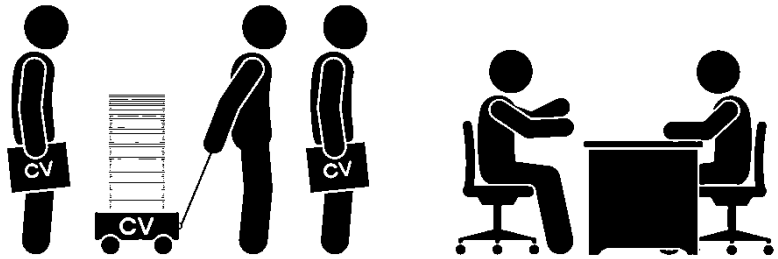
The impact of manager's age on the hiring chances of older applicants



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Abstract

Many of the workers who become unemployed at a later age experience more difficulties in acquiring a new job. Younger applicants are more often favored, irrespective of the experience that older workers might bring into companies. As most studies focus on age differences in workers and applicants, this thesis aims to reveal the impact of the age of the managers on the hiring chances of the older job applicants. The relevance of this approach is that managers of different ages might have different views about older workers because of a general stereotype or their previous experiences with them. To investigate the issue, a vignette survey which is obtained from the LISS survey panel, including a sample of 668 managers, will be used. The hiring chances of both young and old applicants will be investigated, taking the age of the manager into account and controlling for additional variables. Findings of this study indicate that the age of the manager does have an effect on the hiring chances of older applicants, but this effect is small and it is not decisive when comparing this to the hiring chances of younger applicants. Experience, appearance and being recommended by somebody else are the major drivers behind the decision to hire an applicant, regardless of his or her age. In addition, providing subsidies to hire applicants above the age of 50 increases the hiring chances of older applicants significantly. This increase is at its highest when combining subsidy provision with a relaxation of the dismissal rules of employees.

Keywords: Hiring chances, older workers, age discrimination, manager's age, unemployment

Preface

In the past seven years, I have learned a lot and developed myself in knowledge, skills and personality. Learning new insightful stuff and experiencing the student life style made me to the person that I am today. From the first day at the university, I have made some lifelong friends, who helped me a lot through my student time. I am very grateful for the time that I have had during my student life and I am enthusiastic to take that experience with me when I enter the next stage in my life.

I would like to thank Prof. Dur for supervising my master thesis and guiding me through the difficult stages. In addition, I would like to thank Felix Haan, Jesper Riske, Bob Boelens and Bart Francke for their helpful comments and mental support during my thesis process. Furthermore, I also thank the tight group of friends that I have made in the first year for making this student time as great as it was. Last, I would especially like to thank both my parents, Jorge and Imelda, for giving me the opportunity and space to study and supporting me through all the difficult times, as well as the great ones. You have no idea how much I appreciate that and how grateful I am.

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1. Introduction

One of the oldest definitions in psychological literature states that a stereotype is “an exaggerated belief associated with a category that is used to justify behavior toward the target” (Allport, 1935). For managers and recruiters the age of (potential) employees seem to cause a different view towards older workers and applicants. In the past, there was a common belief that older people wanted to retire as early as possible, but opposite results were found in a study under Americans above the age of 50 (McNaught, Bart & Henderson, 1989). This signaled the narrow knowledge about older people’s willingness to work and the stereotype that the general population had, which caused employment problems for this working population group in the later decades.

This thesis focuses on the role that age-related stereotypes may play in the hiring processes of managers in the Netherlands, as unemployment among older people is a currently growing problem in the Netherlands (CBS, 2015; Leupen, 2016). People who become unemployed at a later age often experience difficulties in finding similar or even lower-qualified jobs (Chan & Stevens, 2001). Many explanations for this have been put forward and were tested empirically. However, the literature so far has paid little attention to the role of employers’ age. Henkens (2005) is one of the exceptions. Henkens finds that older managers that are frequently in contact with older employees in their organizations hold a more positive view towards older workers and are more likely to retain them.

This study will shed more light between the relationship of both the ages of the managers and the job applicants. Hence, this thesis aims to answer the following research question:

“Does manager’s age affect hiring decisions concerning older applicants?”

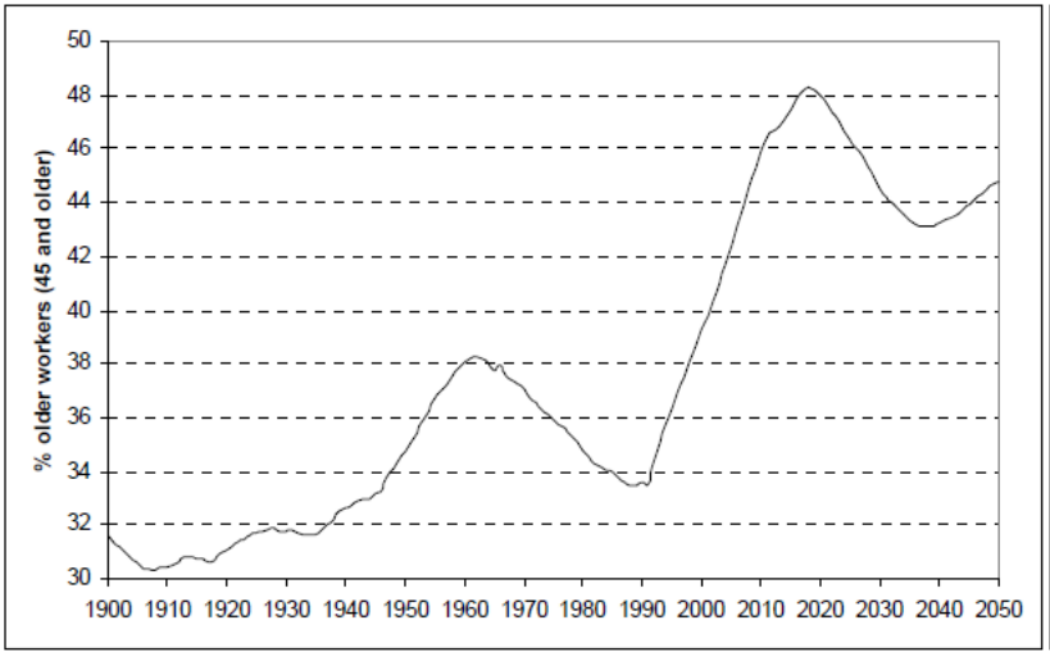
The hiring chances of the older applicants will be compared with the hiring chances of the younger applicants to investigate the differences and to unravel possible reasons for these differences. Stereotypes regarding order workers are especially an important issue in this context, because it can affect the (internal) hiring process regarding older employees or applicants.

1.1 The unemployment problem among older people in the Netherlands

Many older people who become unemployed at a later age experience difficulties in finding similar or lower-qualified jobs (Chan & Stevens, 2001). In the Netherlands, prolonged unemployment is a major problem for people above the age of 50 (Leupen, 2016). When older workers lose their jobs,

they seem to be less interesting for employers to be hired, despite their experience. Research by the Central Bureau of Statistics in the Netherlands shows that the total unemployment rate has been tripled in the period 2009-2014 (CBS Netherlands, 2015). 80% of the long-term unemployment was filled by workers above the age of 45, against 20% of the younger workers (below the age of 45). In addition, it is taking older workers twice as much time to find new jobs after dismissal in favor of the younger unemployed people. In 2006, the Central Bureau of Statistics in the Netherlands drew a forecasting population figure of the older working age population as a percentage of the total working age population, based on the latest data of population projections at that time. The expectation is that the older working population will continuously grow over time at a higher rate than the decades before, as can be seen in Figure 1 (Statistics Netherlands, 2006a; Van Dalen et al, 2010). Hence, the problem of unemployment at a later age is also expected to grow along. This would be in line with the expectation that the 'Millenials' will fulfill approximately 75% of the total jobs on the Dutch labor market ("Vraag naar twintigers op arbeidsmarkt stijgt sterk," 2016).

Figure 1: *Older working-age population (45-64) as a percentage of the total working age population(20-64), forecast from 1900-2050 (source: Statistics Netherlands 2006a).*



One of the possible solutions suggested for older workers is to pose themselves flexible in their working hours from the age of 60 (Cats, 2016). Though, it might not be the social optimum in this scenario, because also older workers mainly want to work fulltime and do not want to decrease their earnings by means of less hours working, especially if they have to continue working until the age of 67 (Cats, 2016). Age discrimination and unemployment among older people remains a hot and

trendy topic in Dutch politics. Measures against these phenomena are being discussed, as currently 50% of unemployment is above the age of 50 (Leupen, 2016).

1.2 Relevance

As stereotypes may lead to social exclusion of older workers, it is important to examine whether this is a serious issue for older applicants. In addition, stereotypes may lead to the wrong behavior of the older workers, as negative stereotypes can cause older people to behave according to those stereotypes (Hilton & Von Hippel, 1995). Other previous studies on this subject have mainly focused on retaining older employees and the reasons of older employees to opt for early retirement (Joulain and Mullet, 2001; Van Dalen and Henkens, 2005). Less attention has been given to the characteristics and views of employers. Van Dalen et al. (2007) found that Dutch employers in general are more positive about hiring younger employees than hiring older employees, based on their qualities and productivity. Hence, the uncertainty of finding a new job remains for older people.

The most important motivation of this thesis is to shed more light on how managers look at the hiring chances of older employees and to enhance a clearer view on factors that influence the decision of managers to hire older applicants. As manager's perspectives towards older employees tend to differ based on the manager's age, it would be interesting to empirically investigate whether the age cohorts of managers has an effect in the hiring process of older employees. This thesis distinguishes itself from other studies by investigating those chances of older (dismissed) employees on the Dutch labor market, conditional on the age of the manager, and will compare them with the hiring decisions managers take about younger workers. Socially, this thesis is relevant in the sense that the outcomes have the possibility to extend the knowledge of hiring decisions regarding older workers and (future) personnel policy decisions. Scientifically, this thesis aims to contribute to the current literature of stereotypes and hiring processes from a relatively new angle.

1.3 Research method and main findings

To answer the stated research question, a dataset consisting of surveys and vignette studies taken by Dutch managers in 2013 is acquired from the LISS Panel Dataset. The LISS Panel consists of a representative sample of Dutch individuals who participate in surveys on a regular basis. The surveys consist of hypothetical situations where the managers rate the likelihood of hiring the applicant with the characteristics described in that hypothetical situation. Each manager fills out five surveys, where each round of surveys differs in applicant characteristics. To add another dimension in this discussion, two hypothetical changes in dismissal rules for dismissing employees will be taken into

account in the analysis. The relevance of these changes lies in the fact that employers may value relaxation of dismissal rules when hiring older people. Therefore, government policy could adapt to this when coping with prolonged unemployment under the older working population. The main variable of interest is the age of the manager, conditional on whether the job applicant is old (defined as above the age of 50) or young (defined as below the age of 50). A set of relevant control variables will check for additional effects that could influence the decision of the manager regarding hiring the job applicant.

Results find that the age of the manager does not have a large effect on the hiring chances of old applicants. Younger applicants have an advantage in applying for similar jobs. It seems that providing subsidies for hiring older applicants has a positive effect on the hiring chances of older applicants. This effect is enforced when combining it with the relaxation of dismissal rules, such that employers need to pay equal dismissal taxes for dismissed employees of all ages. Experience, appearance and being recommended by someone else are the main drivers to hire an applicant, regardless if the applicant is young or old.

1.4 Structure

This thesis is structured as follows. Section 2 provides an overview of the relevant related literature regarding this subject. Section 3 explains the data and methodology. Section 4 presents the results of the analysis and section 5 will discuss the statistical results. Section 6 gives a conclusion and suggests some directions for future research.

2. Related literature

This section will provide a clear overview of the wide variety of literature written about the relation between managers and workers and the stereotypes that are common among older workers in general. In addition, previous research about age discrimination in employment search and the productivity of older workers in the field will be discussed. Last, related literature regarding ageing of managers and employees will be discussed through a small selection of papers which lies closest to this thesis. Hypotheses will also be formed based on the results of previous studies.

2.1 Perceptions and stereotypes

The connection between the age of workers and managers is a growing and continuous point in research. Kirchner and Dunnette (1954) conducted one of the first studies about stereotyping of older workers. Their findings indicate that the hourly production workers held more positive attitudes towards their older colleagues than the supervisor did. The age of the supervisor did not matter for their view towards older workers. This study has been replicated thirty years later by Bird and Fisher (1986), however, with largely the same results. Resen and Jerdec (1976) found that several characteristics such as physical, cognitive and emotional characteristics can lead to discrimination towards older workers.

Other previous studies have focused mainly on why older workers are struggling harder than the average worker on finding a new job, after being displaced in their old job. For instance, many older workers who become unemployed at a later age experience difficulties in finding similar or lower-qualified jobs (Chan & Stevens, 2001). Older managers that are frequently in contact with older employees in their organizations are found to hold a more positive view towards older workers and are more likely to retain them (Henkens, 2005). Several other studies have shown that the stereotypes against older workers is mainly twofold: positive for characteristics which requires experience, such as leadership and reliability and negative for characteristics such as adapting to new technologies, enhanced productivity and compatibility with younger workers (Chiu et al, 2001; Finkelstein et al, 1995; Finkelstein and Burke, 1998; Resen and Jerderc, 1976; Taylor and Walker, 1998; Van Dalen et al, 2009; Wrenn and Maurer, 2004). Loretto et al (2000) found that younger people have a less negative view regarding older workers. A recent study by Montizaan (2016) found evidence by means of a stated preference experiment that the hiring chances of applicants significantly depends on the age of the employer.

An important paper within this topic is the research of van Dalen et al (2010), which highlights the perceptions of productivity of both younger and older workers by employers and employees. This research found that both employers and employees are rating the productivity of older workers substantially lower than the productivity of younger workers. The study also shows that this view is representative for the whole labor market, as it is reinforced by workers in non-managerial positions as well (Berger, 2009). Individuals within a group tend to overestimate the similarities between themselves and members of the same group, and underestimate the differences (Linville, Fischer, and Salovey 1989; Van Dalen et al, 2010; Verkuyten and Nekuee, 1999). As a result, differences between groups are perceived to be greater than they actually are. This is being referred as the *ingroup bias* (Finkelstein et al, 1995). A follow-up study on the ingroup bias paper of Finkelstein has extended the analysis by adding the role of the rater and contextual factors on the evaluation of job applicants (Finkelstein & Burke, 1998). Finkelstein & Burke (1998) found in their experiment that older raters perceived the older applicant as less *economically beneficial*. This is in contrast with the previous finding of the ingroup bias hypothesis of Finkelstein et al (1995). A possible explanation might be that older workers are starting to believe in their stereotypes as well, which leads to a self-fulfilling prophecy (Hilton & Von Hippel, 1996).

Based on the perceptions that exist towards older workers, and in line with the ingroup bias, the following hypotheses are formed:

H1a: The hiring chances of an applicant above the age of 50 rise with the age of the manager.

H1b: The hiring chances of an applicant below the age of 50 declines with the age of the manager.

2.2 Age discrimination in employment practices

Following certain stereotypes about older workers, literature has elaborated on attitudes on and off the workplace as well. For example, Taylor and Walker (1998) and Van Dalen et al (2009) found that attitudes were associated with various factors, such as adaption of new technology, creativity, trainability, the ability to work with younger workers and return on investment. These attitudes of managers can lead to social exclusion of older employees on the labor market.

Little empirical research has been done in age discrimination in employment. This might be partly due to the fact that age-discrimination is difficult to measure and to interpret causally. In the Netherlands, self-reported age discrimination seem to be substantial at a score of 14% in total, and 20% under self-reported age discrimination of older workers (Koppes et al, 2009). In total, 33% of all

the official reported discrimination complaints in the Netherlands in 2013 relate to age (Van Haaften, 2014). Johnson and Neumark (1997) also did a self-reporting study: workers who reported age discrimination were much more likely to separate from their employer and less likely to remain employed. However, self-reported data are unlikely to accurately reflect attitudes if there is a certain stigma attached to the views (Levitt, 2004). An Austrian experiment tried to investigate whether increasing the retirement age would also increase the employment of older workers, however without robust results (Staubli and Zweimüller, 2013).

Within the discrimination literature, two types of discrimination are distinguished: *taste-based discrimination* and *information-based statistical discrimination*. Taste-based discrimination occurs when people get disutility from working with individuals of a certain age group and therefore would pay a financial price to avoid interactions (Becker, 1957). Information-based statistical discrimination is defined as the interpretation of a certain group perceiving another group to be less qualified, due to incomplete information and how they behave towards them (Phelps, 1972; Levitt, 2004). Both types of discrimination can be of relevance in the interpretation of the results in this thesis, since age discrimination enhances both types, although Levitt (2004) found more evidence for taste-based discrimination regarding elder people. Statistical discrimination seem to occur more to easily observable characteristics (Altonji and Pierret, 2001; Levitt, 2004).

Empirical studies also investigated the relation between age discrimination and job hiring policies. Generally, results of these studies confirm that age discrimination in employment is a long term worrying topic in hiring policies (Bendick et al, 1999; Hutchens, 1988; Scott, 2002) For example, earlier studies found that younger workers' earnings tend to increase with experience, whereas those of older workers tend to decline. In addition, when older people are unemployed they are taking twice as long to get re-employed in the labor market than their younger colleagues (Bendick, 1983; Wanner & McDonald, 1983;). Bendick et al (1999) pointed out the problem of age discrimination in employment search by extending his previous research regarding discrimination in the labor market, where empirical evidence was found that older applicants did face more problems in their job search due to their age in comparison with younger applicants (Bendick et al, 1996). The method that was used in this experiment was sending fake résumés to different companies, introducing himself as a young or old applicant, keeping all other characteristics equal. Findings of the extended research confirmed earlier results of the presence of age discrimination in hiring processes.

Finkelstein et al (1995) also gives an insight in the fact that when managers do not get any job information traits regarding the applicant, they will have a preference for the younger applicant. Van Dalen et al (2009) support these findings by concluding that the age bias, the preference in performance judging of younger workers in comparison with older workers, is present.

Hence, based on the literature regarding age discrimination in employment search, the second hypothesis will be stated as follows:

H2: On average, applicants below the age of 50 have a higher hiring chance, compared to applicants above the age of 50.

2.3 Productivity of older workers

Apart from the stereotypes regarding older workers, a more visible proof of the general preference for younger employees would be the productivity difference between workers of different age cohorts. One of the most important findings in earlier research regarding this productivity difference is the Horndal Effect. Horndal was a steel plant in Sweden, which experienced an annual growth rate of 2.5 percent in productivity between 1927 and 1952, while no large investments were done in the company. The big mark was that during this period, a big majority of the workforce of Horndal was above the age of 50, whereas at all the other firms in Sweden on average 20 to 25 percent of the workforce was above the age of 50. Hence, the Horndal Experience states that an ageing workforce can actually be in line with rapid increases in labor productivity by means of a learning-by-doing effect (Lundberg, 1961; Arrow, 1962).

The Horndal Effect was also investigated in a different study (Malmberg et al, 2008), with panel survey data from Statistics Sweden. Malmberg et al (2008) tests whether plants with a high share of prime-age workers will be the most productive. Findings indicate that an aging workforce has no negative productivity consequences. Age actually had positive effects when they control for plant-level effects: high shares of older workers are associated with higher productivity than high shares of young workers. Van Ours and Stoeldraaijer (2010) find similar results when investigating the effect of shares of older workers on productivity in the Netherlands. Little evidence was found for an age related pay-productivity gap. Productivity might eventually decline, but there was no real turning point to be found.

Other studies regarding relationships between age and productivity find mixed results. Hellerstein et al (1999) concludes that older workers are not being overpaid when linking their wage to their productivity, whereas two studies afterwards contradicted these findings with plant-level data (Haegeland and Klette, 1999; Crépon et al, 2003). Furthermore, Medoff and Abraham (1981) find that more experienced workers who earn more than their younger peers are not more productive, and that their experience play a minor role in their productivity. Aubert and Crépon (2007) investigate the relation between age and productivity on a firm-plant scale in France. Findings of that study indicate that productivity increases with age until the age of 40 and remains relatively stable afterwards until at least the age of 55. From that age on they find a little, however insignificant, decrease in productivity. Cardoso et al (2011) concluded that older workers are very productive and that their contribution to production is above their contribution to total payroll. Older workers are most productive in the age 50-54 and, in line with the studies mentioned above, their productivity remain relatively stable afterwards.

In The Netherlands older workers seem to have more credit than their younger colleagues (van Dalen et al, 2010). When they perform no longer to the company standard, they are more likely to be retained, whereas younger workers are more often dismissed. This might be explained by the fact that older workers are seen by employers as having a set of important soft skills and therefore having a comparative advantage on their younger colleagues (Henkens & Schippers, 2010). Hence, those soft skills can be valuable in the routine work and learning and helping younger employees. Therefore, even if their productivity level is not as high as it was before, they can still add specific value to the company and its human capital. The latter study also proves that employers do not seem to be consequent in their actions regarding older workers when they do not fulfill the productivity standard. These older workers are more protected and retained, whereas the younger workers are more easily dismissed when not fulfilling the productivity standard. A possible explanation for this phenomenon is the difference in labor costs in comparison with other countries. In The Netherlands, labor costs of older employees are relatively high and older worker are fairly well-protected regarding dismissal rules. Hence, employers are very careful in recruiting older employees and relatively recent survey data states that they are not recruiting them often in The Netherlands (Van Dalen et al, 2009). An earlier study however, contradict these results, whereas findings strikingly conclude that organizations with a relatively large older staff hold less positive views about older workers than organizations with a smaller older staff (Remery et al, 2003). Since these employers have those workers in their organization, it does not seem to be statistical discrimination, as they actually observe their older employees. Hence, it might be possible that they observe their older workers to be less productive than their younger colleagues.

2.4 The impact of manager's characteristics

So far, the factors and characteristics about older workers and applicants have been discussed. Though, there has been paid little attention to the impact of the characteristics of the managers. Recent studies tried to reveal these impacts and results showed that manager's hiring decisions were (partly) affected by their age norms (Karpinska et al, 2013). Moreover, managers who perceive higher age limits for employment tend to be more positive towards retention of older workers for a few more years, when already employed within the organization (Karpinska et al, 2013). However, these studies were more focused on re-employment or retention of older workers and early retirees.

The most recent study in this topic is the study of Montizaan and Fouarge (2016). By means of a (binary) stated preference experiment, they investigated the effect of the willingness to employ older workers, the link of that willingness to personal characteristics of the manager and the influence of stereotypes and beliefs of older workers on their hiring decision. In addition, and in line with the research in this thesis, the impact of the age of the manager is investigated as well in the hiring process for applicants. Findings indicate that hiring chances decrease with the age of the job applicant (in comparison with younger applicants) and significantly depends on the age of the employer. The latter finding is of great essence, since this is the only study so far who zoomed in on this characteristic in combination with hiring older applicants who still belong in the labor force. In addition, this study provides evidence that taste-based discrimination plays a role in the decision-making process of managers when hiring new employees.

3. Empirics

3.1 LISS Panel Dataset

For the analysis of this research, multiple datasets of the Longitudinal Internet Studies for the Social sciences (LISS) were obtained. LISS panel data were collected by CentERdata (Tilburg University, The Netherlands) through its MESS project funded by the Netherlands Organization for Scientific Research. The LISS panel is a representative sample of Dutch individuals who participate in monthly Internet surveys. The panel is based on a true probability sample of households drawn from the population register. Households that could not otherwise participate are provided with a computer and Internet connection. A longitudinal survey is fielded in the panel every year, covering a large variety of domains including work, education, income, housing, time use, political views, values and personality. Participants are paid for each questionnaire that they obtain, varying from 15-to 30 minute online questionnaires. Datasets of the LISS Panel were set available, provided that a permission was signed and that research which has used one of the datasets will be made available at the LISS Panel website.

Three datasets from the LISS Panel are used for this thesis. First, background characteristics such as age and gender were obtained. Second, the dataset that is used is from the study 'changing images of older workers', taken from Harry van Dalen and Kène Henkens. The aim of this survey is to describe attitudes towards older workers, and to study selection decisions with respect to older workers. This dataset is a follow-up on Karpinska (2013), who also investigates the stereotype of older employees, but only focuses on retaining older employees and re-hiring (early) retirees. The dataset used in this study is comprised of the same respondents as in Karpinska (2013), with the addition of a few hundred new respondents from the LISS panel dataset. The focus in this study will be mainly on the stereotypes of managers of different ages concerning older workers, and the choices made by managers of different ages in hiring older personnel.

3.2 Surveys

The surveys used in this thesis are a combination of general surveys regarding employers' view about older workers and vignette surveys. The latter one is one of the most prominent approaches in use (Alexander and Becker, 1978). Vignette surveys can be generally defined as short fictive descriptions about hypothetical characters in specified social circumstances to elicit preferences, judgments, or anticipated behavior (Alexander and Becker, 1978; McFadden et al, 2005; Wallander, 2009).

The surveys were sent in 2013 to the standard households that were registered in the LISS dataset. First, a sample of 1017 respondents was drawn from the panel. The respondents were asked if they hold a management position and whether they had to make decisions regarding recruitment of personnel in the past ten years. Respondents who answered negatively on both questions were excluded from the sample. In the end, the total (complete) response rate of this sample was 85,3%, which comes down to 868 respondents. Second, a vignette survey of the same study was sent a few months after the first survey. The sample selection was slightly less than the first round, 868 respondents. The full response rate of the vignette survey was 77%, which comes down to 668 final respondents, which will be the research sample. Compared with general response rates, which are at most 30%, the response rate of both surveys are relatively high. This might be explained by the fact that, in comparison with general surveys, respondents in the LISS Panel are receiving a small compensation for completing the surveys and are excluded when they do not fill in sufficient surveys.

The vignette survey used in this dataset consists of a set of hypothetical situations in which the respondents had to make decisions about recruitment and selection of new personnel. The respondent had to rate the likelihood of hiring a fictive applicant on a scale of 1-11, given the status of that applicant, such as previous experience, age, gender, and other control variables. Each vignette survey was repeated 5 times where those characteristics of the applicant within the surveys varied. To add another dimension in this discussion, hypothetical changes in dismissal rules for dismissing employees will be taken into account. One change contains a relaxation in dismissal rules and a dismissal tax to half a year's salary of the person dismissed. The other change contains a relaxation of the dismissal rules and a dismissal tax which depends on the age of the person dismissed and ranges from half a year's salary for dismissed employees aged 35 to four year's salary for dismissed employees aged 60 years. The relevance of these changes is that employers may value relaxing dismissal rules and might persuade them to hire older applicants more often. Therefore, government policy could adapt to this when coping with prolonged unemployment under the older working population. The different versions of the changes in dismissal rules in the surveys reads as follows:

Version 1: *Dismissal rules will not be relaxed, but are maintained as before.*

Version 2: *Dismissal rules are greatly simplified, however, upon dismissing an employee the employer is obliged to pay a tax equal to* ***half a year's salary*** *of the person dismissed.*

Version 3: *Dismissal rules are greatly simplified, however, the employer must take a dismissal tax into account which* ***very much depends on the age of the dismissed employee.*** *The dismissal tax ranges from* ***half a year's salary*** *for dismissed employees aged 35 to* ***four year salaries*** *for an employee aged 60 years.*

Every respondent received one of the three versions of the vignette surveys. The full vignette surveys can be found in appendix B. An example of the survey question for the participants could be as follows:

Your organization has a vacancy for a permanent job. You will now be presented with several descriptions of employees who are interested in this job. For each candidate description you are asked to estimate the likelihood that this candidate will be considered suitable for this permanent job. When making this decision you should assume that, despite any government plan, dismissal rules will not be relaxed but are maintained as before.

Situation on the labor market:	*High unemployment*
Employee characteristics:	
Age:	*50*
Sex:	*Male*
Experience in a similar position:	*Yes*
Labor Market Status:	*Unemployed for half a year or longer*
Appearance:	*Appears very vigorous*
Recommended by:	*No particular references*
Subsidy to hire unemployed people:	*None*

How do you estimate the likelihood that, under these dismissal rules, the candidate will be considered suitable for the permanent job?

Very unlikely					*Neutral*					*Very likely*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*

3.3 Methodological approach

An OLS regression method will be used to investigate the effect of different variables on the hiring chances of (fictive) applicants. Two regressions will be made to distinguish old applicants and young applicants. An applicant will be considered 'old' if the age of the applicant is 50 years or older and 'young' if the fictive age is below 50 years. This is because there are 5 different ages of the hypothetical applicants in the vignette survey: 35, 40, 50, 55 and 60. Hence, the threshold for old and young applicant is chosen to be at 50 years old.

The dependent variables of the two regressions are the hiring chances, given that the applicant is old and the hiring chances, given that the applicant is young. The hiring chances will be rated by the respondents on a scale of 1 to 11, where 1 is not likely and 11 is very much likely. The control variables in the vignette surveys are: gender, labor market status, experience in similar position, appearance of the applicant, (possible) recommendation and whether there is a subsidy of 7000 euro per year (for the first three years based on fulltime employment) provided to hire unemployed people above the age of 50. In addition, the gender of the manager, age of the manager, whether the applied job is physically heavy, and whether the respondent (manager) had a conflict with an older or younger worker in the past two years are added to the regression model. The characteristics of the manager can reveal if there is a different effect on the hiring chances, conditional on the characteristics of the manager. The past conflicts with younger or older managers explain the influence of past experiences with employees of different ages on the hiring chances. The main variable of interest is the age of the manager. Table 1 provides the descriptions of the variables that are used for the analyses. This leads to the following two models:

(1) $\text{Hiring Chances Young}_i = \beta_0 + \beta_1*(\text{Situation Labor Market}_i) + \beta_2*(\text{Male Applicant}_i) + \beta_3*(\text{Experience}_i) + \beta_4*(\text{Labor Market Status}_i) + \beta_5*(\text{Appearance}_i) + \beta_6*(\text{Recommendation}_i) + \beta_7*(\text{Age Manager}_i) + \beta_8*(\text{Age Manager}^2_i) + \beta_9*(\text{Relaxation Dismissal Rules Version 2}_i) + \beta_{10}*(\text{Relaxation Dismissal Rules Version 3}_i) + \beta_{11}*(\text{Conflict Young}_i) + \beta_{12}*(\text{Conflict Old}_i) + \beta_{13}*(\text{Physical Work}_i) + \beta_{14}*(\text{Male Manager}_i*\text{Male Applicant}_i) + \beta_{15}*(\text{Conflict Young}_i*\text{Age Manager}_i) + \beta_{16}*(\text{Conflict Old}_i*\text{Age Manager}_i) + \varepsilon_i$

(2) Hiring Chances Old_i = $\beta_0 + \beta_1*(\text{Situation Labor Market}_i) + \beta_2*(\text{Male Applicant}_i) + \beta_3*(\text{Experience}_i) + \beta_4*(\text{Labor Market Status}_i) + \beta_5*(\text{Appearance}_i) + \beta_6*(\text{Recommendation}_i) + \beta_7*(\text{Subsidy}_i) + \beta_8*(\text{Age Manager}_i) + \beta_9*(\text{Age Manager}^2_i) + \beta_{10}*(\text{Relaxation Dismissal Rules Version 2}_i) + \beta_{11}*(\text{Relaxation Dismissal Rules Version 3}_i) + \beta_{12}*(\text{Conflict Young}_i) + \beta_{13}*(\text{Conflict Old}_i) + \beta_{14}*(\text{Physical Work}_i) + \beta_{15}*(\text{Male Manager}_i*\text{Male Applicant}_i) + \beta_{16}*(\text{Subsidy}_i*\text{Situation Labor Market}_i) + \beta_{17}*(\text{Conflict Young}_i*\text{Age Manager}_i) + \beta_{18}*(\text{Conflict Old}_i*\text{Age Manager}_i) + \beta_{19}*(\text{Subsidy}_i * \text{Relaxation Dismissal Rules Version 2}_i) + \beta_{20}*(\text{Subsidy}_i * \text{Relaxation Dismissal Rules Version 3}_i) + \varepsilon_i$

The interaction effect between labor market status and subsidy for hiring unemployed people is created to check whether the subsidy for hiring unemployed people has an extra strong effect on hiring unemployed workers. The interaction effect between subsidies and the relaxations of the dismissal rules will check the influence of the subsidy when possible policy changes are made. By interacting the gender of the applicant and the gender of the manager, there will be controlled for possible gender effects. The variable $AgeMngr^2$ controls for non-linearity in the age of the manager. Finally, an ordered logit model will be estimated to show that the results are robust to the OLS regression used.

Table 1: Description of the variables

Variables	**Definition**
Dependent	
Hiring Chances Old	Hiring Chances scaled 1-11 of fictive applicants aged 50, 55 or 60
Hiring Chances Young	Hiring Chances scaled 1-11 of fictive applicants aged 35 or 40
Independent	
Age Manager	Age of the manager
Age Manager^2	Squared age of the manager
Situation Labor Market	Current Situation on the labor market, dummy=1 if high unemployment
Labor Market Status	Current Labor Market Status of the applicant, dummy=1 if unemployed
Recommendation	Dummy=1 if recommended by another
Subsidy	Subsidy for hiring unemployed people, dummy=1 if manager is receiving a subsidy up to 7000 euros for the first 3 years
Male Applicant	Dummy=1 if applicant is male
Male Manager	Dummy=1 if manager is male
Relaxation Dismissal Rules Version 2	Dummy=1 if dismissal rules are relaxed as described in version 2
Relaxation Dismissal Rules Version 3	Dummy=1 if dismissal rules are relaxed as described in version 3
Conflict Old	Dummy=1 if manager had conflicts with older workers, defined as aged above 50, in the past two years
Conflict Young	Dummy=1 if manager had conflicts with younger workers, defined as aged around 35, in the past two years
Physical Work	Dummy=1 if applied work is physically heavy

4. Results

This section concerns the statistical analysis of the collected data. Subsection 4.1 presents the summary statistics for the main variables and the correlation analysis of all the variables used for the main analysis. The general list of variables can also be found with definitions in the previous chapter. Subsection 4.2 contains the results of the main regression analysis.

4.1 Summary statistics

Table 2 shows the correlation matrix of the variables included in equation (1), with the hiring chances of young applicants as the dependent variable. There is a strikingly high correlation between the dependent variable and the variable 'Appearance' (.4392), so a vigorous appearance is associated with higher hiring chances. Furthermore, the correlation between the dependent variable and 'Experience' is high, which is fairly logic when looking at hiring chances. When workers are more experienced, it takes them less time to get used to their work than more unexperienced workers. Last, the correlation between the variables 'Conflict Young' and 'Conflict Old' is fairly high (.2884). This implies that there is an association between the conflicts that managers might have had in the recent past with young and old employees.

Table 3 shows the correlation matrix with the hiring chances of the older applicants as the outcome variable and independent variables included in equation (2). This yields results comparable to the ones discussed above. In addition, a high negative correlation between the relaxation of the dismissal rules as described in version 2 of the survey and the relaxation of the dismissal rules as described in version 3 of the survey in the previous chapter (-.4856). This high negative association can be explained by the fact that the dismissal rules are less favorable for older applicants then for younger applicants, as in version 3 older applicants are much more expensive to dismiss. There is also a high negative correlation observed between the relaxation of the dismissal rules in both versions 2 and 3 of the surveys and the labor market status of the applicant (whether he/she is currently unemployed). This might be due to the fact that current unemployment can more often be seen as negative by employers. When reaching a certain age, most workers are more or less settled down in their jobs and are less likely to apply for new jobs. Without additional knowledge, employers may associate this unemployment with negative reasons, such as conflicts or underperformance. In addition, it might be that low educated older workers are more often unemployed since their job can be more easily taken over by younger workers.

Table 2: *Correlation matrix of the variables with 'Hiring Chances Young' as dependent variable*

	Hiring Chances Young	Situation Labor Market	Male Applicant	Experience	Labor Market Status	Appearance	Recommendation	Male Manager	Age Manager	Dismissal Rules Version 2	Dismissal Rules Version 3	Conflict Young	Conflict Old	Physical Work
Hiring Chances Young	1.0000													
Situation Labor Market	-.0187	1.0000												
Male Applicant	.0162	.0576	1.0000											
Experience	.1791	-.0199	.0621	1.0000										
Labor Market Status	-.0210	-.0164	.0060	.05144	1.0000									
Appearance	.4392	-.0076	.0173	.0371	.0151	1.0000								
Recommendation	.1170	-.0209	.0393	-.0260	.0126	.0191	1.0000							
Male Manager	-.0041	.0180	-.0365	-.0128	.0088	-.0274	.0286	1.0000						
Age Manager	-.1130	-.0298	-.0396	-.0331	.0114	.0340	.0010	.0702.	1.0000					
Dismissal Rules Version 2	.0249	.0031	.0313	-.0092	-.2129	.0251	-.0124	.0299	.0135	1.0000				
Dismissal Rules Version 3	.0118	.0409	-.0056	-.0297	-.1204	.0273	.0141	.0043	.0262	-.5106	1.0000			
Conflict Young	-.0120	.0114	.0132	.0372	-.0491	.0341	.0407	.0099	.0114	.0210	.0681	1.0000		
Conflict Old	-.0125	.0406	.0171	.0171	0.0042	.0163	-.0117	-.0828	-.0165	-.0009	.0229	.2884	1.0000	
Physical Work	-.0234	0.0498	-.0515	-.0515	0.0109	.0038	-.0049	-.0413	-.0165	-.0322	-.0050	.0418	-.0001	1.0000

Table 3: *Correlation matrix of the variables with 'Hiring Chances Old' as dependent variable*

	Hiring Chances Old	Situation Labor Market	Male Applicant	Experience	Labor Market Status	Appearance	Recommendation	Subsidy	Male Manager	Age Manager	Dismissal Rules Vers. 2	Dismissal Rules Vers. 3	Conflict Young	Conflict Old	Physical work
Hiring Chances Old	1.0000														
Situation Labor Market	-.0096	1.0000													
Male Applicant	-.0093	.0354	1.0000												
Experience	.1762	.0013	-.0396	1.0000											
Labor Market Status	.0172	-.0145	.0018	-.0154	1.0000										
Appearance	.2796	.0482	.0070	.0013	.0275	1.0000									
Recommendation	.0796	.0243	.0530	.0158	-.0154	-.0111	1.0000								
Subsidy	.0983	.0328	.0262	.0500	-.1120	.0065	-.0234	1.0000							
Male Manager	-.0064	.0011	.0061	-.0267	-.0073	-.0013	.0011	-.0085	1.0000						
Age Manager	-.0683	-.0158	.0055	-.0043	-.0668	-.0075	-.0312	.0385	.1175	1.0000					
Dismissal Rules Version 2	-.0068	.0107	-.0175	-.0119	-.2793	.0130	.0130	-.0094	-.0075	-.0075	1.0000				
Dismissal Rules Version 3	-.0084	-.0323	.0175	.0062	-.3085	-.0086	-.0086	-.0076	.0245	.0245	-.4856	1.0000			
Conflict Young	.0005	.0095	.039	-.0155	-.0503	.0109	.0109	.0203	.0025	.0025-	.0569	.0444	1.0000		
Conflict Old	.0115	.0073	-.0192	.0108	.0013	.0151	.0151	-.0103	-.0507	.0507	.0322	-.0270	.2770	1.0000	
Physical Work	-.0386	-.0186	.0001	-.0114	.0117	-.0038	-.0038	.0098	.0168	.0168	-.0510	.0485	.0044	-.0309	1.0000

***Table 4**: Means and standard deviations of relevant variables*

Variable	Observations	Mean	Standard deviation
Age Manager	668	47.919	10.859
Male Manager	451	.670	.470
Hiring Chances Young	957	5.708	2.116
Hiring Chances Old	2383	5.040	2.070

***Table 5:** Means and standard deviations of the rating scores between the different survey versions*

Survey		Observations	Mean	Standard deviation
Version 1	Young	310	5.596	2.157
	Old	825	5.073	2.038
Version 2	Young	321	5.785	2.143
	Old	764	5.010	2.161
Version 3	Young	326	5.745	2.078
	Old	794	5.006	2.054

Table 4 shows the means of the relevant descriptive variables. In total, 3340 surveys were filled in by 668 managers. The mean age of all those managers who filled in the survey was approximately 48 years old. 67 percent of those managers were male against 33 percent female. The mean score on the hiring chances rating scale that they gave was higher for young applicants in comparison with old applicants. The mean score of young applicants is 5.7, whereas the mean score of old applicants was 5.0 on a rating scale of 1-11. The standard deviation of the hiring chances is 2, which implies that there is some variation around the mean. This is confirmed by the two histograms of the hiring chances provided in figure 2 and figure 3 below. The hypothesis for a normal distribution in both histograms is rejected (Appendix A: Shapiro Wilk Test, p=.000). Hence, it seems that older applicants will be more often turned down. Most managers rate the hiring chances around a 6. On average, older applicants get a lower rating score on the rating scale. The striking observation is that relatively more managers are rating the hiring chances of old applicants a '1', meaning that it is very unlikely that they would hire applicants above the age of 50.

Table 5 shows the mean scores of the hiring chances for every version of the survey that the managers filled in. To recall, versions 2 and 3 contained relaxations in dismissal rules. It can be seen that the average hiring chances of young applicants are slightly higher when dismissal rules are relaxed in comparison with the version where dismissal rules will be maintained as before. Though,

this difference is very small and almost negligible. The hiring chances of old applicants do not differ among the different versions of the surveys. Hence, at first sight it seems that old applicants always have fewer chances to be hired, independent of (hypothetical) policy changes.

Figure 2: *Histogram of the rating scores of the hiring chances of young applicants*

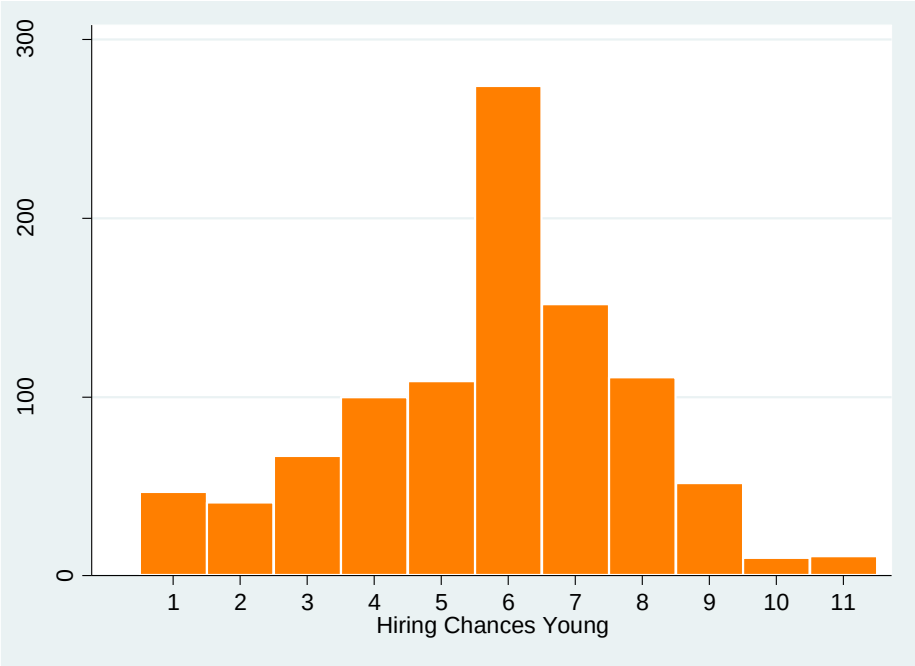


Figure 3: *Histogram of the rating scores of the hiring chances of old applicants*

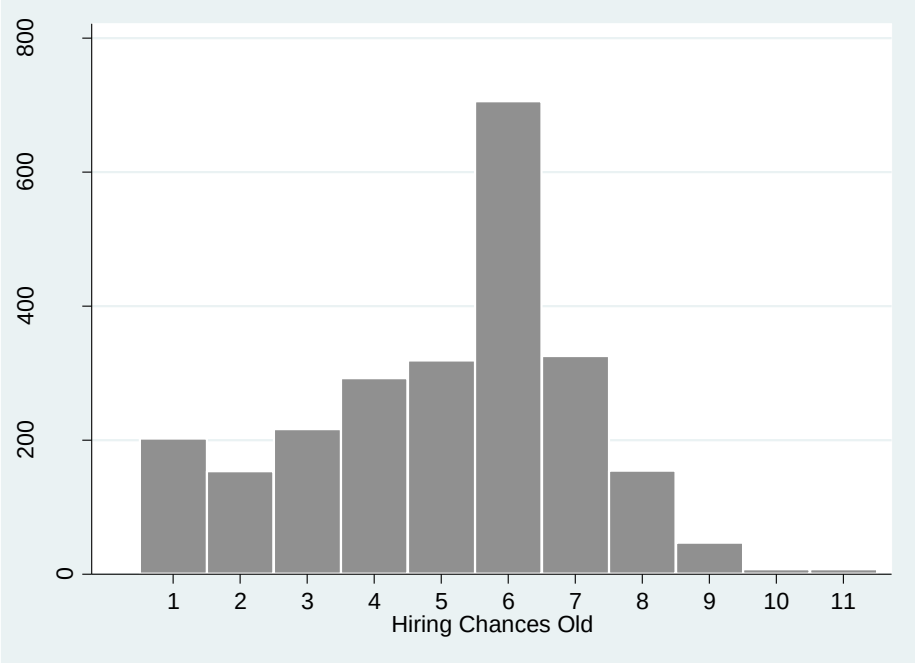


Figure 4 gives the distribution of the age of the managers. As can be seen, managers between the age of 40 and 60 are best represented. There are a few outliers in the ages on both sides. It can be seen that after the retirement age of 65, the amount of managers that very low, whereas the same applies for managers below the age of 30.

Figures 5 and 6 give a first sketch of the relationship between age of the manager and hiring chances of young and old applicants The regression lines indicate that, if anything, there is a negative relation between age of the manager and hiring chances for both young and old applicants. The next section will look at this more closely by means of regression analysis, that will also allow for a non-linear relationship.

Figure 4: *Histogram with the frequencies of the ages of the managers*

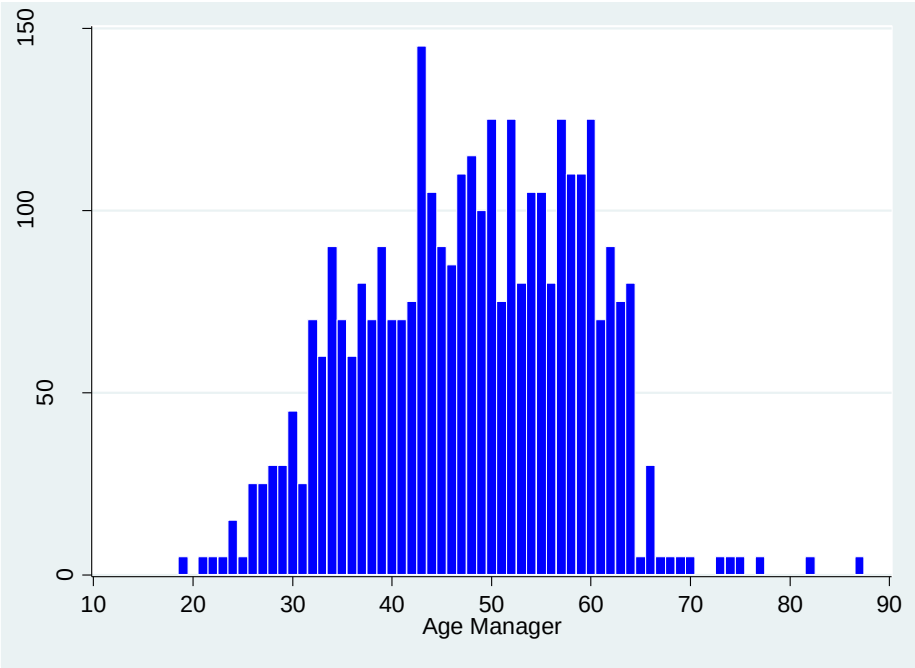


Figure 5: *Scatterplot of Hiring Chances young applicants versus the age of the manager*

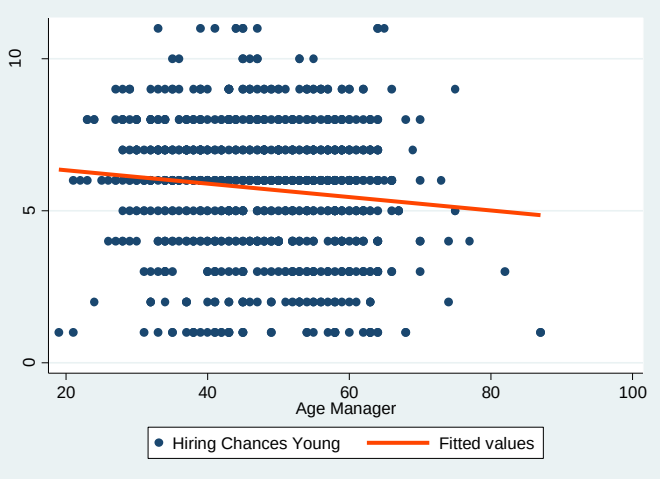
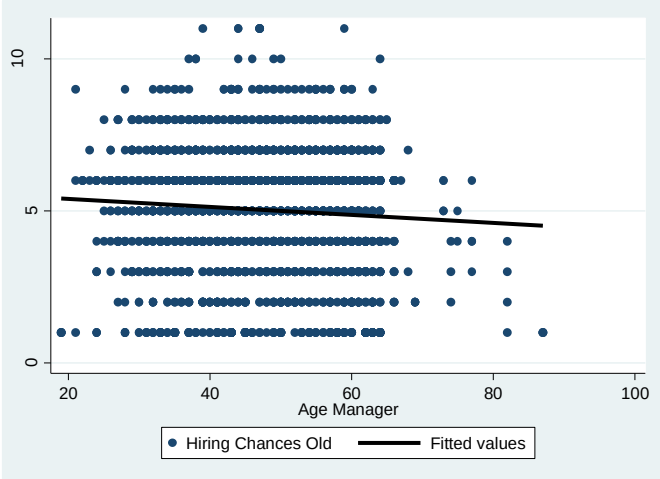


Figure 6: *Scatterplot of Hiring Chances old applicants versus the age of the manager*



4.2 Regression results

The baseline regression results of equation (1) and (2) are presented in table 6. Before interpreting the regression results in this chapter, it must be noted that the variable 'Age Manager' has been demeaned in every regression in this thesis to successfully interact in later regressions with the binary variables, as Age Manager is a continuous variable. Demeaning this variable means that the mean age of the managers is subtracted for the age of every individual manager. In this way, the main effect of age will be estimated at the mean of the age. This is important for the interpretation of the results. The centered coefficient of Age Manager now gives the main effect of the age of the manager when the other variables it interacts with are set to zero.

As a robustness check, the same regression is estimated within an ordered logit model. The use of the ordered logit model has been chosen because the dependent variable is an ordinal, responsive and ordered with a scale from 1 to 11, from very unlikely to very likely. The results found in the logit model are similar to the results found in the OLS regressions. A more detailed interpretation of the ordered logit model can be found in appendix A2.

Table 6: *Regression results baseline Model*

VARIABLES	(Baseline Model) Hiring Chances Young	(Baseline Model) Hiring Chances Old
Situation Labor Market	-0.0604	-0.0262
	(0.120)	(0.0795)
Male Applicant	0.00101	-0.0364

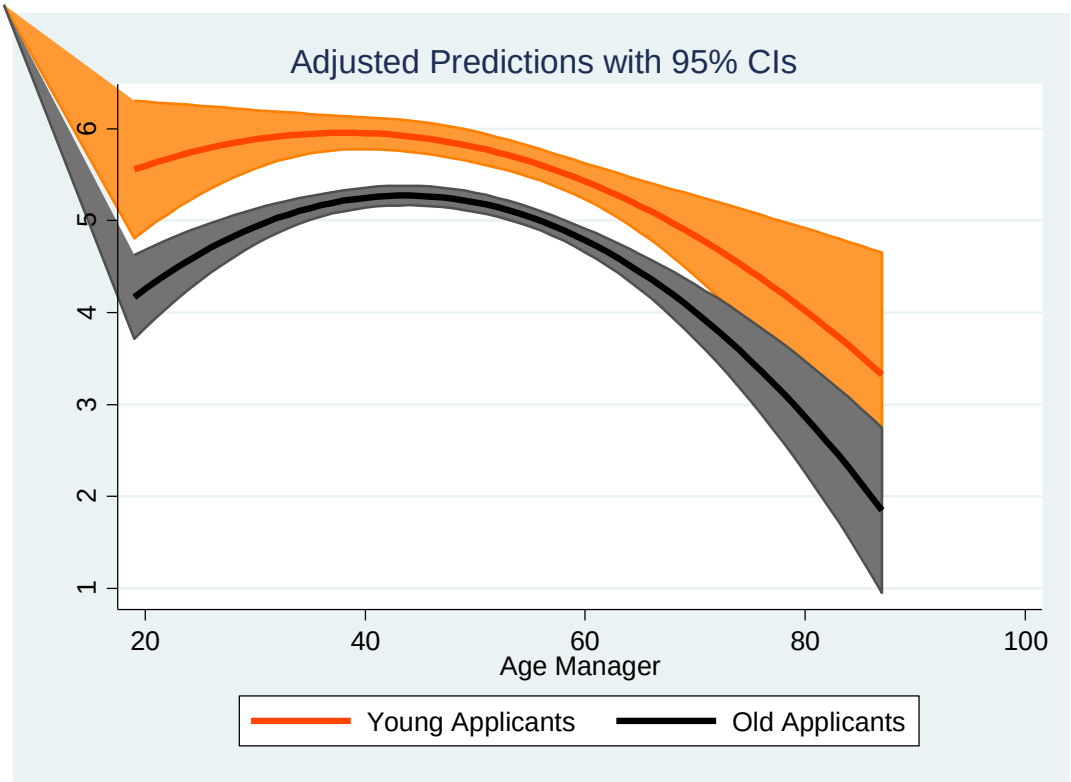
	(0.120)	(0.0795)
Experience	0.706***	0.719***
	(0.120)	(0.0794)
Labor Market Status	-0.0766	0.0938
	(0.127)	(0.0997)
Appearance	1.859***	1.160***
	(0.120)	(0.0793)
Recommendation	0.508***	0.354***
	(0.126)	(0.0838)
Subsidy		0.390***
		(0.0819)
Male Manager	0.0772	-0.0284
	(0.128)	(0.0855)
Age Manager	-0.0238***	-0.0148***
	(0.00549)	(0.00373)
Age Manager^2	-0.00127***	-0.00185***
	(0.000394)	(0.000276)
Relaxation Dismissal Rules Version 2	0.0536	-0.0113
	(0.156)	(0.114)
Relaxation Dismissal Rules Version 3	0.0412	-0.0204
	(0.153)	(0.114)
Constant	4.216***	3.936***
	(0.217)	(0.164)
Observations	957	2,383
R-squared	0.257	0.145

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

As can be seen in table 6 above, the variables that have a large and significant effect on hiring chances in the baseline regression are the experience and appearance of the applicant, and whether he or she has been recommended by another co-worker or manager within the company. These effects are all found to be statistically significant and have roughly the same effect for young and old applicants. The coefficient of experience for young applicants is .701 and is strongly significant. The interpretation of this coefficient would be that having experience in a similar position before applying increases the hiring chances with approximately .7 points. The coefficient for old applicants is .714 and is also found to be highly statistically significant. This implies that having experience in this position favors the hiring chances of the old applicants with .714 points on the rating scale. Appearance is the major driving force in the decision to hire an applicant. For younger applicants this effect is the strongest as well. A vigorous appearance increases the hiring chance with almost 2 points on the rating scale and is highly statistically significant. For older applicants, this effect is slightly weaker, but still evident. The applicant's appearance increases his or her hiring chances with 1.16 points. Being recommended by a fellow employee or business partner also increases the hiring chances on a statistically significant level. For both groups, young and old applicants, the effect is approximately the same. It increases the hiring chances with .508 and .354 points respectively compared to being not recommended at all. Subsidies to hire currently unemployed older people

seem to have a relatively large positive and significant effect on their hiring chances. The effect of the situation on the labor market is negative, in line with expectation, since high unemployment on the labor market can decrease the hiring chances of the applicant (young or old) due to increasing competition. However, the coefficient found is highly insignificant. The circumstances on the labor market seem to affect young applicants less than old applicants. No large gender effects are to be found, since it's coefficients are nearly zero and insignificant. Last, when looking at the relaxation of the dismissal rules, it can be seen that they have a minor and insignificant effect on the hiring chances. The striking observation here are the signs of the coefficients for young and old applicants. Relaxation of dismissal rules of both versions are positive for the young applicants and negative for the old applicants. For version 3, this can be explained by the fact that dismissing older workers is more expensive than dismissing younger workers, as they pay dismissal taxes according to age. However, in version 2 the dismissal tax is equal for workers of all ages. This might imply that employers are not willing to employ older applicants more often, even when dismissal rules are relaxed.

Figure 7: *Margins plot of the hiring chances of both young and old applicants*



To see the difference in hiring chances of young and old applicants when regarding the age of the manager, a margins plot is made. Figure 7 presents the margins plot for the age of the manager against the hiring chances for young and old applicants, based on the regression results in table 6.

The figure shows that 'Hiring Chances' is a concave function of 'Age Manager'. Given the confidence regions of the young and old applicants, their hiring chances appear to be statistically different at most of the ages of the managers. When looking at the margins plot, the first observation is that in general the hiring chances of old applicants are increasing with the age of the manager up to the point when the manager reaches an age of approximately 40-45 years old. Hiring chances are decreasing more rapidly afterwards. For young applicants that peak comes slightly sooner, around the managers' age of 35-40 years. Young applicants have a higher chance to get hired than old applicants, regardless of the age of the manager. Younger managers also seem to favor young applicants stronger than old applicants. For economic significance, it is also important to look at the differences in hiring chances of applicants when managers are younger or older. Here, the difference in hiring chances of applicants when a manager is for example 25 years old and when a manager is for example 60 old, is approximately two points on the 11 points rating scale for both young and old applicants. In table 7 and table 8 the baseline model has been re-estimated and other dummy variables have been added to control for effects that may cause a difference in the hiring chances of the applicants. First, past conflicts of the manager with an older or younger employee are added as a control variable. Furthermore, regression results also looks at the effect of the type of the job, whether the job is more physical or not. The second column fits the model with added variables and the third column shows the full model with all the variables and relevant interaction effects included.

Results of the model with young applicants

Table 7 shows the regression results of the hiring chances of the young applicants. Adding more variables to the regression does not affect the other basic variables heavily. Significance is still retained in comparison with the basic regression results and the coefficients are largely the same. There are no big (significant) differences in outcomes of the variables that were also included in the baseline model. The significant effects of the variables 'Experience' and 'Appearance' remain significant and their coefficients remain almost equal and are therefore still the major driving forces for the hiring chances. The remaining variables also do not differ heavily in comparison with the baseline model. Adding the variables 'Conflict Young' and 'Conflict Old', which indicates whether the manager had a conflict with a younger or older worker in the past 2 years, give minor negative but insignificant coefficients. Whether the work of the applied job is physically heavy or not does not have a significant effect on the hiring chances of young applicants. No big differences are observed in the full model with the interaction effects included. The sign of 'Male Applicant' turns positive. Furthermore, the interaction between the age of the manager and past conflicts with older workers has a small effect on the hiring chances. However, when comparing the interaction effect among the

different ages, the effect and the differences between managers could be larger. For example the difference in average points between a manager of youngest and oldest manager in the sample (19 and 87 respectively) that had a past conflict with old applicants is more than one point. This difference is not significant though. Signs and significance of the remaining variables do not change heavily in comparison with the previous results.

Table 7: *Regression results of the hiring chances of young applicants*

VARIABLES	(Model 1) Hiring Chances Young	(Model 2) Hiring Chances Young	(Model 3) Hiring Chances Young
Situation Labor Market	-0.0604	-0.0547	-0.0593
	(0.120)	(0.120)	(0.120)
Male Applicant	0.00101	-0.000123	0.102
	(0.120)	(0.120)	(0.213)
Experience	0.706***	0.709***	0.712***
	(0.120)	(0.121)	(0.121)
Labor Market Status	-0.0766	-0.0797	-0.0834
	(0.127)	(0.128)	(0.128)
Appearance	1.859***	1.864***	1.853***
	(0.120)	(0.120)	(0.120)
Recommendation	0.508***	0.514***	0.520***
	(0.126)	(0.126)	(0.127)
Male Manager	0.0772	0.0723	0.150
	(0.128)	(0.129)	(0.181)
Age Manager	-0.0238***	-0.0238***	-0.0266***
	(0.00549)	(0.00549)	(0.00774)
Age Manager^2	-0.00127***	-0.00127***	-0.00121***
	(0.000394)	(0.000394)	(0.000401)
Relaxation Dismissal Rules Version 2	0.0536	0.0624	0.0627
	(0.156)	(0.156)	(0.156)
Relaxation Dismissal Rules Version 3	0.0412	0.0564	0.0501
	(0.153)	(0.153)	(0.154)
Conflict Young		-0.150	-0.161
		(0.126)	(0.126)
Conflict Old		-0.0493	-0.0429
		(0.143)	(0.144)
Physical Work		-0.0530	-0.0607
		(0.123)	(0.124)
Male Manager x Male Applicant			-0.146
			(0.259)
Conflict Young x Age Manager			-0.00515
			(0.0121)
Conflict Old x Age Manager			0.0196
			(0.0137)
Constant	4.216***	4.305***	4.256***
	(0.217)	(0.230)	(0.246)
Observations	957	957	957
R-squared	0.257	0.259	0.261

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results of the model with old applicants

The results of the regression with the hiring chances of the old applicants as outcome variable are presented in table 8. Model 2 does not differ much in comparison with model 1 in terms of sign, coefficients and significance. The added variables 'Conflict Young' and 'Conflict Old' have a small but insignificant effect in this model. The signs of both variables are opposite to each other and it is striking to see that the sign of 'Conflict Old' is positive (though very small), whereas the sign of 'Conflict Young' is negative. However, the coefficients are almost negligible and insignificant. The effect of 'Physical Work' is positive, but also insignificant.

The third column fits the full model, which shows some minor but interesting differences in comparison with the previous model. When looking at subsidy, it can be seen that its coefficient becomes smaller and insignificant. In model 3, subsidy has been interacted with the situation on the labor market to see whether receiving subsidies for hiring older unemployed people would stimulate employers to hire them more often in times of high unemployment. The coefficient is positive but very small and insignificant. There is a big effect when 'Subsidy' is interacted with the relaxation of the dismissal rules. The interaction the version 2 of the survey shows a coefficient of .497, which is statistically significant at the 5 percent level. To recall, the second version of the survey contains a relaxation of the dismissal, whereas a tax has to be paid of the amount of half a year's salary of the person dismissed. This implies that giving subsidies for hiring older unemployed people, when relaxing the dismissal rules as described in the second version of the survey increases the hiring chances of old applicants. This is an important finding since it may stimulate employers to hire older applicants more often. However, when interacting subsidies and relaxation of dismissal rules as described in version 3 (paying a rising dismissal tax depending upon age) it does not show a significant effect, although the sign is positive. There is also a negative and significant interaction effect between 'Conflict Young' and the age of the manager, however very small. The sign of this coefficient is interesting though. It would imply that a past conflict with younger workers could negatively affect the hiring chances of older applicants, given the age of the manager, which is striking when considering that the sign of the coefficient of Age Manager * Conflict Old is positive. Again, there would be a difference in the effect when comparing managers of different ages who had a conflict with older workers in the past. This difference is 1.326 in favor of older workers.

Table 8: *Regression results of the Hiring Chances of Old Applicants*

VARIABLES	(Model 1) Hiring Chances Old	(Model 2) Hiring Chances Old	(Model 3) Hiring Chances Old
Situation Labor Market	-0.0262	-0.0285	-0.0581
	(0.0795)	(0.0795)	(0.103)
Male Applicant	-0.0364	-0.0366	-0.0171
	(0.0795)	(0.0795)	(0.139)
Experience	0.719***	0.717***	0.705***
	(0.0794)	(0.0794)	(0.0795)
Labor Market Status	0.0938	0.0967	0.168
	(0.0997)	(0.0998)	(0.109)
Appearance	1.160***	1.159***	1.152***
	(0.0793)	(0.0793)	(0.0793)
Recommendation	0.354***	0.356***	0.356***
	(0.0838)	(0.0839)	(0.0838)
Subsidy	0.390***	0.393***	0.125
	(0.0819)	(0.0820)	(0.164)
Male Manager	-0.0284	-0.0253	-0.00584
	(0.0855)	(0.0857)	(0.122)
Age Manager	-0.0148***	-0.0146***	-0.00862*
	(0.00373)	(0.00374)	(0.00514)
Age Manager^2	-0.00185***	-0.00182***	-0.00190***
	(0.000276)	(0.000276)	(0.000283)
Relaxation Dismissal Rules Version 2	-0.0113	-0.0141	-0.168
	(0.114)	(0.114)	(0.131)
Relaxation Dismissal Rules Version 3	-0.0204	-0.0134	-0.0643
	(0.114)	(0.114)	(0.131)
Conflict Young		-0.00588	-0.0150
		(0.0833)	(0.0833)
Conflict Old		0.0121	0.0241
		(0.0969)	(0.0973)
Physical Work		-0.130	-0.136*
		(0.0808)	(0.0808)
Male Manager x Male Applicant			-0.0234
			(0.170)
Subsidy * Situation Labor Market			0.0786
			(0.162)
Conflict Young x Age Manager			-0.0196**
			(0.00800)
Conflict Old x Age Manager			0.0120
			(0.00932)
Subsidy x Relaxation Dismissal Rules Version 2			0.497**
			(0.211)
Subsidy x Relaxation Dismissal Rules Version 3			0.231
			(0.209)
Constant	3.936***	3.982***	4.035***
	(0.164)	(0.171)	(0.186)
Observations	2,383	2,383	2,383
R-squared	0.145	0.145	0.150

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5. Discussion

Results of the main analysis suggest that the age of the manager does not have a decisive effect on the hiring chances of old applicants, when comparing them with the ratings for the hiring chances of the young applicants. To recall, the results aim to test the following hypotheses, stated earlier in this thesis:

H1a: The hiring chances of an applicant above the age of 50 rise with the age of the manager.

H1b: The hiring chances of an applicant below the age of 50 declines with the age of the manager.

H2: On average, applicants below the age of 50 have a higher hiring chance, compared to applicants above the age of 50, irrespective of managers' age.

The margins plot in figure 7 showed that the pattern of the hiring chances are roughly the same for young and old applicants when taking the age of the managers into account. At first, the hiring chances of both young and old applicants rise until the manager reaches the age between 35 and 45 years old. From there on, the hiring chances are decreasing. Hence, hypothesis 1a is rejected, whereas hypothesis 1b is not rejected. Results of the analyses also indicates that younger applicants are being more preferred in the hiring decisions of managers than older applicants and hence, hypothesis 2 can also not be rejected. The fact that the peak of the hiring chances lies between the managers' age of 35-45 years can be explained by the fact that older managers may concern themselves less with hiring new employees and therefore delegate these tasks to the more younger managers. When managers are too young, it might be the case that they do not get the (full) responsibility of hiring new employees. Lack of experience and frequency in hiring new employees may serve as an explanation for the peak in the hiring chances of applicants and the differences between young and old managers. Furthermore, it seems that older managers less frequently hire new employees in general, irrespective of their age. One point that should be mentioned is that managers above the age of 65 were less frequently represented than the managers below that age.

The results regarding the age of the manager slightly differs from the results of the similar study of Montizaan & Fouarge (2016), which is discussed earlier in the related literature section. To recall, the results of Montizaan and Fouarge state that the hiring chances of older job applicants depends significantly on the age of the manager. Results in this thesis confirms that the hiring chances of the applicant does depend on the age of the manager, but that the magnitude of that effect is not as

large as in the paper of Montizaan and Fouarge. A possible explanation for this difference could lie in the research method that is used by Montizaan and Fouarge. In that study, a binary stated preference experiment is used to reveal the choices of the manager, regarding hiring older workers. This means that respondents were presented two applicants with different ages (one old, one young), added with background information such as experience and the amount of training needed for the function. Based on this information, respondents had to choose between the two applicants. The method of Montizaan and Fouarge differs from the research method used in this thesis, as the managers in this thesis did not had to choose between applicants, but had to rate the likelihood of the fictive applicant being hired. The difference in the presentation of the applicants could lead to the difference in results as they compare each old applicant with a young applicant. Hence, the research method of Montizaan and Fouarge reveals whether managers of different ages favor older applicants when comparing them with younger applicants, given some characteristics of the manager. However, there was no measure where respondents only had to decide whether they would hire one older or younger applicant individually. In this thesis the focus lies more on the age of the manager and employee characteristics. Moreover, this thesis added more variables, such as subsidies provided, recommendation and hypothetical changes in dismissal rules for dismissing employees, which may influence the decision of the manager in another way.

An interesting result that was presented in the previous chapter is that relaxing the dismissal rules does not have a significant effect on the hiring chances of both young and old applicants. Even when applicants of all ages were more easily dismissed with an equal dismissal tax, employers do not seem to rate older applicants higher than before. This outcome would imply that managers are simply not willing to employ older workers, not even when dismissing will be easier and less costly. However, when adding an interaction between subsidy and the relaxation of dismissal rules, a highly significant effect is found between receiving subsidy to employ older workers and the relaxation of dismissal rules in version 2 of the survey. It increases the odds of the likelihood of being hired with more than 58% (table A2). This would mean that giving subsidies corners the employers in their decision to hire older applicants. As subsidy had a positive significant effect in the baseline model, its effect is strongest when interacting it with the relaxation of the dismissal rules in version 2. Hence, combining subsidies with relaxing dismissal rules at equal dismissal tax costs for dismissing employees of all ages would give the highest incentive within this research to consider hiring applicants from the age of 50 and above. A possible explanation for this effect would be that employers may not be very sure about the capability of older workers. In addition, managers may believe that older workers have more health complaints, which might lead to a higher absence due to sickness. Making it less costly to dismiss older workers in combination with subsidies to hire them in the first place might trigger

managers to take the risk of hiring older applicants. Unfortunately, no data was obtained that could control for various amounts of the subsidies that would be given for hiring older applicants. Future research regarding this subject could give more clearness as this goes beyond the scope of this thesis. No effect was observed when interacting subsidies with the relaxation of dismissal rules as described in version 3 of the surveys, where dismissal taxes are paid varying from half a year's salary to four year's salary, depending upon the age of the employee dismissed. This can be explained by the fact that older employees are more expensive to dismiss and therefore decrease the likelihood of hiring an older applicant, regardless whether subsidies are received or not.

Another interesting finding is that previous conflicts with younger employees seem to have a negative effect on the hiring chances of old applicants, conditional on managers' age, whereas the previous conflicts of old applicants show no significance and a positive sign. Although the coefficients are very small, the fact that it has an effect can be seen as striking, since it also differs in the age of the manager. A possible explanation might be that managers only recall recent conflicts and makes the threshold between young and old employees themselves (although the threshold has been clearly stated in the surveys). In addition, older managers may recall conflicts with their younger employees almost always as 'younger', even if the concerning employee was above the age that was specified in the survey. Hence, the older the managers are, the more they perceive their employees to be 'younger', regardless of the definition of 'younger' in the surveys. Last, as conflicts with younger employees was defined as conflicts with employees aged around 35 and older employees aged above 50, it could be that many conflicts have been with workers between the age of 35 and 50 years old, such that the managers could give their own interpretation of 'young' and 'old' towards those concerning employees.

The overall difference in hiring chances between young and old applicants does not seem to be very large. Besides the fact that young applicants are rated on average somewhat higher on the hiring chances rating scale, the remaining variables that are included in the analyses imply that older applicants are not by means less favorable in their hiring chances. Experience, appearance and being recommended by another are by far the most important variables that managers take into consideration. It is a bit surprising that experience seem to have an almost equal effect for the hiring chances of both young and old applicants, whereas one would expect that experience has a more decisive effect for old applicants or that it might compensate their older age.

6. Conclusion

This thesis examined the relationship between the hiring chances of older applicants and the age of the manager. It is one of the few studies that also looks more deeply at the age of the manager within this topic. Younger applicants were taken into account in the analysis, as well some other possible additional effects. To measure this relationship, managers had to fill in 5 vignette surveys, where they rated the likelihood of a fictive applicant, given the characteristics of that fictive applicant and additional effects such as dismissal rules, the current situation on the labor market and whether the manager would receive a subsidy to hire applicants above the age of 50. The characteristics of the fictive applicant varied every survey round. The analysis aimed to answer the following research question:

"Does managers' age affect hiring decisions concerning older applicants?"

OLS regressions were used to obtain the results. Regression results indicated that the age of the manager does not have a decisive effect on the hiring chances of older applicants. Older applicants seem to have a lower hiring chance beforehand when comparing them with younger applicants. In addition, the margins plot shows that the shape of the hiring chances of both young and old applicants are almost the same when plotting them against the age of the manager. Hence, the conclusion would be that managers' age does affect hiring chances of old applicants, but that the effect is minor when comparing to the hiring chances of younger applicants.

Additional analysis show other very interesting results. Providing subsidies for hiring applicants above the age of 50 in combination with a relaxation of the dismissal rules, such that employers pay an equal dismissal tax for dismissing employees regardless of their age, significantly increase the probability of older applicants being hired. Subsidies corners employers to make a decision in hiring older applicants, but combining this with a relaxation of dismissal rules where an equal dismissal tax is payed may persuade employers to reconsider hiring more older applicants. Furthermore, having experience in a similar position before applying, appearance and being recommended by someone else are factors that can have a decisive effect on the hiring chances of both young and old applicants. These factors however have a bigger positive influence on the hiring chances of young applicants than old applicants, which is striking since one would expect older applicants to compensate their improvement points with their experience.

Limitations and suggestions for future research

This thesis is subject to a number of limitations. First, as vignette studies describe hypothetical situations of the respondents, it does not mean that the respondents will act exactly the same when this hypothetical situation occurs in real-life. With a vignette study motivations of manager's hiring decision can also not be revealed. Second, the vignette studies do not have a clear and accurate job description. It therefore might be that the manager relate the hypothetical job vacancy to their own job sector. The drawback here is that every job sector may value variables as experience, age, appearance and gender differently. In the vignette survey, there is also not controlled for the education of the job applicant. This can be explained by the earlier drawback that there is no clear description and the importance of education is not valued. As this research is mainly about older workers, the designers of the survey may not have found it necessary to include education in the vignette surveys. Last, in this dataset there cannot be controlled for managers that actually hire applicants on a frequent base. It might be that the participants do not have much hiring experience or outsource that more frequently to other managers. In addition, hiring new personnel is often not an individual decision. Mostly, other HR-managers are involved in the hiring process and much more consultation is done.

Based on these limitations, several suggestions for future research can be given. First, it would be interesting to include wage demands of applicants in the analysis. Older workers are in general more expensive for employers than young applicants because of their experience. However, it might be that in times of high unemployment older applicants are more willing to cut on their wage and can therefore be an interesting option for employers because of their experience, given the expectation that they adapt to the job more easily and work more efficiently. It would be interesting to see if this affects managers to reconsider hiring older applicants, or maybe even favor them sometimes in certain positions for younger applicants. In addition, as experience in this thesis has roughly the same effect on young and old applicants, looking more into the value of experience for employers would give more clearness of why older applicants cannot compensate their other limitations. Taking the development of (digital) technology into account may give some interesting results, since the younger generation adapts more quickly to technological development.

As discussed earlier, the possibility exist that managers have a certain view about older workers regarding their productivity and capability at a higher age. Health issues, which more frequently occurs at a higher age, can be a possible factor. Studying the absence of workers of all ages could reveal whether older workers are indeed more absent due to sickness or health issues and to what

extent it will affect their hiring chances. Providing subsidies to hire older applicants proved to be an interesting option to incentivize managers in reconsidering the hiring chances of older applicants. However, there has not been controlled for different heights of subsidy, which could be an important factor for employers. Further research on the heights of subsidies provided for hiring older applicants could give useful results for policy making. Last, vignette studies cannot reveal a certain reasoning behind a choice or rating within this analysis. It is therefore recommended that the same topic would be investigated using other research methods to get a better understanding of why older applicants are less favored in hiring decisions and what can trigger managers to influence that choice.

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Appendix

A: Tables

A1: Shapiro Wilk Test for normal distribution of the hiring chances of young and old applicants

Table A1: *Shapiro Wilk Test*

Variable	Obs	W	V	z	Prob>z
Hiring Chances Young	957	0.98734	7.673	5.037	0.00000
Hiring Chances Old	2383	0.97856	29.810	8.690	0.00000

A2: Robustness check

Table A2: *Results ordered logit model*

VARIABLES	(Odds Ratio) Hiring Chances Young	(Odds Ratio) Hiring Chances Old
Situation Labor Market	0.898	0.9620
	(0.103)	(0.0903)
Male Applicant	1.180	1.0483
	(0.239)	(0.1338)
Experience	2.0831***	1.992***
	(0.245)	(0.147)
Labor Market Status	0.969	1.175
	(0.118)	(0.116)
Appearance	6.681***	3.194***
	(0.867)	(0.243)
Recommendation	1.714***	1.428***
	(0.209)	(0.1103)
Subsidy		1.0813
		(0.1609)
Male Manager	1.138	1.0033
	(0.194)	(0.112)
Age Manager	0.971***	0.992
	(0.00736)	(0.00472)
Age Manager^2	0.998**	0.998***
	(0.000420)	(0.000267)
Relaxation Dismissal Rules Version 2	1.1903	0.899
	(0.177)	(0.108)
Relaxation Dismissal Rules Version 3	1.148	0.968
	(0.168)	(0.114)
Conflict Young	0.846	0.997
	(0.103)	(0.0765)
Conflict Old	0.916	1.00326
	(0.128)	(0.09005)
Physical Work	0.973	0.8801*
	(0.115)	(0.0651)
Male Manager x Male Applicant	0.8301	0.889
	(0.205)	(0.138)
Subsidy x Situation Labor Market		1.0742
		(0.160)
Conflict Young x Age Manager	1.00158	0.984**
	(0.0118)	(0.00724)
Conflict Old x Age Manager	1.0136	1.0101
	(0.0137)	(0.00863)
Subsidy x Relaxation Dismissal Rules Version 2		1.584**
		(0.3074)
Subsidy x Relaxation Dismissal Rules Version 3		1.334
		(0.254)
Constant cut1	-1.905***	-1.574***
	(0.270)	(0.180)
Constant cut2	-1.191***	-0.907***
	(0.251)	(0.174)

Constant cut3	-0.476**	-0.281
	(0.242)	(0.172)
Constant cut4	0.257	0.362**
	(0.239)	(0.171)
Constant cut5	0.900***	0.971***
	(0.240)	(0.172)
Constant cut6	2.401***	2.434***
	(0.253)	(0.179)
Constant cut7	3.403***	3.585***
	(0.265)	(0.189)
Constant cut8	4.578***	4.936***
	(0.285)	(0.218)
Constant cut9	5.939***	6.340***
	(0.341)	(0.307)
Constant cut10	6.606***	7.037***
	(0.399)	(0.396)
Observations	957	2,383

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To check the results on robustness, the same regression is estimated in an ordered logit model. The use of the ordered logit model has been chosen because the dependent variable is an ordinal, responsive and ordered with a scale from 1 to 11, from very unlikely to very likely.

Table A2 shows the odds ratio of the ordered logit model for the hiring chances of young and old applicants. Notice that the cut variables in the table stands for the intercept of each category in the dependent variable. As there are 10 cut-offs in the intercepts, it means that there are 11 categories in the dependent variable, here the 1-11 rating scores. Interpretation of the results in logistic models is very tricky and should be done with care. The magnitude of the coefficients in the table below should be interpreted in terms of the effects on the respective probabilities, also known as the log-odds ratio (Verbeek, 2012).

Similar to the OLS regression results, the ordered logit model shows that experience, appearance and being recommended are the major drivers for applicants for increasing hiring chances. Conditional on other explanatory variables, having experience in a similar position increases the odds in obtaining better hiring chances approximately twice for both young and old applicants, compared with having a lack of experience. Appearance is still seen as the most important factor in increasing hiring chances, as the odds increases more than 6,5 times for young applicants and more than 3 times for old applicants. Being recommended by another increases the odds of being hired with 74% for young applicants and with approximately 43% for old applicants. Last, it can be seen that there is a relatively large positive effect in the interaction between subsidies given and the relaxation of

dismissal rules, as described in version 2. Providing subsidies in combination with relaxing dismissal rules, with equal dismissal taxes for all ages increases the odds of the hiring chances with 58,4%. The odds of the remaining variables are fairly small or insignificant.

To look more deeply into the ordered logit model, the marginal effects of the results in table A2 are estimated and presented in table A3 and table A4. The marginal effect of each variable for each rating score is being estimated. This shows the likelihood of being rated a certain score if the variable increases or a dummy is set to one, conditional that all other variables stay equal. Table A3 confirms the earlier finding that appearance is the most important factor for young applicants in increasing their hiring chances. The likelihood of high rating scores is higher for young than for old applicants when comparing table A3 and table A4. Young applicants have the highest likelihood to score a 7 or 8 and the marginal effects are higher than for older applicants. This might be due to the fact that old applicants are more experienced, and are being rated more on their previous achievements than the way they look. Although the marginal effect of experience is slightly higher for old applicants than for young applicants, the difference and effects are very small. The same applies for the recommendation of employees. The likelihood of a higher rating rises when the applicant is recommended to the manager. Table A4 also shows that the interaction between getting subsidies and relaxing dismissal rules more likely increases the hiring chances of the old applicants.

Overall, the signs and effects of the earlier results seem to be similar to the effects found in the ordered logit model. To test the ordered logit model on accuracy, the probabilities of the ordered logit models are predicted. These predictions are summarized in tables A5 and A7. Each of the individual observation in the data now has a prediction for the predicted probability of being rated from 1 to 11. The means of the predictions should not differ too much from the actual mean of the dependent variable, in this case the hiring chances of the young and old applicants. Tables A6 and A8 summarize those hiring chances. When looking at the column percentage in both tables, the values are similar to the mean probability predictions of the logit models in tables A5 and A7. Hence, we can conclude that on average the predictions that are made in the ordered logit model are very accurate.

Table A3: *Marginal effects of the hiring chances of young applicants, based on the ordered logit model. Numbers 1-11 denote the rating score on the hiring chances scale.*

VARIABLES	δy/δx 1	δy/δx 2	δy/δx 3	δy/δx 4	δy/δx 5	δy/δx 6	δy/δx 7	δy/δx 8	δy/δx 9	δy/δx 10	δy/δx 11
Situation Labor Market	.0030524	.0028184	.0047904	.0069785	.0061348	-.0009753	-.0098741	-.0080274	-.0035478	-.0006483	-.0007015
Male Applicant	-.0046991	0043416	-.0073867	-.0107832	-.009521	.0013239	.0152788	.012489	.0055329	.0010119	.0010951
Experience	-.0217753***	-.0199023***	-.0333722***	-.0475295***	-.0404937***	.0089299	.0663566***	.0543336***	.0242076***	.0044381***	.0048072***
Labor Market Status	.0008688	.0008023	.0013641	.001988	.0017488	-.0002759	-.0028137	-.0022872	-.0010107	-.0001847	-.0001998
Appearance	-.0605219***	-.0531365***	-.0848051***	-.1125685***	-.0898089***	.0116369	.1502278***	.1419329***	.0694252***	.0131793***	.014439***
Recommendation	-.0168343***	-.0153131***	-.0254824***	-.035683***	-.0292569***	.011859*	.0492929***	.0383853***	.0167077***	.0030398***	.0032848***
Male Manager	-.0037718	-.0034733	-.0058805	-.0085002	-.0073628	.0016105	.0119652	.0095948	.0042169	.0007693	.0008319
Age Manager	.0008227***	.0007599***	.0012923***	.0018843***	.001659***	-.0002558	-.0026678***	-.0021703***	-.0009593***	-.0001753**	-.0001897**
Age Manager^2	.0000297**	.0000275**	.0000467**	.0000681**	.00006**	-9.25e-06	-.0000964**	-.0000785**	-.0000347**	-6.34e-06**	-6.86e-06**
Relaxation Dismissal Rules V2	-.0048351	-.0044793	-.0076518	-.0112597	-.0100948	.0007617	.0160372	.013317	.0059381	.0010882	.0011784
Relaxation Dismissal Rules V3	-.0038692	-.0035822	-.0061135	-.0089785	-.0080177	.0007488	.012772	.0105534	.0046958	.0008599	.0009311
Conflict Young	.0047645	.004396	.0074644	.0108532	.00951	-.0016197	-.0153376	-.012444	-.0054961	-.0010042	-.0010865
Conflict Old	.0025395	.0023393	.0039625	.0057329	.0049732	-.0010633	-.0080744	-.0064797	-.0028484	-.0005197	-.000562
Physical Work	.0007774	.0007178	.00122	.001777	.0015616	-.0002531	-.0025142	-.0020416	-.0009018	-.0001648	-.0001783
Male Manager x Male Applicant	.0054874	.0050439	.0085172	.0069785	.0105114	-.002675	-.0171855	-.0136797	-.005995	-.0010927	-.0011814
Age Manager x Conflict Young	-.0000451	-.0000417	-.0000708	-.0107832	-.0000909	.000014	.0001462	.000119	.0000526	9.61e-06	.0000104
Age Manager x Conflict Old	-.0003862	-.0003567	-.0006067	-.0475295	-.0007788	.0001201	.0012524	.0010189	.0004504	.0000823	.0000891
Observations	957	957	957	957	957	957	957	957	957	957	957

Dep. Variable: Hiring Chances Young; *** p<0.01, ** p<0.05, * p<0.1

Table A4: *Marginal effects of the hiring chances of old applicants, based on the ordered logit model. Numbers 1-11 denote the rating score on the hiring chances scale.*

	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx	δy/δx
VARIABLES	1	2	3	4	5	6	7	8	9	10	11
Situation Labor Market	.0024459	.0017598	.0022037	.0022123	.0010384	-.0034708	-.003562	-.0018668	-.0005679	-.0000963	-.0000964
Male Applicant	-.0029874	-.0021489	-.00269	-.0026988	-.0012645	.00424	.0043455	.0022767	.0006925	.0001175	.0001175
Experience	-.0439915***	-.0312707***	-.038726***	-.0384312***	-.0179644***	.0598691***	.0630535***	.0336385***	.010314***	.0017533***	.0017555***
Labor Market Status	-.0101359	-.0073118	-.0091882	-.0092907	-.004464	.0142943*	.0149775	.007895	.0024067	.0004085	.0004088
Appearance	-.0761117***	-.0527311***	-.0637517***	-.061537***	-.0279542***	.096349***	.1044963***	.0573403***	.0178142***	.0030394***	.0030464***
Recommendation	-.0237593***	-.0167669***	-.0205125***	-.0197423***	-.0081607***	.0338141***	.0319899***	.0164696***	.0049807***	.0008436**	.0008438**
Subsidy	-.0049131	-.0035416	-.0044457	-.0044841	-.0021358	.006952	.0072223	.0037971	.0011564	.0001962	.0001963
Male Manager	-.00021	-.000151	-.0001891	-.0001897	-.0000889	.000298	.0003055	.00016	.0000487	8.26e-06	8.26e-06
Age Manager	.0004778	.0003438	.0004305	.0004321	.0002028	-.0006781	-.0006957	-.0003646	-.0001109	-.0000188	-.0000188
Age Manager^2	.0001072***	.0000772***	.0000966***	.000097***	.0000455***	-.0001522***	-.0001561***	-.0000818***	-.0000249***	-4.22e-06***	-4.22e-06***
Version 2	.0068173	.0048782	.006067	.0060122	.0027127	-.0097188	-.009683	-.0050384	-.0015288	-.0002592	-.0002593
Version 3	.0020327	.0014604	.0018253	.0018259	.0008476	-.0028894	-.0029395	-.0015372	-.0004673	-.0000792	-.0000793
Conflict Young	.0001568	.0001128	.0001412	.0001418	.0000665	-.0002225	-.0002282	-.0001196	-.0000364	-6.17e-06	-6.17e-06
Conflict Old	-.0002056	-.000148	-.0001854	-.0001862	-.0000875	.0002918	.0002998	.0001571	.0000478	8.11e-06	8.11e-06
Physical Work	.008157*	.005848*	.0072909*	.00726*	.0033269*	-.0116*	-.0116951*	-.0061043*	-.0018543*	-.0003144	-.0003146
Male Manager x Male Applicant	.0075433	.0053992	.0067173	.0066617	.0030136	-.0107478	-.0107303	-.0055865	-.0016955	-.0002874	-.0002876
Subsidy x Situation Labor Market	-.004447	-.0032168	-.0040559	-.0041255	-.0020146	.0062643	.0066468	.0035128	.0010718	.0001819	.0001821
Age Manager x Conflict Yng	.0009925**	.0007141**	.0008942**	.0008976**	.0004212**	-.0014086**	-.0014452**	-.0007573**	-.0002304**	-.0000391*	-.0000391*
Age Manager x Conflict Old	-.0006392	-.0004599	-.0005759	-.0005781	-.0002713	.0009072	.0009307	.0004877	.0001484	.0000252	.0000252
Subsidy x Version2	-.0251787***	-.0188088***	-.024735**	-.0273228**	-.0167764*	.0316783***	.0448818**	.0255238**	.0079992*	.0013673	.0013712
Subsidy x Version 3	-.0166537*	-.012286	-.0158902	-.0169832	-.009547	.0223188*	.027593	.0151588	.00469	.000799	.0008005
Observations	2,383	2,383	2,383	2,383	2,383	2,383	2,383	2,383	2,383	2,383	2,383

Dep. Variable: Hiring Chances Old; *** p<0.01, ** p<0.05, * p<0.1

Table A5: *Summary statistics of the predicted probabilities for the ordered logit model*

Rating score	Obs.	Mean prob.	St. Dev.	Min.	Max.
1	3340	.0480024	.0482836	.0037289	.6924549
2	3340	.0414591	.0349995	.0038605	.1767534
3	3340	.0675826	.0485648	.077999	.1768256
4	3340	.1004942	.0564614	.0161074	.1811547
5	3340	.11063	.0437343	.0224617	.1593865
6	3340	.285536	.0572716	.0202171	.3586842
7	3340	.158257	.0731575	.0037566	.245239
8	3340	.1135362	.0798866	.0015159	.2794769
9	3340	.0532059	.0467095	.0005047	.195297
10	3340	.0101414	.0096582	.0000847	.0437768
11	3340	.0111552	.0109185	.0000893	.0509907

**Dependent variable: Hiring Chances Young*

Table A6: *Summary statistics of the hiring chances of young applicants*

Rating score	Freq.	Percent	Cum.
1	46	4.81	4.81
2	41	4.28	9.09
3	67	7.00	16.09
4	98	10.24	26.33
5	106	11.08	37.41
6	267	27.90	65.31
7	149	15.57	80.88
8	110	11.49	92.37
9	52	5.43	97.81
10	10	1.04	98.85
11	11	1.15	100.00
Total	**957**	**100.00**	

**Dependent variable: Hiring Chances Young*

Table A7: *Summary statistics of the predicted probabilities for the ordered logit model*

Rating score	Obs.	Mean prob.	St. Dev.	Min.	Max.
1	3340	.0877223	.0634879	.0129082	.7738157
2	3340	.0646086	.0353548	.0119277	.1649854
3	3340	.0892968	.0379737	.0206564	.1553952
4	3340	.1193918	.0344891	.0337682	.1592482
5	3340	.1300359	.0216481	.0180579	.1511954
6	3340	.2884923	.062093	.0171359	.350201
7	3340	.1323998	.0649296	.0036059	.2761259
8	3340	.0627801	.0410924	.0012429	.2032022
9	3340	.0188706	.0138388	.000328	.0749841
10	3340	.0031996	.002419	.0000537	.0134839
11	3340	.003202	.0024422	.0000532	.013731

**Dependent variable: Hiring Chances Old*

Table A8: *Summary statistics of the hiring chances of old applicants*

Rating score	Freq.	Percent	Cum.
1	203	8.52	8.52
2	153	6.42	14.94
3	213	8.94	23.88
4	285	11.96	35.84
5	311	13.05	48.89
6	684	28.70	77.59
7	317	13.30	90.89
8	154	6.46	97.36
9	47	1.97	99.33
10	8	0.34	99.66
11	8	0.34	100.00
Total	**2,383**	**100.00**	

**Dependent variable: Hiring Chances Old*

B: Surveys

Version 1

Your organization has a vacancy for a permanent job. You will now be presented with several descriptions of employees who are interested in this job. For each candidate description you are asked to estimate the likelihood that this candidate will be considered suitable for this permanent job.

When making this decision you should assume that, despite any government plan, dismissal rules will not be relaxed but are maintained as before.

Situation on the labor market:	High unemployment/Low unemployment
<u>Employee characteristics:</u>	
Age:	35/40/50/55/60
Sex:	Male/Female
Experience in a similar position:	Yes/No
Labor Market Status:	Unemployed since less than half a year/Unemployed for half a year or longer/Currently employed in another job
Appearance:	Appears very vigorous/Does not appear very vigorous
Recommended by:	Recommended by a current employee/Recommended by a befriended employer/No particular references
Subsidy to hire unemployed people:	None/During the first 3 years: 7000 euros per year (on fulltime basis)

How do you estimate the likelihood that, under these dismissal rules, the candidate will be considered suitable for the permanent job?

Very unlikely				Neutral						Very likely
1	2	3	4	5	6	7	8	9	10	11

Version 2

Your organization has a vacancy for a permanent job. You will now be presented with several descriptions of employees who are interested in this job. For each candidate description you are asked to estimate the likelihood that this candidate will be considered suitable for this permanent job.

When making this decision you should assume that the government has decided to greatly simplify dismissal rules, making it much easier for employers to dismiss permanent personnel than at present. However, upon dismissing an employee the employer is obliged to pay a tax equal to **half a year's salary** of the person dismissed.

Situation on the labor market:	High unemployment/Low unemployment
<u>Employee characteristics:</u>	
Age:	35/40/50/55/60
Sex:	Male/Female
Experience in a similar position:	Yes/No
Labor Market Status:	Unemployed since less than half a year/Unemployed for half a year or longer/Currently employed in another job
Appearance:	Appears very vigorous/Does not appear very vigorous
Recommended by:	Recommended by a current employee/Recommended by a befriended employer/No particular references
Subsidy to hire unemployed people:	None/During the first 3 years: 7000 euros per year (on fulltime basis)

How do you estimate the likelihood that, under these dismissal rules, the candidate will be considered suitable for the permanent job?

Very unlikely					Neutral					Very likely
1	2	3	4	5	6	7	8	9	10	11

Version 3

Your organization has a vacancy for a permanent job. You will now be presented with several descriptions of employees who are interested in this job. For each candidate description you are asked to estimate the likelihood that this candidate will be considered suitable for this permanent job.

When making this decision you should assume that the government has decided to greatly simplify dismissal rules, making it much easier for employers to dismiss permanent personnel than at present. However, the employer must take a dismissal tax into account which **very much depends on the age of the dismissed employee.** The dismissal tax ranges from **half a year's salary** for dismissed employees aged 35 to **four year salaries** for an employee aged 60 years.

Situation on the labor market:	High unemployment/Low unemployment
<u>Employee characteristics:</u>	
Age:	35/40/50/55/60
Sex:	Male/Female
Experience in a similar position:	Yes/No
Labor Market Status:	Unemployed since less than half a year/Unemployed for half a year or longer/Currently employed in another job
Appearance:	Appears very vigorous/Does not appear very vigorous
Recommended by:	Recommended by a current employee/Recommended by a befriended employer/No particular references
Subsidy to hire unemployed people:	None/During the first 3 years: 7000 euros per year (on fulltime basis)

How do you estimate the likelihood that, under these dismissal rules, the candidate will be considered suitable for the permanent job?

Very unlikely					Neutral					Very likely
1	2	3	4	5	6	7	8	9	10	11