982; Campbell, McCloy, Oppler, & Sager, 1993). This model proposes that when motivation is enhanced, along with the other two factors, individual performance will improve. A motivated workforce is, therefore, valuable because of its results: motivation produces (Ryan & Deci, 2000b). Motivation is about being 'moved to do something' (Ryan & Deci, 2000a, p. 54). Intrinsic motivation is an element of the motivation-concept, and refers to performing a task for itself, in order to experience satisfaction (Deci, Connell, & Ryan, 1989).

Studies have indicated that the most important predictors of intrinsic motivation are the characteristics of the job (e.g., Fried & Ferris, 1987; Humphrey, Nahrgang, & Morgeson, 2007). These characteristics could be described by the concept 'job quality', which is presently a key notion for policy makers. Research has indicated that especially low-skilled work is characterized by a low job quality (Kalleberg, Reskin, & Hudson, 2000), which is not desirable according to current policy makers (Findlay, Kalleberg, & Warhurst, 2013). The quality of a job could be evaluated by its intrinsic (e.g., autonomy) and extrinsic aspects (e.g., rewards) (Findlay et al., 2013). The intrinsic aspects of the job have shown to positively influence the intrinsic motivation of employees (Janssen, Jonge, & Bakker, 1999), and are therefore examined in this study. However, whether this effect is also apparent within the context of low-skilled work, remained virtually unexamined. The Job Characteristics Model (JCM; Hackman & Oldham, 1976) explains the relationship between the intrinsic job quality dimensions and intrinsic work motivation. The model claims that enriched and complex jobs have a high motivating potential (Hackman & Oldham, 1976), because they are interesting and attractive (Katzell & Thompson, 1990).

Although the job quality dimensions might contribute to intrinsic motivation, it could be argued that this effect is reinforced by the degree of Person-Job (P-J) fit, more specifically: Demands-Abilities (D-A) fit. P-J fit refers to the alignment between the characteristics of the individual and those of the job (Edwards, 1991; Kristof, 1996). Employees vary in their abilities and therefore it is arguable that

the alignment of these individual characteristics with the job, can be an important moderating factor influencing the strength of the proposed relationship. For example, in the context of low-skilled work, overqualification is likely to occur because the educational requirements of these jobs are at the lowest level (Kalleberg, 2008). Hence, even though job quality is high, overqualified employees' degree of motivation might decrease due to frustration about being unable to use all their capabilities (Borgen, Amundson, & Harder, 1988). The theoretical basis for this proposition is Person-Environment fit theory, where D-A fit originates from. The theory proposes that a high degree of fit between the individual and its environment has a substantial amount of benefits for employee attitudes (Lauver & Kristof-Brown, 2001). Thus, the positive effect of job quality on intrinsic motivation might decrease due to a low level of D-A fit.

Surprisingly little research has focused on low-skilled work, and even less on low-skilled work in logistics functions. Therefore, this study furthers our understanding about whether in this special context the outcomes proposed by the JCM and P-E fit theory will be found as well. In addition, this study aims to create a better understanding about the moderating effects of D-A fit. To date, this effect has rarely been studied (Erdogan & Bauer, 2005). Moreover, the interactive impact of D-A fit (which might be interpreted as a qualification fit) on the association between the intrinsic job quality and intrinsic motivation has received no empirical attention up till now. The educational level of the workforce is rising, which implies that overqualification is more likely to be prevalent in the future, especially in the context under study. Hence, the associations examined in this study are interesting and theoretically relevant ones to study.

When the propositions of this study are supported, the impact of D-A fit could be an important aspect to take into account when selecting, developing, and retaining employees. One might suggest that when D-A fit is low, employees will experience less intrinsic motivation resulting from the job quality dimensions and, hence, will also have a lower performance. Therefore, it would be important to select those employees whose abilities are aligned with the job or to train those employees who are currently underqualified to perform the job. Furthermore, also the retention of employees whose qualifications match those of the job would be an important issue of concern, as the number of low-skilled workers is likely to decrease (Josten, 2010). Besides that, this research creates awareness on the potential impact of job quality on the intrinsic motivation of employees in the context of low-skilled work. When the propositions of this study are supported, organizations might take intrinsic job quality into account when designing jobs.

To sum up, the aim of this study is providing more insight in the moderating effect of Demands-Abilities fit on the relationship between intrinsic job quality aspects and intrinsic motivation in the context of low-skilled logistics jobs. Therefore, the following research question is formulated:

To what extent is the relationship between the intrinsic aspects of Job Quality and Intrinsic Motivation moderated by Demands-Abilities fit in the context of low-skilled work?

2. Theoretical framework

In this section the theoretical underpinnings of the proposed relationships are presented. First, the context of this study is illustrated. Then, the concepts motivation and job quality are discussed. Subsequently, the relationships between these variables are explained by the Job Characteristics Model (Hackman & Oldham, 1976), and related empirical evidence. Finally, the moderating effect of Demands-Abilities fit is discussed using Person-Environment fit theory and relevant empirical evidence.

2.1 Low-skilled work

As mentioned previously, low-skilled jobs still dominate an important part of the Dutch labor market. Low-skilled work consists of tasks that require (at most) a primary school education, senior secondary education, or lower vocational education (Josten, 2010). Interesting to note, low-skilled work could be performed by employees with varying educational levels. Therefore, the employees performing the low-skilled tasks, are not necessarily low-educated themselves.

Many economists expect that the demand for low-skilled work will decrease due to technological developments, and the rise of low-wage countries. However, research in the Netherlands has indicated that the total number of low-skilled jobs has hardly changed between 1987 and 2008 (Josten, 2010). Moreover, the demand for low-skilled logistics jobs has increased in the last few years, which is presumably caused by increased prosperity, or by the fact that the Netherlands contributes to a large proportion of the international distribution of goods (Josten, 2010). Logistics functions comprise all logistic activities which are deployed within organizations across sectors, for example transportation and storage (*Monitor Topsectoren*, 2012). Examples of low-skilled logistics professions are warehouse workers and truck drivers (Josten, 2010).

2.2 Job quality and motivation in the context of low-skilled work

In contrast to the little empirical attention regarding low-skilled (logistic) work, diverse practitioner and policy publications paid great attention to the value of a motivated workforce (Boxall & Purcell, 2011). A commonly used definition of motivation is from Pinder, who described it as ‘a set of energetic forces ... to initiate work-related behavior, and to determine its form, direction, intensity, and duration’ (1984, p. 8). Motivation consists of two components: intrinsic and extrinsic motivation (Deci & Ryan, 1985). Intrinsic motivation refers to ‘the inherent tendency to seek out novelty and

challenges to extend and exercise one's capacities, to explore, and to learn' (Ryan & Deci, 2000b, p. 70). It concerns performing a work-related task for pleasure and satisfaction of the activity itself (Deci & Ryan, 1985). Extrinsic motivation refers to performing an activity in order to receive a reward (Ryan & Deci, 2000b). Both kinds of motivation matter (Boxall & Purcell, 2011). However, because intrinsic motivation is related to the job itself (Deci & Ryan, 1985), this study focuses on the intrinsic motivation of employees.

Intrinsic motivation has shown to be affected by the design of the job (e.g., Fried & Ferris, 1987; Humphrey et al., 2007). Until quite recently, work design theory and research have received less attention, as it was presumed that all important issues were discussed (Humphrey et al., 2007). Currently, however, there is renewed attention to the concept 'job quality' (Loughlin & Murray, 2013), which partially overlaps with the concept work design. Unfortunately, there is no common definition of job quality (Findlay et al., 2013). There are significant differences between several fields of study. However, as argued by Findlay et al. (2013), there are also important similarities between the key dimensions used in articles on job quality. Based on the contributions of fellow researchers (i.e., Cooke, Donaghey, & Zeytinoglu, 2013; Gallie, 2013; Holman, 2013; Loughlin & Murray, 2013; Okay-Somerville & Scholarios, 2013; Vidal, 2013), Findlay et al. distinguish the following job quality dimensions: compensation and benefits; job security; skill use and skill-development; flexible working hours and schedules; participative decision making and autonomy. The job quality dimensions both contain aspects intrinsic (e.g., the degree of autonomy), as well as extrinsic to the job (e.g., compensation and benefits). The intrinsic job quality dimensions are aspects that concern the design of the tasks inherent to the job, while the extrinsic job quality dimensions are not related to the actual activities carried out. Hence, this study focuses on the intrinsic aspects of job quality because these are related to intrinsic motivation (Fried & Ferris, 1987; Humphrey et al., 2007). They include the following: skill use, participative decision making, and autonomy (Findlay et al., 2013).

The relationship between the intrinsic job quality dimensions and intrinsic motivation could be explained by the Job Characteristics Model (JCM; Hackman & Oldham, 1976). The JCM (Hackman & Oldham, 1976) is one of the most important models explaining intrinsic work motivation (Houkes, Janssen, Jonge, & Nijhuis, 2001). The model proposes that specific design components of the job influence the internal work motivation of employees through a perceptual process. The five characteristics predicted to enhance intrinsic motivation are: skill variety, task identity, task significance, autonomy and feedback (Hackman & Oldham, 1976). These characteristics largely overlap the intrinsic aspects of job quality. The specific job characteristics are proposed to lead to three positive psychological states: experienced meaningfulness, experienced responsibility for the outcomes, and knowledge of results. This then leads to employee outcomes including internal work motivation. Furthermore, the study by Hackman and Oldham (1976) also indicated a direct effect of

the job characteristics on employee outcomes, which is examined in the present study as well. The basic proposition of the JCM is that employees have attitudinal and behavioral responses to the design of their job. It suggests that enriched and complex jobs have a higher motivating potential, because they are perceived as stimulating and demanding (Hackman & Oldham, 1976). When jobs are enriched they will become more interesting, attractive, and satisfying to employees (Katzell & Thompson, 1990). Hence, jobs providing much variety and challenge are more intrinsically motivating than simple, routine ones.

Consistent with the JCM, there has been a fair amount of empirical evidence supporting the positive relationship of the job quality dimensions with intrinsic motivation (e.g., Frey & Osterloh, 2002; Fried & Ferris, 1987; Houkes, Janssen, Jonge, & Bakker, 2003; Houkes et al., 2001; Humphrey et al., 2007; Janssen et al., 1999; Spector, 1986; Tieg, Tetrick, & Fried, 1992). Unfortunately, few studies have focused specifically on the context of low-skilled work. A study by Kalleberg, Reskin, and Hudson (2000) indicated that low-skilled work has a lower objective job quality than high-skilled work. High-skilled jobs tend to have a higher job complexity (Kalleberg et al., 2000). Complex, challenging jobs are characterized by a high level of autonomy and skill variety, among others (Hackman & Oldham, 1980). Therefore, one might suggest that particularly low-skilled work has a low job quality, as its complexity is lower as well. On the other hand, it could be argued that the perception of these job quality dimensions actually influences the intrinsic motivation of employees. This perception might vary among employees and contexts. Therefore, an employee might perceive a high job quality even though the objective job quality is low. Nevertheless, when one perceives a high intrinsic job quality it is expected to increase intrinsic motivation.

Unfortunately, employers mostly focus on cost-cutting wages of employees performing low-skilled work (Appelbaum, Bernhardt, & Murnane, 2003). Therefore, one might suggest that employees performing these jobs receive less extrinsic rewards (i.e. a low extrinsic job quality), which might lead to less extrinsic motivation. Furthermore, it could be argued that the intrinsic job quality might also have a lower priority, as employers focus on costs. However, by focusing on providing challenges and intrinsic rewards, an employer could improve the intrinsic motivation of employees (Ryan & Deci, 2000b), without additional costs (Appelbaum et al., 2003).

Hence, one might suggest that intrinsic job quality is also (and maybe even more) important in the context of low-skilled work. The perception of a high intrinsic job quality is expected to increase intrinsic motivation.

The general empirical evidence regarding the separate effects of the job quality dimensions on intrinsic motivation is discussed below.

2.2.1 Skill use and intrinsic motivation

The concept skill use is considered 'the extent to which jobs enable a person to use her skills' (Findlay et al., 2013, p. 448). However, as it is hard to measure the actual skills a respondent possesses, the definition of skill variety is used interchangeably, because the content of this definition largely corresponds. Skill variety is defined as 'the degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of skills and talents of the person' (Hackman & Oldham, 1976, p. 257). One might suggest that when the level of skill variety is high, an employee also uses a higher amount of skills. Hence, it enables an employee to use the skills he or she possesses.

Two meta-analyses assessed the relationship of skill variety with internal work motivation. In 1987, Fried and Ferris conducted a meta-analysis on approximately 200 empirical studies examining the JCM. The results indicated that all job characteristics were positively associated with personal and work outcomes. A recent meta-analysis of 259 studies by Humphrey, Nahrgang and Morgeson (2007) replicated and extended the study by Fried and Ferris (1987), and confirmed that a high level of skill variety led to an increase in internal work motivation. Interesting to note, both meta-analyses did not take moderators such as job level (e.g., low-skilled work) or educational level into account when examining these effects. Besides these meta-analyses, several (longitudinal) studies provide evidence for a positive relationship of job content (including skill variety) with intrinsic motivation (e.g., Houkes et al., 2003; Janssen et al., 1999; Tiegs et al., 1992)

2.2.2 Autonomy and intrinsic motivation

Another job quality dimension identified by Findlay et al. (2013), is autonomy. As the authors of the article do not provide a definition of the concept autonomy, the definition of Hackman and Oldham (1976) is used. Their definition of autonomy is 'the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out' (p. 258).

The two meta-analyses discussed above also provide empirical evidence for a positive relationship between autonomy and internal work motivation. In addition, the effect of autonomy on (intrinsic) motivation has been meta-analytically assessed by Spector (1986), which confirmed a positive association between the two variables. Furthermore, the aforementioned studies by Houkes et al. (2003), Janssen et al. (1999) and Tiegs et al. (1992) provide evidence for this positive effect as well.

2.2.3 Participative decision making and intrinsic motivation

The final job quality dimension that is examined in this study is participative decision making. Participative decision making concerns ‘involving employees in decision making about work’ (Gallie, 2013, p. 454).

In contrast to autonomy and skill variety, the direct effect of participation on intrinsic motivation has received moderate empirical attention. The above mentioned meta-analysis by Spector (1986) examined this relationship and confirmed a positive effect. However, it should be noted that there were few studies included examining this effect. Furthermore, Frey and Osterloh (2002) indicated that participation leads to a higher level of intrinsic motivation since it supports perceived self-determination.

Based on the presented theoretical model and empirical evidence, it could be argued that all three intrinsic job quality dimensions contribute to a high level of intrinsic motivation in the context of low-skilled work. Therefore, the following hypotheses are proposed:

H1: Employee reports of (a) skills used, (b) autonomy, and (c) participation in decision making on the job are positively associated with intrinsic motivation.

2.3 The moderating effect of Demands-Abilities fit in the context of low-skilled work

Although research has demonstrated the effect of job quality on intrinsic motivation, it could be argued that its impact varies among employees and contexts. One might suggest that the perceived alignment between an individual’s abilities and the job, has an important moderating impact on the proposed relationships. This alignment is reflected in the concept Demands-Abilities (D-A) fit. D-A fit is the perceived ‘match’ between the job’s demands and the abilities of the individual . Abilities comprise the ‘skills, knowledge, time, and energy the person can draw upon to meet environmental demands’ (Edwards, 1996, p. 296). The demands of the job are the requirements imposed upon the individual which can be objective (e.g., the number of working hours) or socially constructed (e.g., group norms). Demands-Abilities fit could also be defined as a qualification fit. A low level of fit may be perceived as over- or underqualification for the job (Lobene & Meade, 2010), because the demands of the job are too low or too high for the abilities of the employee.

The moderating impact of D-A fit could be explained by Person-Environment (P-E) fit theory. Person-Environment fit is described as the alignment between employees and their organizational environment. Person-Job (P-J) fit is a component of P-E fit, and is defined as the alignment between the characteristics of the individual and those of the job (Edwards, 1991; Kristof, 1996). It consists of two separate concepts: Demands-Abilities fit and Needs-Supplies fit. Needs-Supplies fit refers to the alignment between the needs of the employee and the fulfillment of those by the job (Edwards,

1991). However, because needs can be both intrinsic and extrinsic to the job, this paper solely focuses on D-A fit. The basic proposition of P-E fit theory is that individuals' attitudes, behaviors and other outcomes result from the relationship between the person and the environment. A high degree of fit will lead to more positive employee attitudes and behaviors (Kristof-Brown, Zimmerman, & Johnson, 2005).

Based on P-E fit theory, one might suggest that Demands-Abilities fit has a positive impact on the relationship between intrinsic job quality and intrinsic motivation. Unfortunately, however, the moderating effect of D-A fit has rarely been studied (Erdogan & Bauer, 2005). The previously discussed JCM (Hackman & Oldham, 1980), on the other hand, can also be viewed from the perspective of P-E fit. It similarly puts emphasis on moderators that underscore the fit between the individual and the job (Kulik, Oldham, & Hackman, 1987). The moderator 'knowledge and skill' in the JCM (Hackman & Oldham, 1980) partially overlaps with Demands-Abilities fit. The model proposes that when a job is enriched and complex, employees with a suitable level of abilities will experience positive work attitudes. However, internal work motivation will decrease when the employee perceives his knowledge and skills are improper for the demands of the job (Hackman & Oldham, 1980).

Overqualified employees (i.e. employees with a low D-A fit) might perceive their abilities are improper for the demands of the job. Overqualification is apparent when employees' skills, abilities, and educational level exceed the job's requirements (Erdogan & Bauer, 2009; Khan & Morrow, 1991). It is (more) likely to occur in the context under study, because the requirements of low-skilled jobs are at the lowest educational level (Kalleberg, 2008). Moreover, as the number of high-skilled workers is rising in the Netherlands, the supply of low-educated employees is decreasing. This will lead to an increase in overqualified employees performing low-skilled work (Josten, 2010). Several studies have indicated that overqualification is associated with negative job attitudes and a higher turnover (Johnson, Morrow, & Johnson, 2002; Maynard, Joseph, & Maynard, 2006; Verhaest & Omeij, 2006). Although these studies examined the direct effect of overqualification on employee attitudes, one might suggest that overqualification (i.e. a low D-A fit) has a moderating effect as well. It could be argued that although job quality is high, intrinsic motivation is likely to decrease when employees are overqualified for the job. Overqualified employees might feel more frustrated by not being able to use their full range of skills (Borgen et al., 1988), even though intrinsic job quality is high. Furthermore, overqualification might induce feelings of relative deprivation (Crosby, 1984). When individuals develop their knowledge, skills and abilities, their expectations about their potential jobs also become higher (Vaisey, 2006). Thus, even though the quality of the job is high, because their job does not meet their expectations, intrinsic motivation is likely to decrease.

On the other hand, employees' skills, abilities, and educational level might also be lower than the job's requirements. This concept is defined as underqualification, which is also likely to occur in this context although to a lesser extent. Especially people who have solely completed primary school, often have a job above their educational level (Josten, 2010). Furthermore, due to rapid technological innovations, skill requirements for jobs have grown (Kalleberg, 2008). These skills might not be available among low-educated employees. The direct relationship of underqualification with employee attitudes has received less empirical attention or produced unclear results (Verhaest & Omev, 2006). However, based on the JCM, it could be argued that employees are feeling more frustrated and unhappy when they feel unable to perform their job effectively, even if their job is high on motivating potential (Kulik et al., 1987).

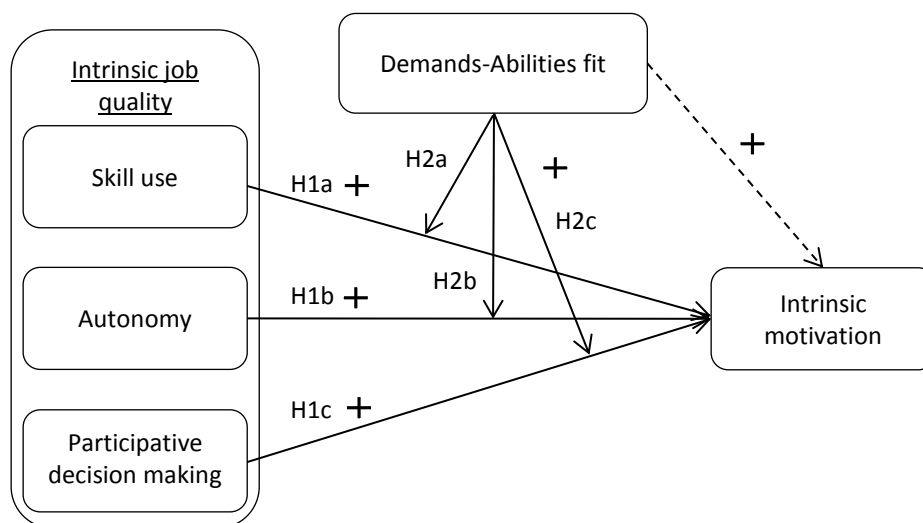
Based on the above mentioned reasoning, it is expected that the degree of D-A fit could be an important condition for the motivating potential of the intrinsic job quality dimensions. When D-A fit is low (i.e. over- or underqualification), the positive effect of intrinsic job quality on intrinsic motivation is likely to decrease. On the other hand, a high D-A fit enables employees to benefit from a high quality job. Hence, the following hypothesis is proposed:

H2: Employee reports of Demands-Abilities fit moderate the relationships of (a) skill use, (b) autonomy, and (c) participative decision making with intrinsic motivation such that the relationship will be weaker when Demands-Abilities fit is low compared to when it is high

Based on the previously described hypotheses the following conceptual model was composed:

Figure 1.

Conceptual model.



3. Methodology

This section describes the methodological way in which the research question and hypotheses were answered.

3.1 Research set-up

The proposed relationships were tested using an explanatory and cross-sectional research design. Data was collected using questionnaires (Appendix A), distributed among individual employees. The questionnaire contained items regarding intrinsic motivation, skill use, autonomy, participative decision making, D-A fit, and relevant control variables.

3.2 Sample description

The respondents of this study were employees performing low-skilled logistics jobs. A total of 165 respondents were approached for completing the questionnaire. Eventually, data from 144 employees (response rate: 87.3%) was used for analysis. The study population comprised employees from a health care institution (5.6%), a postal company (11.8%), Jan Linders (41%), van den Anker (16.7%), and Reinders (25%). Of these companies, the following logistics functions were included in this study: warehouse employees (79.2%), logistics employees (1.4%), postmen (2.1%), mail deliverers (9.7%), and truck drivers (2.1%).

The questionnaire was completed by 119 males (82.6%) and 25 females (17.4%). The average age of the respondents was 36.78 years (SD=14.05) with ages ranging from 16 to 69 years. The majority of respondents had Dutch as their native language (94.4%). The participants had an average tenure of 8.36 years (SD=9.11) and were working 33.34 hours (SD=10.16) on average per week. A small majority of the respondents had a permanent contract (56.9%), with other respondents having a temporary contract (30.6%) or being a temporary worker (11.8%). Due to the occupational group involved, educational level was relatively low with 7.6% of respondents merely completing primary school (basisschool), 21.5% completing lower vocational education (lager beroepsonderwijs), 20.8% completing senior secondary education (middelbaar voortgezet onderwijs), 24.3% completing secondary vocational education (middelbaar beroepsonderwijs), 12.5% completing upper secondary education (hoger voortgezet onderwijs), 4.2% finalizing higher professional education (hoger beroepsonderwijs), and 2.1% of respondents completing academic education (wetenschappelijk onderwijs).

3.3 Procedure

Data was collected by two master Human Resource Studies students at Tilburg University. Due to the diverse research topics of both students, the questionnaire also contained items that were not relevant for this specific study.

Preceding the actual data collection, ten pilot questionnaires were distributed among respondents who were low-educated. Hereby, it was ensured that the questions were understandable for all respondents in the research sample. The questionnaires were adjusted based on these pre-test results (see Appendix B for the adjusted items).

The respondents of this study were chosen based on a combination of convenience and purposive sampling. By making use of purposive sampling, it was ensured that the respondents were employed in low-skilled logistics functions. The sample is, therefore, homogenous which allows for an accurate study of the proposed relationships in this context. Within the organization, a convenience sample was used. Respondents were chosen based on the ease of their accessibility (Ritchie & Lewis, 2003): in this case their willingness to participate.

During the initial contact with organizations, the educational requirements for the logistics functions were discussed. It was ensured that the highest educational requirements of the jobs were primary school, lower vocational education, or secondary vocational education. By this means, it was ensured that the work was actually low-skilled. The participating organizations were then visited by the researchers, who distributed the hard-copy questionnaires and envelopes among the respondents. The employees were requested to complete the questionnaires the same day as they were handed out, in order to increase the response level. However, because in the postal company the employees did not have a fixed work or gathering place, these employees received a stamped return-envelope with the request to send the questionnaire to the address of one of the researchers. After one week, these employees received a reminder about the questionnaire. In the remaining participating organizations, the completed surveys were placed in envelopes and handed into a mailbox, in order to prevent social desirable answers.

Completing the questionnaire took the employees approximately 15-25 minutes. The questionnaire included a cover letter (Appendix C) in which additional information about the questionnaire was given. Anonymity of results was addressed in the letter as well. Respondents were assured that the data was only used for the purpose of the study.

3.4 Instruments

The measurement scales included in the questionnaire are discussed below.

3.4.1 Intrinsic Motivation

The dependent variable intrinsic motivation was measured by a Dutch translation of the 12-item Intrinsic Motivation Scale (Vallerand, 1997). The Dutch translation by van Yperen and Hagedoorn (2003) was used in order to maintain validity and reliability. The scale makes a distinction between three dimensions: intrinsic motivation to know, to accomplish things, and to experience stimulation. However, Vallerand (1997) solely uses one index for measuring intrinsic motivation. The general question above the statements is: "Why do you do this job?" The statements were rated on a seven-point response scale, from strongly disagree to strongly agree. An example-statement is: "Because I feel pleasant in my job." The reliability of the scale was $\alpha .97$. Factor Analysis (FA) indicated that the measurement scale measured one construct, which explained 76.15% of the variance.

3.4.2 Intrinsic Job Quality

The independent variables were measured by using elements of the Dutch questionnaire on the experience and assessment of work (van Veldhoven & Meijman, 1994). This section contained 25 items, which measured three variables: skill use, autonomy and participation. All items were rated on a four-point response scale, from always to never.

Six items were used to measure skill use ($\alpha .83$). An example question is: "Is your work varied?" FA indicated that the scale measured one construct, which explained 54.02% of the variance.

The variable autonomy was measured with 11 items ($\alpha .87$). An example item is: "Can you organize your work yourself?" FA showed that the measurement scale consisted of two factors. However, because this variable was measured with an existing scale of which the factor structure was tested previously, it was chosen to maintain the scale by Van Veldhoven and Meijman (1994). The one-factor solution explained 44.99% of the variance.

Eight items were used to measure participative decision making ($\alpha .84$). An example question is: "Can you discuss work problems with your superior?" This scale consisted out of two factors as well. However, also in this case, it was chosen to maintain the existing scale which explained 48.27% of the variance.

Finally, all items were summed to form an index of job quality ($\alpha .91$). A scalescore was created by adding up the scalescores of the three separate dimensions and then dividing it by three. FA indicated that the index consisted out of five factors. Ultimately, however, it was chosen to create one index, which explained 36.37% of the variance.

3.4.3 Demands-Abilities fit

The moderating variable Demands-Abilities fit was measured using a Dutch translation of Cable and DeRue's (2002) three-item scale for D-A fit. The translation by Boon, Den Hartog, Boselie, & Paauwe (2011) was used, which had a reliability of α .84 in the present study. The items were rated on a five-point response scale, from strongly disagree to strongly agree. An example statement is: "The match is very good between the demands of my job and my personal skills." FA showed that the measurement scale measured one construct, and the total variance explained by this scale was 75.70%.

3.4.4 Control variables

Gender, age, education, tenure, and type of contract were included as control variables in order to rule out alternative explanations for the research findings (Keith, 2006).

Gender was included as a control variable because a study by Lambert (1991) showed that women are more intrinsically motivated than men. In addition, the abovementioned study by Boon et al. (2011) indicated that males also reported a lower P-J fit.

Age was included as a control variable because a recent study by Kooij, Lange, Jansen, and Dikkers (2008) indicated that intrinsic motivation increases with age. In addition, age is positively correlated with P-J fit (Boon et al., 2011). Age was measured in years.

Educational level was included as a control variable as well, because it showed positive correlates with intrinsic motivation in a study by Lambert (1991). The educational level of the respondents was measured with seven answering possibilities ranging from primary school to academic education. In order to facilitate interpretation, dummy variables were created. The maximal educational qualifications for low-skilled work were coded zero (i.e. primary school, lower vocational education, and senior secondary education), and higher educational qualifications were coded 1.

Furthermore, Kuvaas (2006) provided empirical support for a relationship between tenure and intrinsic motivation. Organizational tenure was, therefore, included in this study and measured by employees' years of employment.

Finally, type of contract was included as a control variable. Case study evidence suggests that organizations experienced a lower level of employee motivation due to temporary contracts and hence, their preference for these types of contracts was reduced (Purcell, Hogarth, & Simm, 1999).

3.5 Statistical analysis

The collected data was analyzed using the statistical software program IBM SPSS Statistics 20.

After the data was entered into SPSS, it was checked on errors, missing values, and outliers. The dataset included no errors or outliers. With regard to missing values, it was chosen to exclude cases

pairwise, in order to maintain the current sample size (Pallant, 2010). Otherwise, the dataset would have been limited to 114 respondents.

Thereafter, exploratory factor analysis (FA) was conducted, in order to provide insight in the constructs measured by the measurement scales (Keith, 2006). First, it was assessed whether FA was appropriate for the used measurement scales using Bartlett's test of sphericity ($p < .05$; Bartlett, 1954) and the Kaiser-Meyer-Olkin (KMO) index ($> .06$; Kaiser, 1974). Subsequently, factors were evaluated using Kaiser's criterion (≥ 1) and Catell's scree test (Cattell, 1966). Since existing measurement scales were used in this study, it was chosen to maintain these scales.

Thereafter, the reliability of the measurement scales was evaluated using Cronbach's alpha ($\alpha \geq .7$), corrected item-total correlations ($\geq .3$), and alpha if item deleted ($< \alpha$). The scales mostly met these conditions, and therefore no items were deleted. After this reliability analysis, the scalescores of the measurement scales were calculated.

Then, the distribution of responses was checked per scale. All scales appeared to be normally distributed, with most scores centered around the mean of the scale (Pallant, 2010).

Subsequently, the intraclass correlation coefficient: ICC(1) was calculated. The ICC(1) value indicates whether group membership has an influence on the interrelationships among variables (Kreft & De Leeuw, 1998). The ICC(1) values were calculated for all variables included in this study, because the data was nested within multiple organizations, functions, departments and locations. These diverse group-memberships might have an impact on the proposed relationships in this study, because of their influence on respondents' attitudes and perceptions (e.g., organizational culture, supervisor of the department, or job content). The ICC(1) values were calculated using the Mean Square Between (MSB) and Mean Square Within (MSW) from a one-way random-effects ANOVA (Bliese, 2000). The 'cut-off value' commonly used regarding the ICC(1) is a value below .10 (Klein & Kozlowski, 2000). The significance of the ICC(1) value was examined using an F-test. A significant F-test indicates that there is more variance in responses between groups, than within groups (Bliese, 2000). In that case, analyses at the individual level are not appropriate. Table 1 shows the ICC(1) values by group-level and measurement scale. The results revealed that the majority of ICC(1) values were below .10. However, the ICC(1) values for participative decision making, job quality, and intrinsic motivation at the departmental level exceeded the .10. Besides that, most of the F-tests were significant which was not desirable in the present study. However, aggregating the data was not possible due to a small sample size and was not in line with this study's purpose. Therefore, data was analyzed at the individual level.

Table 1
Intraclass Correlation Coefficients

	MSB	MSW	F-value	ICC(1)
<i>By Organization</i>				
Skill use	1.225	.372	3.295*	.077
Autonomy	.634	.325	1.953	.035
Participative Decision Making	.964	.281	3.427*	.083
Job quality	.756	.240	3.149*	.079
Intrinsic Motivation	8.185	2.161	3.787**	.093
Demands-Abilities fit	2.645	.941	2.811*	.062
<i>By Department</i>				
Skill use	1.007	.359	2.808**	.099
Autonomy	.627	.324	1.935	.056
Participative Decision Making	1.121	.265	4.232**	.167
Job quality	.776	.229	3.385**	.136
Intrinsic Motivation	7.926	1.963	4.038**	.159
Demands-Abilities fit	2.341	.881	2.657*	.091
<i>By Location</i>				
Skill use	1.081	.365	2.960**	.091
Autonomy	.429	.329	1.303	.016
Participative Decision Making	.753	.281	2.685*	.080
Job quality	.566	.241	2.347*	.070
Intrinsic Motivation	6.473	2.148	3.014**	.094
Demands-Abilities fit	2.835	.906	3.128**	.098
<i>By Function</i>				
Skill use	.399	.388	1.026	.001
Autonomy	.498	.338	1.472	.019
Participative Decision Making	.492	.298	1.653	.025
Job quality	.275	.255	1.081	.003
Intrinsic Motivation	3.174	2.255	1.407	.016
Demands-Abilities fit	1.328	.971	1.368	.014

** F-test is significant at the 0.01 level (2-tailed)

* F-test is significant at the 0.05 level (2-tailed)

After calculating the ICC(1) values, the means, standard deviations, and the Pearson's correlations of the variables were calculated. These calculations were performed to examine whether distinct variables did not overlap, but also to assess the distribution and mean value of responses.

Thereafter, the hypotheses of this study were tested using hierarchical regression analysis. Hypothesis 1 was tested using a multivariate regression of (a) skill use, (b) autonomy, and (c)

participative decision making on intrinsic motivation. First, the control variables were included in the regression, in order to control for variation explained by other variables (Keith, 2006). Subsequently, the job quality dimensions and D-A fit were included in the regression. The hypothesis was confirmed when the relationship was positive and significant ($p < .05$). Hypothesis 2 concerns the moderating effect of Demands-Abilities fit. This moderating effect was examined by first calculating the cross-product terms of the intrinsic job quality dimensions with D-A fit (Cohen, 1978). Thereafter, these cross-products were added in the regression equation. The hypotheses were confirmed when the associations of the cross-products with intrinsic motivation were positive and significant ($p < .05$) (Keith, 2006). Furthermore, in order to facilitate interpretation, the significant interaction effects were analyzed using simple effects analysis for respondents scoring low, average and high on D-A fit. Additionally, the significant interaction effects were plotted in a figure (Preacher, Rucker, & Hayes, 2007), at one standard deviation above and below the mean of D-A fit (Aiken & West, 1991; Cohen & Cohen, 1983). By this means, regression equations were created and plotted for employees high and low on Demands-Abilities fit.

4. Results

This section provides an overview of the results of the statistical analyses that were conducted.

4.1 Descriptive statistics and correlations

Table 2 shows the means, standard deviations and the Pearson's correlations of the variables included in this study.

The intrinsic job quality dimensions measured in this study were all significantly correlated to each other. Skill use was positively correlated with autonomy ($r = .55, p < .01$) and participative decision making ($r = .59, p < .01$). Furthermore, also participation and autonomy were positively correlated ($r = .64, p < .01$). This indicates that a high score on one job quality dimension, was also accompanied by high scores on the other dimensions.

The job quality dimensions were all positively correlated to intrinsic motivation as well. Respondents with a high level of skill use, reported a higher level of intrinsic motivation ($r = .69, p < .01$). Furthermore, intrinsic motivation was higher when employees reported a higher level of autonomy ($r = .48, p < .01$) and participation in decision making ($r = .53, p < .01$). Finally, also the job quality index was highly correlated with intrinsic motivation ($r = .68, p < .01$).

The moderating variable D-A fit was positively correlated to intrinsic motivation as well ($r = .67, p < .01$). In addition, D-A fit was positively correlated to skill use ($r = .60, p < .01$), autonomy ($r = .39, p < .01$), participation ($r = .47, p < .01$), and job quality ($r = .59, p < .01$). These correlations indicate that

when D-A fit increases, employees report a higher level of intrinsic job quality and intrinsic motivation.

Three control variables were excluded in continuation of this paper. The correlations of gender with the (in-)dependent variables were all very low, and therefore gender was excluded from further analyses. Furthermore, because tenure and age were highly correlated ($r=.60, p<.01$) as well as tenure and type of contract ($r=.67, p<.01$), it was chosen to exclude age and type of contract in continuation of this paper to increase statistical power. On the other hand, the control variable education did show significant negative correlations with intrinsic motivation ($r=-.24, p<.01$), skill use ($r=-.41, p<.01$), participation ($r=-.18, p<.01$), job quality ($r=-.29, p<.01$) and D-A fit ($r=-.48, p<.01$). Finally, also organizational tenure was significantly related to intrinsic motivation ($r=.25, p<.01$), skill use ($r=.22, p<.01$), participation ($r=.18, p<.05$), job quality ($r=.23, p<.05$), and D-A fit ($r=.34, p<.01$).

Table 2
Means, standard deviations and correlations

	N	M	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. Intrinsic Motivation	136	4.32	1.53								
2. Skill use	137	2.26	0.63	.69**							
3. Autonomy	132	2.42	0.58	.48**	.55**						
4. Participative Decision Making	135	2.23	0.55	.53**	.59**	.64**					
5. Job quality	126	2.30	.51	.68**	.85**	.85**	.87**				
6. Demands-Abilities fit	138	2.93	1.00	.67**	.60**	.39**	.47**	.59**			
7. Education ¹	134	-	-	-.24**	-.41**	-.13	-.18*	-.29**	-.48**		
8. Job tenure (yr.)	141	8.36	9.11	.25**	.22**	.12	.18*	.23*	-.34**	-.20*	

N varies from 126 to 141 due to missing values

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

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

¹ Education was divided into two groups 0= lower education (including primary school, lower vocational education, and senior secondary education; N= 72) and 1= higher education (including secondary vocational education, upper secondary education, higher professional education, and academic education; N= 62)

4.2 Regression analyses

In order to test the conceptual model hierarchical regression analyses were conducted.

4.2.1 Hypothesis 1

Model 1 to 3 in table 3 display the results of the regression analyses of the job quality dimensions on intrinsic motivation. Using regression analyses the following hypotheses were tested (H1): *Employee reports of (a) skills used, (b) autonomy, and (c) participation in decision making on the job are positively associated with intrinsic motivation.*

Model 1 solely included the two control variables, which explained 10% of the variance in intrinsic motivation. In this model education was negatively associated with intrinsic motivation ($\beta = -.19$, $p < .05$). Furthermore, organizational tenure was positively associated with intrinsic motivation ($\beta = .21$, $p < .05$).

Due to the high correlations between the three job quality dimensions, an accurate measurement of the separate hypotheses was complicated. The strong correlations might suppress the effects of the separate job quality dimensions. Therefore, it was chosen to solely interpret the results of the job quality index in this study. Thus, in model 2, the job quality index was included in the regression. The incorporation of the job quality index led to an R^2 of .47. The association between job quality and intrinsic motivation was positive and significant ($\beta = .65$, $p < .01$). Adding this dimension to the model resulted in insignificant coefficients for the control variables.

Model 3 included the variable D-A fit. The incorporation of this variable led to an R^2 of .58. In this model D-A fit was positively related to intrinsic motivation ($\beta = .46$, $p < .01$). Furthermore, the association between job quality and intrinsic motivation remained significant ($\beta = .44$, $p < .01$). Hence, hypothesis 1 was confirmed. The control variables remained insignificant in this model as well.

Table 3

*Hierarchical regression analyses predicting intrinsic motivation from job quality, D-A fit, and job quality*D-A fit*

Variables	Model 1			Model 2			Model 3			Model 4		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Education	-.59	.26	-.19*	-.09	.22	-.03	.35	.21	.11	.35	.21	.12
Tenure	.04	.01	.21*	.02	.01	.10	.00	.01	.02	.00	.01	.02
Job quality				1.9	.22	.65**	1.32	.23	.44**	1.86	.60	.62**
D-A fit							.70	.13	.46**	1.08	.41	.70**
Job quality*D-A fit										-.17	.17	-.38
Total R ²	.10			.47			.58			.58		
R ² -change	.10			.37			.11			.00		
F-value	6.95**			34.29**			39.35**			31.39**		
F-change	6.95**			81.27**			29.38**			.96		

Note. B= unstandardized regression coefficient; β = standardized regression coefficient; SE= standard error.

N varies from 120 to 130 due to missing values

** Significant at the 0.01 level (2-tailed)

* Significant at the 0.05 level (2-tailed)

4.2.2 Hypothesis 2

Model 4 in table 3 shows the results of the regression analysis in which the interaction term was included. Using regression analysis, the following hypotheses were tested (H2): *Employee reports of Demands-Abilities fit moderate the relationships of (a) skill use, (b) autonomy, and (c) participative decision making with intrinsic motivation such that the relationship will be weaker when Demands-Abilities fit is low compared to when it is high.*

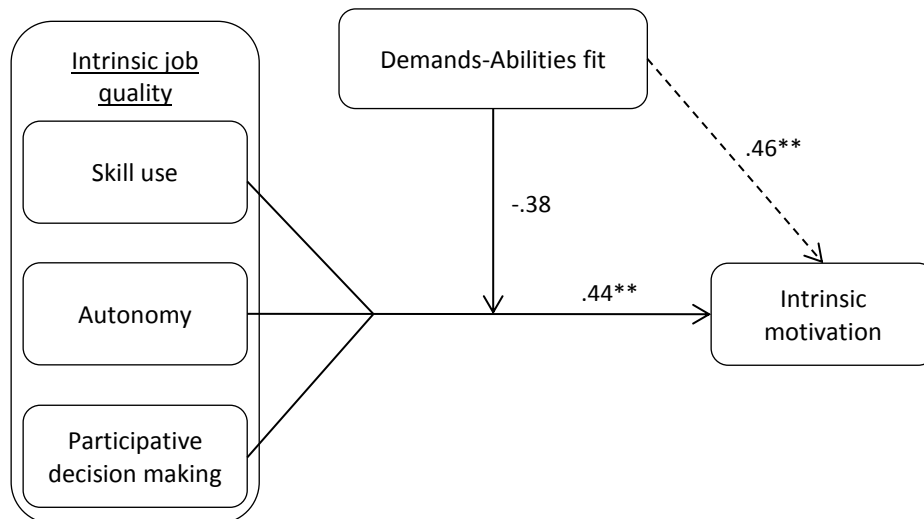
Also in this analysis the high correlations between the job quality dimensions were an issue of concern. Therefore, taking this into account, solely the results of the job quality index were interpreted.

Model 4 included the cross-product term of D-A fit and job quality, which led to no increase in the explained variance in intrinsic motivation. The moderating effect was negative and insignificant ($\beta = -.38, p = .33$). Therefore, hypothesis 2 was rejected. Furthermore, the positive associations of job quality ($\beta = .62, p < .01$) and D-A fit ($\beta = .70, p < .01$) remained apparent in this model. Finally, in this model, the control variables remained insignificant.

In Figure 2 the main results of this study are presented.

Figure 2.

The relationships between the main variables of this study.



5. Conclusion and Discussion

This study examined the extent to which the relationships of skill use, autonomy, and participative decision making (i.e. intrinsic job quality) with intrinsic motivation were moderated by Demands-Abilities fit. Data was collected using questionnaires, which were completed by 144 logistics employees performing low-skilled jobs. The data confirmed a positive relationship between intrinsic job quality (i.e. skill use, autonomy and participative decision making) and the intrinsic motivation of employees (H1). This indicates that the higher quality of the job, the higher the intrinsic motivation of employees will be. Unfortunately, however, the results indicated that D-A fit had no moderating impact on the relationship between job quality and intrinsic motivation (H2).

5.1 Interpretation

In this section, an explanation and interpretation of the results is given.

5.1.1 Hypothesis 1

The first hypothesis suggested that high levels of (a) skill use, (b) autonomy, and (c) participation in decision making would positively impact the intrinsic motivation of employees.

Based on the job quality index, hypothesis 1 was supported. The results are in line with the meta-analyses conducted by Fried and Ferris (1987), Humphrey et al. (2007), and Spector (1986). These studies demonstrated that when employees experienced a high level of skill variety, autonomy and participation, they had a higher intrinsic (work) motivation. Moreover, in the reported studies by Fried and Ferris (1987), Houkes et al. (2003), and Janssen et al. (1999) an index was created as well, which was based on several work characteristics. The results of these studies are in line with the present study, namely: there is a positive relationship between work characteristics (i.e. job quality) and intrinsic motivation. Current results also correspond with the JCM (Hackman & Oldham, 1976), which suggests that enriched and complex jobs have a higher motivating potential because they are perceived as stimulating, interesting, and attractive by employees. Hence, in conclusion, the results of this study suggest that also in this non-standard context, a high level of job quality is valued by employees and results in a higher level of intrinsic motivation. Even though objective job quality might be considerably lower in the context of low-skilled work (Kalleberg et al., 2000), the perception of job quality might be of greater importance. This was also reflected in the distributions of respondents' scores on the job quality scales. The score-distributions were not skewed to the left, based on which it could be argued that perceptions of job quality vary among contexts and employees.

5.1.2 Hypothesis 2

The second hypothesis proposed that the positive relationships of (a) skill use, (b) autonomy, and (c) participative decision making with intrinsic motivation were moderated by Demands-Abilities fit, such that the relationship would be weaker for employees whose abilities do not fit the demands of the job. Unfortunately, this hypothesis was not supported in this study, meaning that intrinsic job quality influences intrinsic motivation regardless of employees' level of D-A fit. Nevertheless, it is interesting to note that D-A fit did have a positive association with intrinsic motivation. This indicates that as employees' fit with the job increases, employees are also more intrinsically motivated. This outcome is in line with the meta-analysis by Kristof-Brown et al. (2005), which indicated that a high level of P-J fit was positively related to employee attitudes (even though intrinsic motivation was not included).

Unfortunately, however, D-A fit seemed to have insufficient impact to attenuate the positive effect of job quality on intrinsic motivation. The degree of fit does not seem to overrule the positive feelings that job quality raises. This finding is in line with Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000a, 2000b). According to SDT, individuals have three needs: the needs for competence, relatedness, and autonomy. These needs might be partially satisfied by a high level of skill use, autonomy and participation. SDT proposes that when the three needs are satisfied, this leads to intrinsic motivation (Ryan & Deci, 2000b). However, the theory proposes that the three needs are universal (Deci & Ryan, 1985). It does not take into account the intensity of the desire for these needs (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Therefore, one might argue that regardless of the level of D-A fit (which might determine the intensity of the needs), the needs of all employees are satisfied by a high level of intrinsic job quality, which will result in a high intrinsic motivation.

Furthermore, one might suggest that the context of low-skilled work is an important factor influencing the relationships in this study. As indicated by the correlation between D-A fit and education (presented in table 2), overqualification is more likely to occur in this context ($r = -.48$, $p < .01$). Therefore, current outcomes are not representative for underqualified employees. One might suggest that underqualification might still have a significant moderating impact in contexts where this is more likely to occur. This proposition might be substantiated by the moderator 'knowledge and skill' in the JCM, which puts more emphasis on the assumption that employees have insufficient skills for the demands of the job (i.e. underqualification). The model does not (explicitly) take overqualification into account. Therefore, based on the JCM, one might suggest that underqualification might still have a significant moderating impact. Underqualified employees might feel unable to perform their job sufficiently even though their job is high on motivating potential, which might result in a lower intrinsic motivation (Kulik et al., 1987).

In addition, it could be argued that intrinsic job quality might be of greater importance in this specific context, because this context is characterized by low extrinsic rewards (Appelbaum et al., 2003). A meta-analysis by Deci, Koestner, and Ryan (1999) demonstrated that high extrinsic rewards decrease intrinsic motivation. This is in line with Cognitive Evaluation Theory (CET), which is a subtheory of SDT. This theory proposes that rewards could be interpreted by employees as controllers for behavior (Deci et al., 1999), which lead to an external perceived locus of causality and will lead to decreased intrinsic motivation (Deci, Koestner, & Ryan, 2001). Due to the low extrinsic rewards, it could be argued that employees are more likely to be driven by the intrinsic rewards received by the intrinsic job quality dimensions. Hence, in this context, a high level of skill use, autonomy, and participation might be of such great value for these employees that its effect on intrinsic motivation will not be attenuated by D-A fit. The direct effect might therefore outweigh the moderating impact of D-A fit.

On the other hand, D-A fit might indeed affect the relationship between job quality and performance; although in the opposite direction. Logically, whether an employee possesses sufficient knowledge and skills to perform the job has a large impact on performance (Erdogan & Bauer, 2009). The effect of intrinsic job quality on employee performance might be more largely dependent on D-A fit than the effect of job quality on intrinsic motivation will be. When employees perceive to be overqualified, they have more skills than required for the job, which might lead to a higher performance (Erdogan & Bauer, 2009). Hence, the effect of job quality on performance will be stronger when employees are overqualified. On the other hand, underqualified employees might have a lower performance when job quality is high. Intrinsic motivation, on the other hand, might be based on innate needs which are universal. Therefore all job quality dimensions could contribute to the intrinsic motivation of employees, regardless of employees' level of qualification.

Overall, it is apparent that the educational level of the respondents influences current study's results. By comparing the means of the groups of qualified and overqualified employees (based on their educational level) using a t-test, it was demonstrated that overqualified employees significantly reported a lower level of job quality, intrinsic motivation, and D-A fit. This effect might be explained by feelings of relative deprivation among overqualified employees (Crosby, 1984). Highly educated employees tend to have higher expectations about their job (e.g., a high level of autonomy) (Vaisey, 2006), which cannot be fulfilled by their low-skilled jobs (Kalleberg, 2011). Hence, because almost half of the group of respondents were overqualified (N=62), these feelings of relative deprivation might have pressed current study's results. One might suggest that in other contexts the effect sizes would be stronger, and as argued before, D-A fit (i.e. underqualification) might still have a moderating impact.

5.2 Limitations

Several limitations with regard to the present study need to be taken into account.

First of all, this study had a cross-sectional research design. Therefore no causal inferences could be drawn from the data and there could not be controlled for temporary factors affecting the respondents (e.g., mood states).

Furthermore, due to the use of a questionnaire which was based on self-report measures, some source bias is possible. This could have influenced the effect sizes of the present study (Doty & Glick, 1998). However, it should be noted that objective measurements (e.g., age and type of contract) did significantly correlate with subjective measurements. Hence, it could be argued that self-report measures had a limited impact on this study's results.

Thirdly, the results might have a limited generalizability. Due to the relatively small sample size and the use of a convenience sample, it is hard to generalize the results to a larger population of employees performing low-skilled work. In addition, a large majority of the sample consists out of men (82.6%). Although this is also apparent within the logistics sector (*Monitor Topsectoren*, 2012), this might influence the representativeness of this study's results for other low-skilled jobs.

Furthermore, the sample composition might have influenced the ICC(1) values. The sizes of the groups in which the respondents were nested, were not ideal for getting the required ICC(1) values. For example, 41% of the respondents represented the company Jan Linders. This increases the likelihood of a large group of employees influencing the total dataset. Nevertheless, as demonstrated in table 1, the ICC(1) values were not very severe.

Another limitation might be the measurement scales used in this study. The existing measurement scales were pre-tested among 10 low-educated respondents and were adjusted based on these results. However, no extensive tests preceded the actual data collection. One might suggest that some of the items of the measurement scales were still too difficult and unclear for the respondents. Besides that, the researchers were inexperienced with rewriting items in order to improve comprehensibility. This might have impacted the results as well. Furthermore, there might be some issues of concern regarding the measurement scale for D-A fit. First of all, the measurement scale was rather short: only three items measured the concept D-A fit. In addition, the scale did not completely cover the concept D-A fit as defined by Edwards (1996). The current scale focused primarily on the match between the skills of the respondent and the demands of the job. However, the definition by Edwards (1996) covers a wider range of abilities (skills, knowledge, time, and energy) and demands (objective or socially constructed). Therefore, the construct validity of the scale was questionable. Besides that, the measurement scale made no distinction between over- and underqualification for the job. However, it should be noted that scale reliability was good (α .84) and this scale is commonly used in studies concerning Person-Job fit.

A seventh limitation is the data-collection procedure. The respondents were at work while filling in the questionnaire (except the respondents of the postal company). The respondents were surrounded by colleagues, and in some cases their supervisors and the researchers. This makes social desirability an issue of concern. Although it was attempted to ensure anonymity by letting respondents return the questionnaire in an envelope in a mailbox, social desirable answers were difficult to avoid under these circumstances.

Finally, one might argue that other aspects might also influence the intrinsic motivation of employees. For example, other aspects of the JCM (Hackman & Oldham, 1976). Therefore, this study does not provide a complete picture of the issues affecting intrinsic motivation. Additionally, this study also does not provide a full overview of the outcomes associated with the intrinsic job quality dimensions.

5.3 Recommendations for future research

In order to draw causal inferences from the dataset and to decrease the impact of temporary factors influencing results, it is recommended for future research to apply a longitudinal research design.

It is furthermore recommended for future research to use a combination of objective data sources (e.g., ratings by supervisors, or observers) and self-report measures to assess the job quality dimensions in this study. Even though the items assessing the intrinsic job quality dimensions were virtually objective and different scale ranges were used for measuring the variables in this study, common method variance is still an issue of concern. One might suggest that objective information is the best measurement solution for the job quality dimensions. However, because in this study the individual perceptions of the job quality dimensions influence the intrinsic motivation of respondents, self-reports are also valid and useful (Glick, Jenkins, & Gupta, 1986). Therefore, a combination of both data sources might be more appropriate (Gupta & Beehr, 1982).

In order to improve generalizability of results, it is recommended to use a random sample and a bigger sample size. In this manner, the sample is more representative of low-skilled work in logistics jobs. Furthermore, a future sample should contain a proportional distribution of represented companies and functions.

Another recommendation for future research is to let respondents fill in the questionnaire in a quiet setting. By this means, the questionnaire is completed at an easy pace and without factors influencing social desirable answers (e.g., supervisor, colleagues).

Perhaps one of the most important recommendations is to conduct more research in the field of low-skilled work. As mentioned previously, the context of low-skilled work is a research area that has received little empirical attention. Therefore, in order to improve understanding of this research field and the relationships examined in this study, future research should focus on this field of study. In

addition, future research should focus on developing measurement scales for low-skilled workers, as conventional measurement scales are often insufficient for this specific population.

Furthermore, there seems to be little consensus in the literature about the appropriate measurement scale for intrinsic motivation. A large variety of measurement scales are used in empirical studies, all of which have different definitions and focus points. This made it difficult to choose a sufficient measurement scale. Future research should, therefore, focus on developing a widely accepted measurement scale for intrinsic motivation.

On top of that, it is recommended to reassess the measurement scale for D-A fit of Cable and DeRue (2002) and to examine its construct validity. As mentioned above, the items of the scale do not completely reflect the definition of D-A fit by Edwards (1996).

Additionally, the conceptual model could be expanded in future studies. Previous studies have distinguished a large variety of job characteristics influencing intrinsic motivation, as well as a larger amount of possible outcomes of job characteristics (e.g., Humphrey et al., 2007). Therefore, the present model could be expanded by including more job characteristics and more employee outcomes.

Finally, as pointed out by Erdogan and Bauer (2005), more research should focus on the moderating impact of P-J fit. Although the present study did not produce the expected outcomes, it certainly deserves further exploration. Especially, using a bigger sample size and including other outcome variables. In addition, the moderating effect might indeed be apparent in other research areas where underqualification is more likely to occur. Furthermore, the concept 'knowledge and skill' identified as a moderator by the JCM, should also receive more empirical attention.

5.4 Conclusion and implications

Despite some limitations, this study also made significant contributions to theory and practice.

From a theoretical point of view, this research contributes to a better understanding of the proposed relationships in the context of low-skilled logistics work. This study contributes to studies examining whether the propositions of the JCM are also applicable to non-standard contexts. Furthermore, it provides more insight in the moderating impact of D-A fit. The unexpected results ask for a follow-up study, which should provide a better understanding of this effect.

Additionally, in practice, the results of this study demonstrate that organizations should invest in a high level of skill use, autonomy and participation when designing jobs. A high level of skill use might be achieved through job rotation, or job enlargement which leads to a broader variety of tasks (Cummings & Worley, 2009). Furthermore, job autonomy might be increased by making employees responsible for their own planning, or by letting employees do troubleshooting. Finally, employee participation could be increased by regular meetings and consultations, or by frequent attitude

surveys (for example, about the employees' supervisors, the quality of HR practices, and communication) (Boselie, 2010). The higher job quality that is accomplished by these actions improves the intrinsic motivation of employees. Moreover, a motivated workforce is especially valuable in the current economic crisis, because motivation leads to 'production' (Ryan & Deci, 2000b). Therefore, improving the intrinsic job quality might be a relevant issue for current organizations.

Besides that, even though the objective job quality is low in this context (Kalleberg et al., 2000), the current study's results did not indicate that employees also perceived a low job quality. The responses on the measurement scales were all normally distributed. This indicates that the perceived intrinsic job quality might be different from reality. Therefore, it could be argued that intrinsic motivation might be increased through influencing employees' perception of the intrinsic quality of the job. This might be accomplished through regular communication about the importance of job quality in the organization, and about the efforts the organization undertakes to accomplish this.

Finally, this study indicates that even though extrinsic rewards are low in this context (Appelbaum et al., 2003), intrinsic job quality also leads to an increase in employee motivation. Therefore, the importance of job design is reaffirmed in this study. Moreover, research has indicated that through adjustments in job design both intrinsic motivation and cost-savings can be realized (Appelbaum et al., 2003). Thus, especially in this context, it might be important for organizations to focus on intrinsic job quality in order to maintain a motivated workforce.

To conclude, this study provides a better understanding of the context of low-skilled work and gives important pointers for future research. Altogether, there are still plenty interesting issues to examine in this exceptional context. The question therefore remains, low-skilled work: non-standard context, (non-)standard results?

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Appelbaum, E., Bernhardt, A., & Murnane, R. J. (2003). *Low-wage America: How employers are reshaping opportunity in the workplace*. Russell Sage Foundation.
- Bartlett, M. S. (1954). A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society*, 16(2), 296–298. Retrieved from <http://www.jstor.org/stable/2984057>
- Bliese, P. D. (2000). Within-group agreement, non-interdependence, and reliability. In *Multilevel Theory Research and Methods in Organizations: Foundations, Extensions, and New Directions* (pp. 349–381). San Francisco, CA, US: Jossey-Bass.
- Blumberg, M., & Pringle, C. D. (1982). The missing opportunity in organizational research: Some implications for a theory of work performance. *The Academy of Management Review*, 7(4), 560–569. doi:10.5465/AMR.1982.4285240
- Boon, C., Den Hartog, D. N., Boselie, P., & Paauwe, J. (2011). The relationship between perceptions of HR practices and employee outcomes: Examining the role of Person–Organisation and Person–Job fit. *The International Journal of Human Resource Management*, 22(1), 138–162. doi:10.1080/09585192.2011.538978
- Borgen, W. A., Amundson, N. E., & Harder, H. G. (1988). The experience of underemployment. *Journal of Employment Counseling*, 25(4), 1988. doi:10.1002/j.2161-1920.1988.tb00918.x
- Boselie, P. (2010). *Strategic human resource management* (Vol. 2014). Berkshire: McGraw-Hill Education.
- Boxall, P., & Purcell, J. (2011). *Strategy and human resource management*. Houndmills: Palgrave MacMillan.
- Cable, D. M., & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology*, 87(5), 875–884. doi:10.1037//0021-9010.87.5.875
- Campbell, J. P., McCloy, R., Oppler, S., & Sager, C. (1993). “A theory of performance” In: Schmitt, N. and Borman, W. (eds). In *Personnel Selection in Organizations*. San Francisco: Jossey-Bass.

- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245–276. doi:10.1207/s15327906mbr0102
- Cohen, J. (1978). Partialled products are interactions; partialled powers are curve components. *Psychological Bulletin, 85*(4), 858–866. doi:10.1037//0033-2909.85.4.858
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cooke, G. B., Donaghey, J., & Zeytinoglu, I. U. (2013). The nuanced nature of work quality: Evidence from Rural Newfoundland and Ireland. *Human Relations, 66*(4), 503–527. doi:10.1177/0018726712464802
- Crosby, F. (1984). Relative deprivation in organizational settings. In B. M. Staw & L. L. Cummings (Eds.). In *Research in Organizational Behavior*. Greenwich, CT: JAI Press.
- Cummings, T. G., & Worley, C. G. (2009). *Organizational development & change* (9th Intern.). South-Western CENGAGE Learning. Mason, OH.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology, 74*(4), 580–590. doi:10.1037/0021-9010.74.4.580
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*(6), 627–668. doi:10.1037/0033-2909.125.6.627
- Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research, 71*(1), 1–27. doi:10.3102/00346543071001001
- Deci, E., & Ryan, R. (1985). *Self-determination*. John Wiley & Sons, Inc.
- Doty, D. H., & Glick, W. H. (1998). Common methods bias: Does common methods variance really bias results? *Organizational Research Methods, 1*(4), 374–406. doi:10.1177/109442819814002
- Edwards, J. (1991). *Person-Job fit: A conceptual integration, literature review, and methodological critique*. Oxford: John Wiley & Sons.

- Edwards, J. R. (1996). An examination of competing versions of the Person-Environment fit approach to stress. *The Academy of Management Journal*, 39(2), 292–339. doi:10.2307/256782
- Erdogan, B., & Bauer, T. N. (2005). Enhancing career benefits of employee proactive personality: The role of fit with jobs and organizations. *Personnel Psychology*, 58(4), 859–891. doi:10.1111/j.1744-6570.2005.00772.x
- Erdogan, B., & Bauer, T. N. (2009). Perceived overqualification and its outcomes: The moderating role of empowerment. *The Journal of Applied Psychology*, 94(2), 557–65. doi:10.1037/a0013528
- Findlay, P., Kalleberg, a. L., & Warhurst, C. (2013). The challenge of job quality. *Human Relations*, 66(4), 441–451. doi:10.1177/0018726713481070
- Frey, B. S., & Osterloh, M. (2002). *Successful management by motivation: Balancing intrinsic and extrinsic incentives*. Springer.
- Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology*, 40(2), 287–322. doi:10.1111/j.1744-6570.1987.tb00605.x
- Gallie, D. (2013). Direct participation and the quality of work. *Human Relations*, 66(4), 453–473. doi:10.1177/0018726712473035
- Glick, W. H., Jenkins, G. D., & Gupta, N. (1986). Method versus substance: How strong are underlying relationships between job characteristics and attitudinal outcomes? *The Academy of Management Journal*, 29(3), 441–464. doi:10.2307/256218
- Gupta, N., & Beehr, T. A. (1982). A test of the correspondence between self-reports and alternative data sources about work organizations. *Journal of Vocational Behavior*, 20, 1–13.
- Hackman, J., & Oldham, G. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16, 250–279. doi:10.1016/0030-5073(76)90016-7
- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Holman, D. (2013). Job types and job quality in Europe. *Human Relations*, 66(4), 475–502. doi:10.1177/0018726712456407

- Houkes, I., Janssen, P. P. M., Jonge, J. De, & Bakker, A. B. (2003). Specific determinants of intrinsic work motivation, emotional exhaustion and turnover intention: A multisample longitudinal study. *Journal of Occupational and Organizational Psychology, 76*, 427–450.
doi:10.1348/096317903322591578
- Houkes, I., Janssen, P. P. M., Jonge, J. De, & Nijhuis, F. J. N. (2001). Work and individual determinants of intrinsic work motivation, emotional exhaustion, and turnover intention: A multi-sample analysis. *International Journal of Stress Management, 8*(4), 257–283.
doi:10.1080/13594320042000007
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *The Journal of Applied Psychology, 92*(5), 1332–1356. doi:10.1037/0021-9010.92.5.1332
- Janssen, P. P., Jonge, J. D., & Bakker, A. B. (1999). Specific determinants of intrinsic work motivation, burnout and turnover intentions: A study among nurses. *Journal of Advanced Nursing, 29*(6), 1360–9. doi:10.1046/j.1365-2648.1999.01022.x
- Johnson, W. R., Morrow, P. C., & Johnson, G. J. (2002). An evaluation of a perceived overqualification scale across work settings. *The Journal of Psychology, 136*(4), 425–441.
doi:10.1080/00223980209604169
- Josten, E. (2010). *Minder werk voor laagopgeleiden? Ontwikkelingen in baanbezit en baankwaliteit 1992-2008*. Den Haag: Sociaal en Cultureel Planbureau.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31–36.
doi:10.1007/BF02291575
- Kalleberg, A. L. (2008). The mismatched worker: When people don't fit their jobs. *Academy of Management Perspectives, 22*(1), 24–40. doi:10.5465/AMP.2008.31217510
- Kalleberg, A. L. (2011). *Good jobs, bad jobs: The rise of polarized and precarious employment systems in the United States*. Russell Sage Foundation.

- Kalleberg, A. L., Reskin, B. F., & Hudson, K. (2000). Bad jobs in America: Standard and nonstandard employment relations and job quality in the United States. *American Sociological Review*, *65*(2), 256–278. Retrieved from <http://www.jstor.org/stable/2657440>
- Katzell, R. A., & Thompson, D. E. (1990). Work motivation theory and practice. *American Psychologist*, *45*(2), 144–153. doi:10.1037/0003-066X.45.2.144
- Keith, T. Z. (2006). *Multiple regression and beyond* (Vol. 31). Boston: Pearson Education, Inc.
- Khan, L. J., & Morrow, P. C. (1991). Objective and subjective underemployment relationships to job satisfaction. *Journal of Business Research*, *22*(3), 211–218. doi:10.1016/0148-2963(91)90002-F
- Klein, K. J., & Kozlowski, S. W. J. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods*, *3*(3), 211–236. doi:10.1177/109442810033001
- Kooij, D., Lange, A. De, Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age. A conceptual review. *Journal of Managerial Psychology*, *23*(4), 364–394. doi:10.1108/02683940810869015
- Kreft, I. G., & De Leeuw, J. (1998). *Introducing multilevel modeling*. Thousand Oaks, CA: Sage.
- Kristof, A. L. (1996). Person-Organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, *49*(1), 1–49. doi:10.1111/j.1744-6570.1996.tb01790.x
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of Person-Job, Person-Organization, Person-Group, and Person-Supervisor fit. *Personnel Psychology*, *58*(2), 281–342. doi:10.1111/j.1744-6570.2005.00672.x
- Kulik, C. T., Oldham, G. R., & Hackman, J. R. (1987). Work design as an approach to Person-Environment fit. *Journal of Vocational Behavior*, *31*(3), 278–296. doi:10.1016/0001-8791(87)90044-3
- Kuvaas, B. (2006). Work performance, affective commitment, and work motivation: The roles of pay administration and pay level. *Journal of Organizational Behavior*, *27*(3), 365–385. doi:10.1002/job.377

- Lambert, S. J. (1991). The combined effects of job and family characteristics on the job satisfaction, job involvement, and intrinsic motivation of men and women workers. *Journal of Organizational Behavior*, 12(4), 341–363. doi:10.1002/job.4030120408
- Lauver, K. J., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of Person–Job and Person–Organization fit. *Journal of Vocational Behavior*, 59(3), 454–470. doi:10.1006/jvbe.2001.1807
- Lobene, E., & Meade, A. W. (2010). Perceived overqualification: An exploration of outcomes. In *Paper presented at the 25th annual meeting of the society for industrial and organizational psychology*. Atlanta, GA. doi:10.1037/e518392013-311
- Loughlin, C., & Murray, R. (2013). Employment status congruence and job quality. *Human Relations*, 66(4), 529–553. doi:10.1177/0018726712460705
- Maynard, D. C., Joseph, T. A., & Maynard, A. M. (2006). Underemployment, job attitudes, and turnover intentions. *Journal of Occupational Behaviour*, 27, 509–536. doi:10.1002/job.389
- Monitor Topsectoren*. (2012). Den Haag/Heerlen: Centraal Bureau voor de Statistiek. Retrieved from <http://www.cbs.nl/NR/rdonlyres/FA8F2205-3054-41D9-A206-BC9D13F7ECBF/0/monitorentopsectorenresultatenweb.pdf>
- Okay-Somerville, B., & Scholarios, D. (2013). Shades of grey: Understanding job quality in emerging graduate occupations. *Human Relations*, 66(4), 555–585. doi:10.1177/0018726712465094
- Pallant, J. (2010). *SPSS survival manual* (4th ed.). Berkshire: McGraw-Hill Education.
- Pinder, C. (1984). *Work motivation: Theory, issues, and applications*. Glenview, IL: Scott, Foresman & Co.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227. doi:10.1080/00273170701341316
- Purcell, K., Hogarth, T., & Simm, C. (1999). *Whose flexibility? The costs and benefits of “non-standard” working arrangements and contractual relations*. York: York Publishing Services Ltd.

- Ritchie, J., & Lewis, J. (2003). *Qualitative research practice: A guide for social science students and researchers*. London: Sage Publications.
- Ryan, R., & Deci, E. (2000a). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67. doi:10.1006/ceps.1999.1020
- Ryan, R., & Deci, E. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78. doi:10.1037/0003-066X.55.1.68
- Spector, P. E. (1986). Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work. *Human Relations, 39*(11), 1005–1016. doi:10.1177/001872678603901104
- Tiegs, R. B., Tetrick, L. E., & Fried, Y. (1992). Growth need strength and context satisfactions as moderators of the relations of the job characteristics model. *Journal of Management, 18*(3), 575–593. doi:10.1177/014920639201800308
- Vaisey, S. (2006). Education and its discontents: Overqualification in America, 1972-2002. *Oxford University Press, 85*(2), 835–864. doi:10.1353/sof.2007.0028
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In *Advances in experimental social psychology* (29th ed., pp. 271–360). New York: Academic Press.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress, 22*(3), 277–294. doi:10.1080/02678370802393672
- Van Veldhoven, M. J. P. M., & Meijman, T. F. (1994). *Het meten van de psychosociale arbeidsbelasting met een vragenlijst beleving en beoordeling van de arbeid (VBBA)*. Nederlands Instituut voor Arbeidsomstandigheden NIA.
- Van Yperen, N. W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation or fatigue or both? The role of job control and job social support. *The Academy of Management Journal, 46*(3), 339–348. doi:10.2307/30040627
- Verhaest, D., & Omey, E. (2006). The impact of overeducation and its measurement. *Social Indicators Research, 77*(3), 419–448. doi:10.1007/s11205-005-4276-6

Vidal, M. (2013). Low-autonomy work and bad jobs in postfordist capitalism. *Human Relations*, 66(4), 587–612. doi:10.1177/0018726712471406

Appendix A – Questionnaire

Instructies

Graag bij het invullen van deze enquête het gehele vakje in kleuren of het cijfer omcirkelen bij de optie van uw keuze. Wanneer u uw antwoord wilt aanpassen, kunt u dit doen door een kruis door uw antwoord te zetten. Wij verzoeken u om naderhand te controleren of u de vragenlijst volledig heeft ingevuld.

In het eerste gedeelte van deze enquête worden er algemene vragen gesteld over uw persoonlijke situatie. Vervolgens wordt dieper ingegaan op uw werk en de manier waarop u dit ervaart.

Algemene vragen

- | | | | |
|----|--|--|--|
| 1. | Wat is uw geslacht? | <input type="checkbox"/> Man | <input type="checkbox"/> Vrouw |
| 2. | Wat is uw leeftijd? | jaar | |
| 3. | Bent u met de Nederlandse taal opgegroeid? | <input type="checkbox"/> Ja | <input type="checkbox"/> Nee |
| 4. | Wat is de hoogste opleiding die u heeft afgemaakt? | <input type="checkbox"/> Basisonderwijs | <input type="checkbox"/> Lager Beroepsonderwijs
(MBO niveau 1, MBO niveau 2) |
| | | <input type="checkbox"/> Middelbaar voortgezet onderwijs
(MAVO, MULO) | <input type="checkbox"/> Middelbaar beroepsonderwijs
(MBO niveau 3, MBO niveau 4) |
| | | <input type="checkbox"/> Hoger voortgezet onderwijs (HAVO, VWO) | <input type="checkbox"/> Hoger beroepsonderwijs |
| | | <input type="checkbox"/> Wetenschappelijk onderwijs | |
| 5. | Wat is uw functie? | <input type="checkbox"/> Postbode | <input type="checkbox"/> Postbezorger |
| | | <input type="checkbox"/> Magazijn medewerker | <input type="checkbox"/> Logistiek medewerker |
| | | <input type="checkbox"/> Chauffeur | |
| 6. | In welke plaats bent u werkzaam? | <input type="checkbox"/> Gennep | <input type="checkbox"/> Malden |
-

-
- Bergen
 - Oisterwijk
 - Son
 - Roosendaal
 - Beugen

7. Op welke afdeling werkt u meestal?

- Postbedrijf
- KruideniersWaren (KW, Jan Linders)
- Koeling (Jan Linders)
- Emballage (Jan Linders)
- Magazijn (zorginstelling)
- Logistiek (zorginstelling)
- Magazijn (van den Anker)
- Magazijn (Reinders)

8. Hoe lang werkt u al in deze organisatie? jaar

9. Hoeveel uren werkt u gemiddeld per week? uur

10. Wat voor soort contract heeft u?

- Vast contract
 - Tijdelijk contract
 - Uitzendkracht
-

De volgende vragen gaan over de werkzaamheden die u in uw huidige baan uitvoert. Probeer tijdens het beantwoorden van deze vragen aan dit werk te denken. Omcirkel het cijfer dat het beste bij uw werk past.

Afwisseling in het werk

	Nooit (1)	Soms (2)	Vaak (3)	Altijd (4)
1. Moet u in uw werk telkens dezelfde dingen doen?	1	2	3	4
2. Is voor uw werk creativiteit vereist?	1	2	3	4
3. Is uw werk gevarieerd?	1	2	3	4
4. Vraagt uw werk om zelf met ideeën te komen?	1	2	3	4
5. Doet uw werk voldoende beroep op al uw vaardigheden en capaciteiten?	1	2	3	4
6. Heeft u in uw werk voldoende afwisseling?	1	2	3	4

Zelfstandigheid in het werk

	Nooit (1)	Soms (2)	Vaak (3)	Altijd (4)
1. Heeft u vrijheid bij het uitvoeren van uw werkzaamheden?	1	2	3	4
2. Heeft u invloed op de planning van uw werkzaamheden?	1	2	3	4
3. Heeft u invloed op hoe snel u moet werken?	1	2	3	4
4. Kunt u zelf bepalen hoe u uw werk uitvoert?	1	2	3	4
5. Kunt u uw werk even onderbreken als u dat nodig vindt?	1	2	3	4
6. Kunt u zelf de volgorde van uw werkzaamheden bepalen?	1	2	3	4
7. Kunt u meebeslissen over het tijdstip waarop iets af moet zijn?	1	2	3	4
8. Kunt u zelf bepalen hoeveel tijd u aan een bepaalde activiteit besteedt?	1	2	3	4
9. Lost u problemen in uw werkzaamheden zelf op?	1	2	3	4

	Nooit (1)	Soms (2)	Vaak (3)	Altijd (4)		
10. Kunt u uw werk zelf indelen?			1	2	3	4
11. Kunt u zelf bepalen wat voor werkzaamheden u moet doen?			1	2	3	4

Inspraak

	Nooit (1)	Soms (2)	Vaak (3)	Altijd (4)		
1. Kunt u met uw directe leiding praten over problemen op het werk?			1	2	3	4
2. Heeft u veel te zeggen over wat er gebeurt op uw werkplek?			1	2	3	4
3. Kunt u meebeslissen over dingen die met uw werk te maken hebben?			1	2	3	4
4. Kunt u met uw directe leiding voldoende overleggen over uw werk?			1	2	3	4
5. Kunt u meebepalen wat wel en wat niet tot uw taak behoort?			1	2	3	4
6. Kunt u meebeslissen over wat voor soort werk u moet doen?			1	2	3	4
7. Heeft u rechtstreeks invloed op beslissingen van uw afdeling/bedrijf?			1	2	3	4
8. Heeft u invloed op de verdeling van het werk onder u en uw collega's?			1	2	3	4

De volgende stellingen beschrijven in hoeverre het werk bij u past.

Kennis en vaardigheden. Geef aan in hoeverre u het eens bent met de volgende stellingen

	Volledig oneens (1)	Oneens (2)	Niet eens / niet oneens (3)	Eens (4)	Volledig eens (5)			
1.	Er is een goede 'match' tussen de eisen van mijn baan en mijn persoonlijke vaardigheden			1	2	3	4	5
2.	Mijn vaardigheden en opleiding passen goed bij de eisen voor mijn huidige baan			1	2	3	4	5
3.	Mijn persoonlijke vaardigheden en opleiding passen goed bij wat er van mij verwacht wordt in mijn huidige baan			1	2	3	4	5

Ervaring, opleiding, en prestatie. Geef aan wat voor u het best passende antwoord is

	Laag (1)	Redelijk laag (2)	Gemiddeld (3)	Redelijk hoog (4)	Hoog (5)			
1.	Wanneer ik denk aan mijn ervaring, zijn de doorgroeimogelijkheden die ik krijg...			1	2	3	4	5
2.	Wanneer ik denk aan mijn ervaring, is het inkomen dat ik krijg...			1	2	3	4	5
3.	Wanneer ik denk aan mijn ervaring, is de uitdaging die ik krijg...			1	2	3	4	5
4.	Wanneer ik denk aan mijn ervaring, is de waardering die ik krijg...			1	2	3	4	5
5.	Wanneer ik denk aan mijn opleiding, zijn de doorgroeimogelijkheden die ik krijg...			1	2	3	4	5
6.	Wanneer ik denk aan mijn opleiding, is het inkomen dat ik krijg...			1	2	3	4	5
7.	Wanneer ik denk aan mijn opleiding, is de uitdaging die ik krijg...			1	2	3	4	5
8.	Wanneer ik denk aan mijn opleiding, is de waardering die ik krijg...			1	2	3	4	5
9.	Wanneer ik denk aan mijn presteren, zijn de doorgroeimogelijkheden die ik krijg...			1	2	3	4	5

	Laag (1)	Redelijk laag (2)	Gemiddeld (3)	Redelijk hoog (4)	Hoog (5)			
10.	Wanneer ik denk aan mijn presteren, is het inkomen dat ik krijg...			1	2	3	4	5
11.	Wanneer ik denk aan mijn presteren, is de uitdaging die ik krijg...			1	2	3	4	5
12.	Wanneer ik denk aan mijn presteren, is de waardering die ik krijg...			1	2	3	4	5

De volgende vragen gaan over hoe u het werk ervaart.

Betrokkenheid. *Omcirkel het cijfer dat het best bij u en uw werk past.*

	Nooit (0)	Sporadisch (1) Een paar keer per jaar of minder	Af en toe (2) Eens per maand of minder	Regelmatig (3) Een paar keer per maand	Dikwijls (4) Eens per week	Zeer dikwijls (5) Een paar keer per week	Altijd (6) Dagelijks
1. Op mijn werk bruis ik van energie	0	1	2	3	4	5	6
2. Ik vind het werk dat ik doe nuttig en zinvol	0	1	2	3	4	5	6
3. Als ik aan het werk ben, dan vliegt de tijd voorbij	0	1	2	3	4	5	6
4. Als ik werk voel ik me fit en sterk	0	1	2	3	4	5	6
5. Ik ben enthousiast over mijn baan	0	1	2	3	4	5	6
6. Als ik werk vergeet ik alle andere dingen om me heen	0	1	2	3	4	5	6
7. Mijn werk inspireert mij	0	1	2	3	4	5	6
8. Als ik 's morgens opsta heb ik zin om aan het werk te gaan	0	1	2	3	4	5	6
9. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig	0	1	2	3	4	5	6
10. Ik ben trots op het werk dat ik doe	0	1	2	3	4	5	6
11. Ik ga helemaal op in mijn werk	0	1	2	3	4	5	6
12. Als ik aan het werk ben, dan kan ik heel lang doorgaan	0	1	2	3	4	5	6
13. Mijn werk is voor mij een uitdaging	0	1	2	3	4	5	6
14. Mijn werk brengt mij in vervoering	0	1	2	3	4	5	6
15. Op mijn werk beschik ik over een grote geestelijke veerkracht	0	1	2	3	4	5	6
16. Ik kan me moeilijk van mijn werk losmaken	0	1	2	3	4	5	6
17. Op mijn werk zet ik altijd door, ook als het tegenzit	0	1	2	3	4	5	6

Waarom doet u dit werk? Geef aan in hoeverre u het eens bent met de volgende stellingen

	Helemaal mee oneens (1)	Oneens (2)	Beetje oneens (3)	Neutraal (4)	Beetje eens (5)	Eens (6)	Helemaal eens (7)					
1.	Omdat ik er plezier aan beleef om kennis over het werk te krijgen					1	2	3	4	5	6	7
2.	Omdat ik er plezier aan beleef om in het werk nieuwe dingen te doen					1	2	3	4	5	6	7
3.	Omdat ik plezier krijg van het leren van nieuwe dingen in het werk					1	2	3	4	5	6	7
4.	Omdat ik het leuk vind dat ik in het werk nieuwe vaardigheden kan ontwikkelen					1	2	3	4	5	6	7
5.	Omdat ik het prettig vind als ik moeilijke vaardigheden die voor mijn werk vereist zijn, onder de knie krijg					1	2	3	4	5	6	7
6.	Omdat ik tevreden ben als ik in m'n werk m'n zwakke punten kan verbeteren					1	2	3	4	5	6	7
7.	Omdat het me een tevreden gevoel geeft wanneer ik mijn vaardigheden op het werk verbeter					1	2	3	4	5	6	7
8.	Voor de tevredenheid die ik voel wanneer ik bepaalde moeilijkheden in mijn werk overwin					1	2	3	4	5	6	7
9.	Omdat ik me plezierig voel in mijn werk					1	2	3	4	5	6	7
10.	Omdat ik een enorme 'kick' krijg wanneer ik helemaal in mijn werk opga					1	2	3	4	5	6	7
11.	Omdat ik me heel prettig voel wanneer ik bezig ben met de leuke kanten van mijn werk					1	2	3	4	5	6	7
12.	Omdat ik ervan houd om me volledig op het werk te kunnen storten					1	2	3	4	5	6	7

Geef aan in hoeverre u het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Beetje mee oneens (2)	Neutraal (3)	Beetje mee eens (4)	Helemaal mee eens (5)
1.	Ik voel me onrustig door mijn werk			1 2 3 4 5	
2.	Ik voel me schuldig als ik vrij neem van mijn werk			1 2 3 4 5	
3.	Ik raak vaak gefrustreerd van mijn werk			1 2 3 4 5	
4.	Door mijn werk heb ik nog maar weinig tijd voor andere dingen			1 2 3 4 5	
5.	Ik heb het gevoel dat ik nooit vrij ben van mijn werk			1 2 3 4 5	
6.	Ik besteed zoveel tijd op mijn werk omdat ik het overzicht kwijt ben			1 2 3 4 5	

De volgende vragen gaan over hoe belangrijk werk is in uw leven. Geef aan in hoeverre u het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Mee oneens (2)	Beetje mee oneens (3)	Beetje mee eens (4)	Mee eens (5)	Helemaal mee eens (6)				
1.	Het leven is alleen de moeite waard wanneer mensen opgaan in hun werk				1	2	3	4	5	6
2.	Werk zou centraal moeten staan in iemands leven				1	2	3	4	5	6
3.	Ik haal de grootste voldoening in mijn leven uit mijn werk				1	2	3	4	5	6
4.	De doelen die iemand zichzelf stelt in het leven, moeten gericht zijn op het werk				1	2	3	4	5	6
5.	Al zou ik miljoenen in de loterij winnen, dan zou ik toch blijven werken				1	2	3	4	5	6
6.	Zelfs als de uitkeringen erg hoog zouden zijn, zou ik toch liever werken				1	2	3	4	5	6
7.	Werk zou slechts een kleine plaats in iemands leven in moeten nemen				1	2	3	4	5	6
8.	In het algemeen speelt werk een centrale rol in mijn bestaan				1	2	3	4	5	6
9.	De belangrijkste dingen die ik meemaak hebben vaak betrekking op mijn werk				1	2	3	4	5	6
10.	Mijn werk bepaalt maar voor een klein deel wat ik mezelf waard vind				1	2	3	4	5	6
11.	Ik heb bezigheden die ik belangrijker vind dan mijn werk				1	2	3	4	5	6
12.	De meeste dingen in het leven zijn belangrijker dan werken				1	2	3	4	5	6

Hartelijk bedankt voor het invullen van deze vragenlijst!

Appendix B – Modified items measurement scales

Scale skill variety (QEEW; van Veldhoven & Meijman, 1994)

Item 4

Original: Vraagt uw werk een eigen inbreng?

Modified: Vraagt uw werk om zelf met ideeën te komen?

Scale autonomy (QEEW; van Veldhoven & Meijman, 1994)

Item 3

Original: Heeft u invloed op het werktempo?

Modified: Heeft u invloed op hoe snel u moet werken?

Item 11

Original: Kunt u zelf de inhoud van uw werkzaamheden bepalen?

Modified: Kunt u zelf bepalen wat voor werkzaamheden u moet doen?

Scale participation (QEEW; van Veldhoven & Meijman, 1994)

Item 6

Original: Kunt u meebeslissen over de aard van uw werkzaamheden?

Modified: Kunt u meebeslissen over wat voor soort werk u moet doen?

Scale intrinsic motivation (Dutch Translation of the Intrinsic Motivation Scale by Van Yperen and Hagedoorn, 2003)

Response options

Original: Helemaal mee oneens, oneens, enigszins oneens, ?, enigszins eens, eens, helemaal eens.

Modified: Helemaal oneens, oneens, beetje oneens, neutraal, beetje eens, eens, helemaal eens.

Item 1

Original: Voor het plezier dat ik ontleen aan het verkrijgen van kennis over het werk.

Modified: Omdat ik er plezier aan beleef om kennis over het werk te krijgen.

Item 3

Original: Omdat ik plezier ontleen aan het leren van nieuwe dingen in het werk.

Modified: Omdat ik plezier krijg van het leren van nieuwe dingen in het werk.

Item 6

Original: Omdat ik er voldoening uit put als ik in m'n werk m'n zwakke punten verbeter.

Modified: Omdat ik tevreden ben als ik in m'n werk m'n zwakke punten kan verbeteren.

Item 7

Original: Omdat het me een tevreden gevoel geeft wanneer ik mijn vaardigheden op het werk perfectioneer.

Modified: Omdat het me een tevreden gevoel geeft wanneer ik mijn vaardigheden op het werk verbeter.

Item 10

Original: Omdat ik een enorme 'kick' krijg wanneer ik door mijn werk in beslag wordt genomen.

Modified: Omdat ik een enorme 'kick' krijg wanneer ik helemaal in mijn werk opga.

Appendix C – Cover Letter



Onderwerp: Invullen vragenlijst t.b.v. onderzoek

Datum:

Beste medewerker,

U bent uitgenodigd om deel te nemen aan een onderzoek dat wordt uitgevoerd door twee studenten van de universiteit van Tilburg in het kader van hun afstuderen aan de opleiding Personeelwetenschappen.

Het onderzoek waar u aan meedoet is een onderzoek over het werk van medewerkers binnen logistieke functies in Zuid-Nederland. Voor dit onderzoek vragen wij u eenmalig een vragenlijst in te vullen, wat niet meer dan 15 minuten zal duren. Na het invullen van de vragenlijst, mag hij terug in de enveloppe. In de loop van deze dag komen wij langs met een brievenbus waarin de enveloppen ingeleverd kunnen worden. De gegevens worden anoniem en vertrouwelijk behandeld en zullen alleen voor dit onderzoek worden gebruikt, niemand binnen uw organisatie krijgt uw antwoorden te zien.

Wij hopen u hiermee voldoende te hebben geïnformeerd en danken u nu al hartelijk voor uw deelname aan dit onderzoek. Met uw deelname draagt u bij aan het afstuderen van twee studenten aan de Universiteit van Tilburg en aan meer informatie over logistieke functies in Zuid-Nederland. Wij zouden het dus ontzettend op prijs stellen als u aan dit onderzoek zou willen meewerken.

Mochten er nog vragen zijn, wij zijn de hele dag aanwezig dus neemt u gerust contact met ons op.

Met vriendelijke groet,

Anne Janssen (06-34560710)

Fieke Spoormakers (06-42365299)