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MASTER THESIS

The effect of educational level on ethnic differences in labor market position in the Netherlands

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Thesis based on existing data

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Abstract

Aim. The aim of this research was to increase the knowledge of the effect of educational level on the differences between ethnic minority groups and native Dutch in labor market position. Discrimination could partially explain these differences, and the statistical discrimination theory indicates that the effect of educational level differs on the ground of ethnical background. This study examined the extent to which the differences in labor market position occur between ethnic minority groups in the Netherlands and native Dutch, examined whether educational level as an effect on this relation, and examined whether those differences decrease when educational level increases.

Methods. Two binary logistic regression analyses with moderation were used to examine this effect. Labor market position is measured with probability of being unemployed and probability to have a temporary contract in comparison with a permanent contract.

Results. Results show, as expected, that people with a Moroccan, Turkish, Surinamese or Antillean background are more likely to be unemployed. Besides, when employed, minority groups, with the exception of people with a Surinamese background, are more likely to have a temporary employment contract. However, this study has found no significant effect of employment level on this relation.

Conclusion. As the effect of educational level on labor market outcomes does not differ between ethnic minority groups and native Dutch, this study could not state that the disadvantaged position of minority groups decreases when educational level increases. Further research is required to examine why less perceived discrimination does not show relatively lower disadvantaged chances on indicators of labor market position.

Keywords: labor market position, minority groups, educational level, discrimination

Introduction

People with a Moroccan, Turkish, Surinamese or Antillean background¹, have a disadvantaged position on the Dutch labor market (Andriessen, Nievers, & Dagevos, 2012; Huijnk & Andriessen, 2016). In comparison with native Dutch, their unemployment rate is relatively high (Huijnk et al., 2015). Not only are these minority groups more often unemployed, when they do have a job, they are more likely to be dependent on a temporary contract (Andriessen et al., 2012; Jongen et al., 2019). This can be problematic as unemployment and the type of contract are indicators for a less favorable labor market position, and a less favorable labor market position can place people of ethnic minority groups further from society and undermine their motivation to adapt (Euwals et al., 2010; Huijnk et al., 2015).

The less favorable labor market position of minority groups is primarily related to factors that apply to all groups (Roscigno et al., 2007). For example, people with a low educational level are more likely to be unemployed, and the educational level in ethnic minority groups is relatively low (Andriessen, Nievers, & Dagevos, 2012). However, even with the same educational level, differences in labor market outcomes significantly differ, which is one of the implications that discrimination exists (van der Werff et al., 2018; Andriessen, Nievers, & Dagevos, 2012; Huijnk & Andriessen, 2016). The statistical discrimination theory explains why discrimination occurs and models of this theory state that educational level has a less favorable effect for minority groups in their relation to the labor market (Lang & Manove, 2011).

The existence of discrimination on the labor market is problematic as discrimination leads towards less opportunities on the labor market for people of ethnic minority groups;

¹ In earlier research these four groups represented 'non-Western migrants' as they are the four biggest groups specified in this category (Centraal Bureau voor de Statistiek, 2019a). However, in this study is chosen to refer to those groups as ethnic minority groups, due to the recent claim that the categorizing term 'non-Western' is not scientifically substantiated and evokes negative associations (Heck, 2021).

with the same characteristics, people of ethnic minority groups have less access to employment than native Dutch (Turner et al., 1991; Bovenkerk, Gras, et al., 1995; Dagevos et al., 2020). When people expect they have less influence on their labor market position, it decreases the propensity to invest in training (Allasino et al., 2004). Moreover, when people of ethnic minority groups feel that they have fewer to no opportunities, it can lead to frustration, friction and a diminishing emotional bond with Dutch society, which hinders the integration process (Huijnk et al., 2015).

Zschirnt and Ruedin (2016) state the need for studies that go beyond showing the existence of ethnic discrimination in the labor market. Moreover, Andriessen et al. (2011) state the need to further examine the disadvantaged position of ethnic minority groups in the context of educational level. Therefore, the aim of this study is to investigate whether educational level has an effect on the differences in labor market position. More specifically, in the components of labor market position of unemployment and type of employment contract.

This study will therefore gain knowledge about the disadvantage that ethnic minority groups face, and the possible effect educational level could have on this disadvantage. This knowledge can be used to further develop societal sectors as governmental practices (policy making) and social cohesion, which makes it important from the perspective of society (Wilbertz, 2013). More specifically, this study contributes to further insight of the need of policy makers to use educational level as a factor to tackle the differences on the labor market. Moreover, to the researcher's knowledge, no previous studies have examined the effect of educational level on differences in the relationship of ethnical background to labor market position, which indicates that this research could fulfill a gap in the literature, which proves the scientific relevance (Shaw & Elger, 2013).

The theories in the context of integration and discrimination, are part of ethnic and racial studies and are associated with sociological theory (Banton, 2001). Besides, the effect educational level has on labor market position for all groups, are a part of the human capital theory, whose origin lies in the human resource management sector (Nafukho et al., 2004). Furthermore, the statistical discrimination theory has its origin in the field of economics and sociology (Baumle & Fossett, 2005). Taken together, this study is interdisciplinary of nature.

Existing research

Differences in labor market position

In the last two decades, the unemployment rate of ethnic minority groups has always been about three factors higher than among the native Dutch (Huijnk 2012; Huijnk & Andriessen, 2016). The differences on unemployment between ethnic minority groups and native Dutch have hardly diminished since the beginning of this century (Huijnk & Andriessen, 2016). Besides, significant positive relations between ethnic background and temporary employment are found (Bovenkerk, Gras, et al., 1995). 37 percent of the minority groups has a temporary contract, in comparison to 24% of the native Dutch (Huijnk & Andriessen, 2016). Differences in the area of temporary employment remain as well and are even bigger in the second generation ethnic minority groups (CBS, 2020). Important aspects of a less favorable labor market position are unemployment and having a contract of temporary nature (Euwals et al., 2010; Andriessen, Nievers, Dagevos, et al., 2012). Therefore, these statistics show that differences between minority groups and native Dutch in labor market positions exist, are of great proportions and persistent over time.

It is crucial that the disadvantages between ethnic minority groups and native Dutch on the labor market decrease, as the difference in labor market position has widely negative effects on the integration process of those groups (Dagevos et al., 2020; Huijnk et al., 2015).

In order for policy makers to tackle the disadvantages, insight of which factors influence these disadvantages is needed (Huijnk et al., 2015). Moreover, the need is stated for further examination of the disadvantaged position of ethnic minority groups in the context of educational level (Andriessen et al., 2011).

Explanation of differences based on educational level

Most research on labor market inequalities state that human capital deficits could account for some outcome differences between ethnic minorities and natives (Roscigno et al., 2007). The assumption of the human capital theory is that individual investments, such as educational level, can increase productive capability and labor market position (Roscigno et al., 2007). Nickel (1979) showed that an increase in educational level leads towards strong reductions in the number of expected experienced periods of unemployment in a lifetime. Next to unemployment, it is argued that temporary workers are more likely to have the lowest educational level (Engellandt & Riphahn, 2005). Besides, Euwals et al., (2010) state that in the Netherlands, higher levels of education lead towards a larger probability to have a permanent job.

Educational level, one of the two most important factor of human capital, could partly explain differences in unemployment and type of working contract as, on average, ethnic minority groups have a lower educational level than native Dutch (Langenberg & Lautenbach, 2007; Andriessen, Nievers, & Dagevos, 2012). This explanation is known as the ‘skills deficit’ argument (Kaufman, 1986). However, the labor market position of ethnic minority groups is in all cases worse than native Dutch with the same educational level (van der Werff et al., 2018).

Explanation of differences based on discrimination

It is stated that a solidary focus on human capital overlooks the role of inequality in institutional processes generally, which is very important to take into account (Roscigno et al., 2007). Discrimination could further explain labor market differences, as it is proven that discriminatory behavior of employers substantially causes the unfavorable position of ethnic minorities in the Dutch labor market (Huijnk & Andriessen, 2016; Bovenkerk, Gras, et al., 1995). In this study, the following definition of discrimination will be used: *‘a behavioral outcome where members of a racial and ethnic minority group are treated differently (less favorably) than members of a racial and ethnic majority group with otherwise identical characteristics in similar circumstances’* (Thijssen, 2020, p. 11). Although the concept of discrimination is difficult to define, this definition is in line with the definition in multiple previous studies on discrimination on the labor market (Bertrand & Duflo, 2016; Thijssen, 2020).

Theoretical framework

Discrimination in the labor market

Field experiments, an extremely suitable instrument for measuring discrimination on the basis of ethnicity on the labor market, show over and over again the presence of discrimination on the labor market (Andriessen et al., 2015; Lancee, 2010; Quillian et al., 2017). The method to prove discrimination with correspondence testing guarantees that any observed differences in the reaction of employers are solely caused by the minority trait manipulation (Bertrand & Duflo, 2016). This method entails sending two fictional equivalent letters, one for a native applicant and one for an applicant of an ethnic minority group, to the same job offer and examining the employer's response (Rooth, 2021).

Discrimination in the context of unemployment

In an analysis of 43 correspondence testing studies, Zschirnt and Ruedin (2016) stated that in order to be invited for a job interview, equivalent minority candidates need to send 50% more applications than people of the majority group. In the Netherlands, correspondence studies also show that people of ethnic minority groups get less invited on a job interview than native Dutch with the same work-relevant characteristics; they are 40 percent less likely to be invited (Bovenkerk, Gras, et al., 1995; (Ministerie van Sociale Zaken en Werkgelegenheid, 2018).

Discrimination in the context of employment contract

Moreover, discrimination is not only proven in the accessibility of employment. Leblanc (1995) stated that people of minority groups have a lower probability in remaining in the labor force. In this study, it was stated that members of minority groups, who are next to ethnical background observationally equivalent to natives, get different contract offers, which proves the discriminatory outcome (Leblanc, 1995).

Statistical discrimination theory

The statistical discrimination theory provides an explanation for the observed discrimination on the labor market (Thijssen, 2020). The essential feature of this theory entails that employers base their decisions regarding labor market position, such as hiring and placement of employees, on some indicator of skill, that measures the true skill level (Aigner & Cain, 1977). Statistical discrimination arises when employers experience a gap of knowledge on individuals' characteristics. It is suggested that employers have a harder time evaluating minority groups in comparison with natives, which makes them judge someone on the basis of the average characteristics of the ethnic minority group they belong to as well as their own characteristics (Lang & Manove, 2011; Sattinger, 1998). This theory explains

discrimination behavior of employers because ethnic minority workers would be, on average, less productive than the majority group of natives (Thijssen, 2020).

Effect of discrimination on labor market position

Discrimination leads towards a bigger difference between the ethnical minority groups and natives, as with the same characteristics, people of ethnic minority groups have less access to employment than native Dutch (Bovenkerk, Gras, et al., 1995). Besides, it is related to higher possibilities of unemployment and type of contract (Parks, 2009; Euwals et al., 2010; Leblanc, 1995). The conclusion could be drawn that discrimination has a negative effect on employment opportunities of minority groups and can partly explain the differences between ethnic minority groups and native Dutch (Thijssen, 2020). Taken together, it could be argued that when less discrimination occurs, the differences in labor market position decrease (Bovenkerk, Gras, et al., 1995).

Difference of discrimination in educational level

Models of statistical discrimination focus on differences in reliability of productivity indicators, such as educational level, among identifiable groups of workers. Hereby, it is suggested that minority groups are assumed to have less reliable scores (Aigner & Cain, 1977). The value of this productivity indicator will be smaller when direct observation of productivity by employers is less reliable (Lang & Manove, 2011). This implicates that educational level could have a less favorable effect on labor market outcomes of people who could be discriminated against on ethnical background, than people who do not experience discrimination. Moreover, as the assumption is that ethnic minority workers would be, on average, less productive than the majority group of natives, the assessment of their productivity components, would be of less value (Thijssen, 2020). This is in line with the

study of Tomaskovic-Devey et al. (2005) which showed that employers tend to overvalue educational levels of majority groups and undervalue the educational levels of ethnic minorities, which leads towards discrimination.

Although the existence of discrimination is proven by minority groups of all educational levels, a higher level of education seems to offer some protection to ethnic minority groups against the effects of discrimination in the Netherlands (Andriessen et al., 2011; Andriessen et al., 2007; Büyükbozkoyum et al., 1991). It is found that discrimination occurs more in low-skilled jobs, where a low educational level is required (Andriessen, Nievers, Dagevos, et al., 2012). Even more, Andriessen et al. (2011) showed that the levels of discrimination differ between ethnic minority groups in educational level. More specifically, they state that the differential of treatment of ethnic minority groups is lower for people of those groups with a high educational level.

Conceptual model

Taken together, the disadvantages on the labor market between minority groups and native Dutch, could be partly attributed to discrimination. Furthermore, discrimination leads towards a less favorable labor market position of ethnic minority groups in the context of unemployment and temporary employment contracts (Leblanc, 1995; Bovenkerk, Gras, et al., 1995; Parks, 2009; Euwals et al., 2010).

Models of statistical discrimination suggest that people who suffer from discrimination receive a lower return of the same human capital investments, which indicates the effect of educational level is less favorably for people who experience discrimination (Aigner & Cain, 1977; Lang & Manove, 2011). Moreover, due to the fact that people of higher educational levels experience less discrimination, the differences between ethnic minority groups and

native Dutch could be smaller, when educational levels is higher. This comes together in the conceptual model in Figure 1.

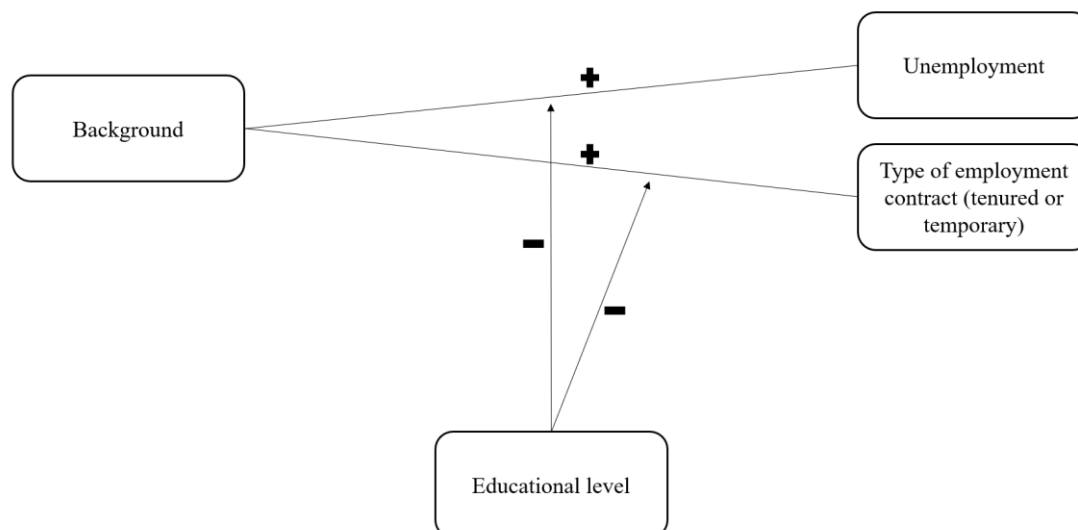


Figure 1

Research question

This study examines the differences of ethnic minority groups in comparison with native Dutch on the components of labor market position of unemployment and type of employment contract. Furthermore, it examines whether the effect of educational level could be different on these relationships. Therefore, the research question of this study is:

“To what extent do differences in ethnical background determine the probability for unemployment and for having a temporary employment contract and is this relation moderated by educational level?”

The hypotheses are shown in the conceptional model in figure 1. The plus sign reflects on the hypothesis that people with a background from the ethnic minority groups have a

higher chance on being unemployed and have a temporary employment contract, which is expected due to the fact that the unemployment rate, even as the ratio of having a temporary employment contract, are relatively high of people of ethnic minority groups in the Netherlands (Huijnk et al., 2015; Andriessen et al., 2012; Jongen et al., 2019). Thus, Hypothesis one is: the probability of unemployment is higher for people of ethnical minority groups in comparison with native Dutch. And hypothesis two is: the probability of having a temporary employment contract is higher for people of ethnical minority groups in comparison with native Dutch.

As the models of statistical discrimination often imply that people who experience discrimination receive a lower return from investment in human capital than natives and educational level is a component of human capital, it is expected that the effect of educational level is lower for people of minority groups which experience discrimination in contrast to native Dutch (Lang & Manove, 2011; Andriessen et al., 2011). Thus, hypothesis 3 is: the effect of educational level significantly differs between people of ethnic minority groups and native Dutch for unemployment. And hypothesis 4 is: the effect of educational level significantly differs between people of ethnic minority groups and native Dutch for type of employment contract.

If educational level does effect differences in labor market outcomes on the basis of ethnical background, a subsequent hypothesis is formulated, which is reflected by the minus sign in the conceptional model. Due to the fact people of higher educational levels experience less discrimination, it could be suggested that when educational level arises, the probability that people of ethnic minority groups get a less favorable labor market position in comparison with native Dutch, decreases (Andriessen et al., 2011). Thus, hypothesis 5 is: the effect of educational level significantly is less of influence for higher educated minority groups for

unemployment. And hypothesis 6: the effect of educational level significantly is less of influence for higher educated minority groups for type of employment contract.

Methods

Design and procedures

The aim of this study is the examination of differences between ethnic minority groups and native Dutch in the probability of unemployment and having a temporary employment contract. Besides, this study investigates whether educational level can affect the relation between background on labor market position. This is done through two binary logistic regression analyses with a moderator in SPSS.

A logistic regression is a model for predicting categorical outcomes from categorical and continuous predictors. In other words, logistic regression analyses can predict in which of two categories a person is likely to belong to, given their scores on predictors (Field, 2018). This makes it suitable for this study because the dependent variables, unemployment (unemployed/employed) and type of employment contract (temporary/permanent), are both dichotomous, which proves the categorical of nature. Besides, it is suitable for this research as knowing the likeliness of a person to be unemployed or have a temporary employment contract, given their scores on the predictors of ethnic background or educational level, is compared with the reference group. This exposes the differences between groups.

In the logistic regression analysis, an interaction effect is included for the examination of the effect of educational level on the relation of background on labor market position. This is suitable for this research as moderation is measured with an interaction effect, and a moderator affects the relation of the independent variable on the dependent variable (Field, 2018). In conclusion, in order to investigate the relation of ethnical background on unemployment and type of employment contract, and whether educational level affects this relation, binary logistic regression analysis can be used.

Participants and sampling

For this study, the data from ‘Survey Integratie Minderheden’ (SIM) of 2015 is used (Sociaal en Cultureel Planbureau (SCP), 2015). This survey is created by Sociaal Cultureel Planbureau (SCP), the Dutch Social and Cultural Planning Office, and is conducted in collaboration with Centraal Bureau voor de Statistiek (CBS), the Dutch Central office for statistics (van Thiel et al., 2015). CBS has drawn a random sample from the population register in 2015. In principle, this concerned a national random sample, but a minimum of ten addresses per municipality was used. The sample frame of the SIM is conducted around 10.000 households in the Netherlands of which the residents have a Moroccan, Turkish, Surinamese, Antillean, Polish, Somali or native Dutch background. More specifically, for the first generation this meant that the participant was born in one of the previous named countries and for the second generation people who were born in the Netherlands and have at least one parent born in one of those countries. The recruited participants were 15 years and older (van Thiel et al., 2015). For this study, only the participants with a background of Moroccan, Turkish, Surinamese, Antillean or native Dutch background were selected, because they are the target group of the research question.

Data collection instrument(s)

Information on the source of data

The data from the SIM was conducted with a large-scale survey on micro level of the structural and social-cultural position of Dutch citizens with a Turkish, Moroccan, Surinam, Antillean, Polish or Somali background in the Netherlands. These surveys are conducted with a mixed method; they were collected online and face-to-face on the basis of field work. The conduction of the survey face-to-face is done through trained multilingual interviewers with Computer Assisted Personal Interviewing (CAPI). The surveys which were conducted online

were conducted with Computer Assisted Web Interviewing (CAWI). Participants were asked question about background information, education, (volunteer) work, social contacts, cultural integration, religion, discrimination health and sports (van Thiel et al., 2015).

A quality control was executed to ensure whether the right person from the drawn sample was questioned. This quality check is done on the characteristics of gender, age, and origin. The field work research was checked according to the ESOMAR guidelines: the way of working of the interviewer and the experiences of the respondent (van Thiel et al., 2015).

Measurements of all study variables

In this study two analysis are run. The two dichotomous variables are unemployment (unemployed/employed) and the type of employment contract (temporary or permanent), as they both are indicators for labor market position, and are often used in studies about labor market position (Andriessen, Nievers, & Dagevos, 2012; Euwals et al., 2010; Laaksonen et al., 2017).

The independent variable of this analysis is background. In the variable background is looked into the differences of Dutch citizens with a background from Morocco, Turkey, Suriname and the Antilles and the group of native Dutch citizens.

The moderator in the binary logistic analyses is educational level. Educational level was measured with the highest completed education. This was divided in four categories, in line with the categorization of CBS and SCP. The four categories are: none, low, middle, or high education. The category of no education contains people who have never been to school or never completed primary school. Primary education, lower vocational education and secondary general secondary education fall into the category of low education. Secondary vocational education and higher general and pre-university education are classified as a middle education and higher professional and scientific education (university) are classified as

a high education (Centraal Bureau voor de Statistiek, 2019b). A clarification of which types of education are part of those classifications can be found in appendix 2. Due to the fact that the moderator of educational level consists of four categories, three dummy variables were made for this analysis.

Data analysis approaches

For this study, two binary logistic regression analyses with moderators were executed. One to measure the probability to be unemployed and one to measure the probability of having a temporary employment contract. In the first binary logistic analysis, the probability of being unemployed was investigated in different steps. First the effect of different ethnic backgrounds on the probability to be unemployed was examined. Secondly, the effect of educational level on the probability to be unemployed. At last, the interaction effect of educational level with background on the probability to be unemployed is examined.

In the second analysis the same steps are taken, however with this analysis, type of employment contract (temporary or permanent) is the dependent variable instead of unemployment. In all of the statistical analyses, an alpha of .05 will be used to test whether a significant relationship can be found.

Data management

In order to run both these analysis, different data management measures were taken. First of all, all the data of people who are not in the target group needed to be deleted. This meant that all the data of Polish, Somali had to be deleted. Second of all, for the analysis with type of employment contract as dependent variable, only data of people with an employment contract had to be selected. Due to the categorical nature of the moderator educational level, and the independent variable of background, dummy variables had to be made.

Besides, the data of people older than 75 is excluded from the data. This is due to the fact that in the Netherlands people over 75 are not included in the labor force (Centraal Bureau voor de Statistiek, 2021).

Results

Collected data

The SIM survey was conducted among 6.829 participants. After only selecting the data of people of ethnic minority groups and native Dutch a sample size of 3.251 participants for measuring unemployment remained. However, due to missing data of the variable of educational level, the sample size for measuring educational level and its interaction effect was smaller (N=3227).

With the measurement of type of employment contract, the sample size was also smaller (N= 2466). This was due to the fact that data of participants without an employment contract (including the unemployed) had to be deleted. Missing values decreased the sample size for measuring educational level even more (N = 2445). A side note for this dataset is, that some people categorized both as employed and as unemployed. This could be due to the fact of partial unemployment, which indicates that an employee is not able to work as many hours as desired (Kyyrä, 2010). For this study is chosen not to include the data of those participants in the analysis. The ratio of the data is shown in tables 1 and 2.

Table 1

Descriptives in percentages

		Unemployment		Type of employment contract	
		Employed	Unemployed	Permanent	Temporary
		Row N %	Row N %	Row N %	Row N %
Ethnical background	Moroccan	81.4%	18.6%	60.5%	39.5%
	Turkish	84.9%	15.1%	68.4%	31.6%
	Surinamese	83.0%	17.0%	75.5%	24.5%
	Antillean	80.8%	19.2%	70.0%	30.0%
	Native	94.4%	5.6%	78.4%	21.6%
Educational level	None	78.0%	22.0%	85.1%	14.9%
	Low	73.5%	26.5%	74.1%	25.9%
	Middle	85.6%	14.4%	69.8%	30.2%
	High	93.9%	6.1%	70.0%	30.0%

Table 2
Descriptives of education level within ethnic background in percentages

	Educational level			
	Low	Middle	High	None
Moroccan	33.6%	34.3%	19.4%	12.6%
Turkish	37.5%	38.0%	18.8%	5.7%
Surinamese	26.8%	40.9%	29.1%	3.2%
Antillean	24.3%	42.2%	31.2%	2.2%
Native	20.8%	41.5%	37.3%	.4%

Assumptions

Linearity, overdispersion and influential cases

The assumption of linearity implies that with continuous variables, the outcome has to have a linear relationship with the predictors (Field, 2017, pp. 886). This assumption is met by definition as in this study only predictors of a categorical nature were used. The assumption of overdispersion is also met due to the fact that the analysis is binary and overdispersion can only be of a problem with multinomial logistic regression (Field, 2017, pp. 889). The assumption of no influential cases is met because none of the variables of Cook's distance are higher than one. (Field, 2017, pp. 909).

Complete separation

Complete separation occurs when the outcome variable is perfectly predicted by one variable or a combination of variables and results in a radical reduction in test power (Field, 2017, pp. 888). Complete separation does not apply on the data of this study as none of the expected counts were below one and no more than 20% of the expected counts were less than 5.

Multicollinearity

The assumption of multicollinearity is not violated as none of the dummy variables of background, educational level, unemployment, and type of employment contract correlate more than .7 or -.7 (Field, 2017, pp.401). Other tests for the examination of the assumption of collinearity also indicated that multicollinearity was not a concern with unemployment as dependent variable (Background, Tolerance = .95, VIF = 1.05; Educational level; Tolerance = .95, VIF = 1.05). For the data in which the type of employment contract is de dependent variable, the assumption of collinearity is also met (Background, Tolerance = .97, VIF = 1.03; Educational level; Tolerance = .96, VIF = 1.05).

Analyses for unemployment

The first analysis was executed in order to look whether the probability of a person being unemployed based on background can be predicted. The omnibus model for the logistic regression analysis was statistically significant for background. χ^2 (df = 4, N = 3226) = 77.55, $p < .00$, Cox and Snell $R^2 = .02$, Nagelkerke $R^2 = .04$. The model was 84.9% accurate in its predictions of employee turnover. Hosmer and Lemeshow test, stated that it could predict the model χ^2 (df = 3, N = 3214) = .00, $p = 1$. The statistics of this analysis are elaborated in table 3.

The odds ratio showed that people of all ethnic minority groups are more likely to be unemployed. More specifically, the analysis shows that the chance of being unemployed is the highest for people with an Antillean background; they are 4.03 times more likely to get unemployed in comparison with native Dutch. For people with a Moroccan background those chances are 3.86 times higher. People with a Surinamese background 3.48 times more likely and those with a Turkish background 3.01 times.

Table 3

Coefficients of the model predicting whether a person's background predict whether they are unemployed

	b	S.E.	95% CI for Odds Ratio		
			Odds Ratio	Lower	Upper
Constant	-2.83 [-3.19, -2.54]	.16			
Moroccan	1.35 [.99, 1.77]	.20	3.86	2.61	5.72
Turkish	1.10 [.72, 1.52]	.20	3.01	2.02	4.50
Surinamese	1.25 [.86, 1.65]	.19	3.48	2.38	5.09
Antillean	.1.39 [1.05, 1.81]	.19	4.03	2.77	5.85
Native*	-	-	-	-	-

Note. $p < .01$, *reference category

The next step of the analysis examined whether educational level could moderate this effect with the use of the interaction effect of ethnical background with educational level. As main effects involved in the interaction have to be included in the model, educational level is taken into the analysis first (Field, 2017, pp. 892). The omnibus model with educational level was statistically significant ($\alpha=.05$), as shown in table 4. However, only a high educational level can significantly predict a part of whether someone is unemployed. Nevertheless, even when the main effects of the predictors themselves are not significant, they have to be taken into account to measure the interaction effect.

No significance is shown in the omnibus model with the interaction effect of background and educational level included: χ^2 (df = 12, N = 3191) = 13.44, $p = .34$. Cox and Snell $R^2 = .07$, Nagelkerke $R^2 = .12$. Hosmer and Lemeshow test show χ^2 (df = 8, N = 3191) = 4.74, $p = .79$.

Table 4

Coefficients of the model predicting whether a person's background and educational level predict whether they are unemployed

	b	S.E.	Sig.	95% CI for Odds Ratio		
				Odds Ratio	Lower	Upper
Constant	-2.30 [-2.84, -1.54]	.34	< .01			
Background						
<i>Moroccan</i>	1.23 [.85, 1.1.67]	.22	< .01	3.40	2.35	5.13
<i>Turkish</i>	.86 [.45, 1.33]	.22	< .01	2.37	1.56	3.60
<i>Surinamese</i>	1.16 [.80, 1.60]	.21	< .01	3.20	2.16	4.72
<i>Antillean</i>	1.35 [.98, 1.81]	.20	< .01	3.84	2.62	5.65
<i>Native*</i>	-	-	-	-	-	-
Educational background						
<i>Low</i>	.34 [-.12, .88]	.27	.18	1.40	.89	2.47
<i>Middle</i>	-.44 [-.88, .21]	.27	.09	.64	.42	1.18
<i>High</i>	-1.36 [-1.85, -.71]	.29	< .01	.26	.16	.48
<i>None*</i>	-	-	-	-	-	-

Note. $R^2 = 6.76$ (Hosmer – Lemeshow), .07 (Cox and Snell), .12 (Nagelkerke). Model χ^2 (df = 7, N = 3191) = 142.52, *reference category

Analysis for type of employment contract

The same analysis was executed with type of employment contract as dependent variable. At first, a binary logistic regression analysis was executed in order to look whether the probability of a person having a temporary contract based on background could be predicted. The omnibus model for the logistic regression analysis has shown statistically significance for background. χ^2 (df = 4, N = 2466) = 43.88 $p < .00$, Cox and Snell $R^2 = .02$, Nagelkerke $R^2 = .03$. The model was 71.3 % accurate in its predictions of employee turnover. Hosmer and Lemeshow test stated that the model could predict the model χ^2 (df = 4, N = 2466) = .00, $p = 1$. The results are shown in table 5.

For people with a Moroccan background, the chance of having a temporary employment contract is the highest; they are 2.41 times more likely to be unemployed than native Dutch. People with a Turkish background 1.71 times, people with a background from

the Antilles 1.58 times. The model could not significantly predict the probability of people with a Surinamese background to have a temporary employment contract.

The omnibus model with educational level taken into account, was statistically significant ($\alpha=.05$), as shown in table 6.

Table 5

Coefficients of the model predicting whether a person's background predicted whether they had a temporary type of employers contract.

	b	S.E.	Sig.	95% CI for Odds Ratio		
				Odds Ratio	Lower	Upper
Constant	-1.31 [-1.52, -1.10]	.15	< .01			
Moroccan	.88 [.58, 1.17]	.16	< .01	2.41	1.81	3.21
Turkish	.54 [.23, .84]	.14	< .01	1.71	1.27	2.29
Surinamese	.18 [-.10, .47]	.14	.24	1.20	.91	1.60
Antillean	.45 [.19, .73]	.10	< .01	1.58	1.19	2.07
Native*	-	-	-	-	-	-

Note.*=reference category.

Table 6

Coefficients of the model predicting whether a person's background and educational background predicted whether they had a temporary type of employers contract.

	b	S.E.	Sig.	95% CI for Odds Ratio		
				Odds Ratio	Lower	Upper
Constant	-2.37 [-3.33, -1.76]	.40	< .01			
Background						
<i>Moroccan</i>	.95 [.68, 1.24]	.14	< .01	2.59	1.94	3.47
<i>Turkish</i>	.62 [.32, .93]	.15	< .01	1.86	1.38	2.50
<i>Surinamese</i>	.22 [.01, .66]	.15		1.24	.93	1.65
<i>Antillean</i>	.47 [.20, .75]	.14	< .01	1.59	1.21	2.10
<i>Native*</i>	-	-	-	-	-	-
Educational background						
<i>Low</i>	.82 [.21, 1.89]	.39	.01	2.28	1.13	4.61
<i>Middle</i>	1.10 [.52, 2.05]	.38	< .01	3.02	1.51	6.02
<i>High</i>	1.13 [.55, 2.03]	.38	< .01	3.10	1.54	6.22
<i>None*</i>	-	-	-	-	-	-

Note. $R^2 = .73$ (Hosmer – Lemeshow), .03 (Cox and Snell), .04 (Nagelkerke). Model χ^2 (df = 7, N = 2426) = 60.38, $p = < .01$., *=reference category

The interaction effect of educational and type of employment contract taken into the omnibus model, showed no significance. The omnibus model with educational level included as moderator has shown: χ^2 (df = 12, N = 2466) = 10.89 $p = .54$. Cox and Snell $R^2 = .03$, Nagelkerke $R^2 = .04$. Hosmer and Lemeshow model show no effect χ^2 (df = 8, N = 2426) = .00, $p = 1$.

Discussion

To the researcher's knowledge, no previous studies have examined educational level differences in the relationship of ethnical background to labor market position in the Netherlands. The aim of this study was to fill this gap in the literature by examining the size of the differences in labor market position between people of ethnic minority groups in comparison to native Dutch and to examine whether educational level influences this relationship. This increasement of knowledge is crucial due to the fact that disadvantages between ethnic minority groups and native Dutch have major negative effects on the integration process of those groups (Huijnk et al., 2015). Furthermore, more insight in the underlying mechanism of educational level on these differences in labor market position could help policy makers to develop policies to target the disadvantaged position of minority groups more specifically (Wilbertz, 2013).

Overview of the main findings

Differences in ethnical background on the probability for unemployment and type of employment contract

The results of this study are in line with the first hypothesis that people of ethnic minority groups are more likely to be unemployed than native Dutch. In the study of Huijnk and Andriessen (2016) similar results are found; they stated that the unemployment rate of ethnic minority groups over the last decade were always about a factor of three higher than among the native Dutch. Besides, the results of this study mostly confirm the second hypothesis which implied that when people of ethnic minority groups do have an employment contract, they are more likely to have a contract of temporary nature; only for people with a Surinamese background, the significance of this relation was not proven. The findings for the other groups are in line with the study of CBS (2020) and Andriessen, Nievers, & Dagevos

(2012), which both stated that all the four groups had higher levels of unemployment and, when employed, a higher ratio of employment contracts of temporary nature. Differences with those studies, in predictability of people with a Surinamese background on temporary employment contract, could occur due to the fact that in these studies the data of the four groups was combined, and this hypothesis studied the differences of those groups individually.

The found differences could be, as stated before, due to the ‘skills deficit’ argument and the fact discrimination occurs for ethnic minority groups, which results in less favorable labor market outcomes (Kaufman, 1986; Andriessen, Nievers, & Dagevos, 2012). However, these theories do not exclusively explain these disadvantages. Other explanations could lie in different levels of social capital, which indicates that having a less extended social network is of proven influence for disadvantages in labor market participation (Jongen et al., 2019). Also different levels of cultural capital, the informal, institutionalized, widely shared standards of the dominant class, could be an explanation for the differences between ethnic minority and natives (Lamont & Lareau, 1988; van Amersfoort & van Niekerk, 2006).

Effect of educational level on the relation of background on probability for unemployment and type of employment contract

As educational level did not moderate the relation of ethnic background on the probability of unemployment and type of employment contract, this study could not prove that the effect of educational level is different for ethnic minority groups in comparison with native Dutch on the labor market position components of unemployment and type of contract. This is not in line with the hypothesis, based on statistical discrimination models, that educational level has a less favorable effect on labor market outcomes of people who get discriminated against (Lang & Manove, 2011). As the difference of effect of educational level

could not be stated, the subsequent hypothesis that the effect would be of less proportions for people of minority groups with a higher educational level, could not be uncovered in this study.

As, in the study of Tomaskovic-Devey et al. (2005), the difference of effect of educational level was established on wage differences, a possible explanation of the not proven hypothesis could lie in the fact that the effect of educational level does have an effect on labor market outcomes, just not on the measured outcomes of unemployment and type of employment contract.

The results of this study could indicate that the effect of educational level remain constant; as well for people of ethnic minority groups or native Dutch, the effect educational level has on their labor market opportunities remain the same. This is in line with the assumptions, explicitly or by default, many researchers have that human capital measurements, such as educational level are treated relatively similar by employers (Roscigno et al., 2007). Therefore, the results of this study could possibly confirm these assumptions.

Other notable findings

Other notable findings did occur in the context of the concept 'skills deficit', which implicates the less favorable labor market position of minorities occur due to the generally lower levels of human capital (Kaufman, 1986). Although the data of this study did confirm that the educational levels, a component of human capital, are on average lower than the educational level on natives, it only partially stated the influence of educational level on labor market outcomes. More specifically, the findings show that a high educational level, in comparison to no education, do increase the chances to be employed with 74% but it could not be significantly ($\alpha=.05$) stated that lower educational levels increase the chances to

become unemployed. This could indicate a more nuanced image on the 'skills deficit' argument and decrease the influence of lower labor market position on unemployment.

Strengths and limitations

A strength of this research is that the data is very generalizable. This is due to the fact that a large random sample is drawn of the target group and this sample represents the target group really well; due to the sampling frame, of every minority group around 2.000 participants were conducted (van Thiel et al., 2015). This all contributes to the external and ecological validity (Field, 2018, pp. 15). However, due to missing values, a lot of data had to be deleted.

Another strength of this study is that, in contrast to some earlier studies upon minority groups in the Netherlands, this research measured the relation of minority groups on the labor market per country of origin, instead of taken together in the categorized group of 'Non-Western'. This made it possible to analyze results per group of country of origin.

A possible limitation in the context of content validity, relates to the measurement of labor market position. The components used in this study, unemployment and type of employment are not exclusive measurements of labor market position. For example, wage differences, status in employment or hours of work could also be considered (International Labour Office, 2016). However, unemployment is an obvious measure for labor market position as it measures participation in the labor market (Euwals et al., 2010). Besides, a temporary employment contract, specifically in the Netherlands, provides less legal protection and causes a higher chance to become unemployed than a permanent contract, which indicates it is an important measure of labor market position (Jongen et al., 2019; Euwals et al., 2010). Next to that, it could be argued this measurement is still generalizable as in a lot of studies on

labor market position those components are used in order to investigate labor market position (Laaksonen et al., 2017; Kogan, 2016).

Implications and recommendations based on findings

As unemployment and type of employment contract are indicators for a less favorable labor market position, the conclusion could be drawn that this study confirms earlier statements that people of ethnic minority groups are more likely to have a less favorable labor market position in the Netherlands (Huijnk & Andriessen, 2016; Andriessen, Nievers, Dagevos, et al., 2012; Euwals et al., 2010). Only the effect of people with a Surinamese background on the chance of having a temporary contract was not significantly different, which indicates the need for future research to focus on the reason why the disadvantage for those groups does not occur for people with a Surinamese background. Knowledge on those factors could be used for making policy to target the disadvantages that other minority groups do experience. The other found differences in labor market position strengthen earlier signals that labor market disadvantages of minority groups are of big proportions, which therefore strengthens the claim that it is crucial to target these disadvantages between ethnic minority groups and native Dutch on the labor market in policy even further (Huijnk et al., 2015).

However, this study showed that the effect of educational level does not differ between minority groups and native Dutch in their labor market position of unemployment and type of employment contract. Therefore, it could be stated that in the targeting of labor market differentiations between minority groups and natives, differences in effect of educational level between minority groups and native Dutch are not important to consider. However, as the reason for differences between the hypothesis and the results of this study remain partly unanswered, further research is required to examine why the influence of

discrimination remains constant in labor market position of those groups, even when different amounts of discrimination are perceived.

The results of this study are not in line with the models of the statistical discrimination theory which implicate the effect of educational level on labor market outcomes is different for people of minority groups in comparison to native Dutch (Lang & Manove, 2011). Therefore, this study indicates that discrimination does not determine the treatment of the productivity factor of educational level. Nonetheless, this does not mean that people of ethnic minority groups do not experience discrimination, on the contrary, the fact that discrimination exist is proven over and over again (Quillian et al., 2017). But findings of this study could implicate that discrimination does not influence the effect educational level has on the difference of labor market position of minorities in the labor market components of unemployment and type of contract.

Concluding statement

This study endorses the established need to focus on combating labor market discrimination and intensify this combat where necessary (Dagevos et al., 2020). Although the aim of the study was to provide more insight in which direction policy makers should target policy in order to combat the disadvantage in the context of discrimination and educational level, this study could not indicate that lower levels of discrimination lead towards a decrease in differences in labor market outcomes. However, this study did provide new angles to explore the bases of the differences further. So that hopefully, the persistence of the disadvantaged position will diminish in the future.

References

- Aigner, D. J., & Cain, G. G. (1977). Statistical Theories of Discrimination in Labor Markets. *Industrial and Labor Relations Review*, 30(2), 175. <https://doi.org/10.2307/2522871>
- Allasino, E., Venturini, A., & Zincone, G. (2004). *Labour market discrimination against migrant workers in Italy*. Geneva: International Labour Organization.
- Andriessen, I., Dagevos, J., Nievers, E., & Boog, I. (2007). *Discriminatiemonitor niet-westerse allochtonen op de arbeidsmarkt 2007*. Sociaal en Cultureel Planbureau.
- Andriessen, I., Nievers, E., & Dagevos, J. (2012). *op achterstand*. Sociaal en Cultureel Planbureau. <https://www.narcis.nl/publication/RecordID/oai:scp.nl:ecd37c2f-6f96-418a-9dfe-2625b5908c92>
- Andriessen, I., Nievers, E., Dagevos, J., Faulk, L., & Iedema, J. (2011). Voorkeur bij gelijke geschiktheid. *Sociologie*, 7(3), 223–247. <https://doi.org/10.5117/soc2011.3.andr>
- Andriessen, I., van der Ent, B., & van der Linden, M. (2015). *Op afkomst afgewezen. Onderzoek naar discriminatie op de Haagse arbeidsmarkt*. Sociaal en Cultureel Planbureau. <https://www.scp.nl/publicaties/publicaties/2015/06/17/op-afkomst-afgewezen>
- Banton, M. (2001). Progress in ethnic and racial studies. *Ethnic and Racial Studies*, 24(2), 173–194. <https://doi.org/10.1080/01419870020023409>
- Baumle, A. K., & Fossett, M. (2005). Statistical Discrimination in Employment. *American Behavioral Scientist*, 48(9), 1250–1274. <https://doi.org/10.1177/0002764205274818>
- Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. *American Economic Review*, 94(4), 991–1013. <https://doi.org/10.1257/0002828042002561>
- Bovenkerk, F., Ramsoudh, D., & Gras, M. (1995). *Discrimination against migrant workers and ethnic minorities in access to employment in the Netherlands* (No. 9221096408).

Mulier instituut.

https://www.kenniscentrumsportenbewegen.nl/kennisbank/publicaties/?discrimination-against-migrant-workers-and-ethnic-minorities-in-access-to-employment-in-the-netherlands&kb_id=19728

Büyükbozkoyum, Ö, Stamatiou, M. & Stolk, M. (1991). Turkse HTS'ers zoeken werk. Verslag van een sollicitatie-experiment. *Sociologische Gids*, 38 (3) 187-192.

CBS. (2020). *Jaarrapport integratie 2020*. Centraal Bureau voor de Statistiek.

https://www.cbs.nl/-/media/_pdf/2020/46/jaarrapportintegratie2020_web.pdf

Centraal Bureau voor de Statistiek. (2021, May 18). *Beroepsbevolking*. <https://www.cbs.nl/nl-nl/visualisaties/dashboard-beroepsbevolking/beroepsbevolking>

Centraal Bureau voor de Statistiek. (2019a, August 7). *Wat is het verschil tussen een westerse en niet-westerse allochtoon?* <https://www.cbs.nl/nl-nl/faq/specifiek/wat-is-het-verschil-tussen-een-westerse-en-niet-westerse-allochtoon->

Centraal Bureau voor de Statistiek. (2019b, August 17). *Opleidingsniveau*.

<https://www.cbs.nl/nl-nl/nieuws/2019/33/verschil-levensverwachting-hoog-en-laagopgeleid-groeit/opleidingsniveau>

Dagevos, J., Jongen, E., & Muns, S. (2020, October). *Kansrijk integratiebeleid op de arbeidsmarkt*. Sociaal en Cultureel Planbureau.

<https://www.scp.nl/publicaties/publicaties/2020/10/15/kansrijk-integratiebeleid-op-de-arbeidsmarkt>

Engellandt, A., & Riphahn, R. T. (2005). Temporary contracts and employee effort. *Labour Economics*, 12(3), 281–299. <https://doi.org/10.1016/j.labeco.2003.11.006>

Euwals, R., Dagevos, J., Gijsberts, M., & Roodenburg, H. (2010). Citizenship and Labor Market Position: Turkish Immigrants in Germany and the Netherlands. *International Migration Review*, 44(3), 513–538. <https://doi.org/10.1111/j.1747-7379.2010.00816.x>

- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publications.
- Heck, W. (2021, April 19). *CBS gaat stoppen met begrippen 'westers' en 'niet-westers'*. NRC. <https://www.nrc.nl/nieuws/2021/04/19/cbs-stopt-met-niet-westers-a4040474>
- Huijnk, W. (2012). *De arbeidsmarktpositie vergeleken*. In: M. Gijsberts, W. Huijnk en J. Dagevos (red.), *Jaarrapport Integratie 2011* (p. 127-155). Den Haag: Sociaal en Cultureel Planbureau.
- Huijnk, W., & Andriessen, I. (2016, December). *Integratie in zicht? De integratie van migranten in Nederland op acht terreinen nader bekeken*. Sociaal en Cultureel Planbureau. <https://www.scp.nl/publicaties/publicaties/2016/12/15/integratie-in-zicht>
- Huijnk, W., J. Dagevos, M. Gijsberts en I. Andriessen (2015). *Werelden van verschil. Over de sociaal-culturele afstand en positie van migrantengroepen in Nederland*. Den Haag: Sociaal en Cultureel Planbureau.
- International Labour Office. (2016). *Key Indicators of the Labour Market*. International Labour Organization.
- Jongen, E., Bolhaar J., van Elk, R., Koot, P., & van Vuuren, D. (2019, June). *Inkomensongelijkheid naar migratieachtergrond*. Centraal Planbureau. https://www.cpb.nl/sites/default/files/omnidownload/cpb-policy-brief-2019-06-inkomensongelijkheid-naar-migratieachtergrond_0.pdf
- Kaufman, R. L. (1986). The Impact of Industrial and Occupational Structure on Black-White Employment Allocation. *American Sociological Review*, 51(3), 310. <https://doi.org/10.2307/2095304>
- Kogan, I. (2016). Integration Policies and Immigrants' Labor Market Outcomes in Europe. *Sociological Science*, 3, 335–358. <https://doi.org/10.15195/v3.a16>

- Kyyrä, T. (2010). Partial unemployment insurance benefits and the transition rate to regular work. *European Economic Review*, 54(7), 911–930.
<https://doi.org/10.1016/j.euroecorev.2010.02.005>
- Laaksonen, M., Gould, R., & Liukko, J. (2017). Labor market position after a rejection of a disability pension application: a register-based cohort study. *Disability and Rehabilitation*, 40(25), 3022–3029. <https://doi.org/10.1080/09638288.2017.1367039>
- Lamont, M., & Lareau, A. (1988). Cultural Capital: Allusions, Gaps and Glissandos in Recent Theoretical Developments. *Sociological Theory*, 6(2), 153.
<https://doi.org/10.2307/202113>
- Lang, K., & Manove, M. (2011). Education and Labor Market Discrimination. *American Economic Review*, 101(4), 1467–1496. <https://doi.org/10.1257/aer.101.4.1467>
- Langenberg, H., & Lautenbach, H. (2007). Beroepsniveau niet-westerse allochtonen lager. *Sociaaleconomische Trends, 1e Kwartaal 2007, 1*. <https://www.cbs.nl/nl-nl/achtergrond/2007/07/sociaaleconomische-trends-1e-kwartaal-2007>
- Lancee, B. (2010). The Economic Returns of Immigrants' Bonding and Bridging Social Capital: The Case of the Netherlands. *International Migration Review*, 44(1), 202–226. <https://doi.org/10.1111/j.1747-7379.2009.00803.x>
- Leblanc, G. (1995). Discrimination in the Labour Market. *The Canadian Journal of Economics*, 28(3), 702. <https://doi.org/10.2307/136058>
- Ministerie van Sociale Zaken en Werkgelegenheid. (2018, November). *Verdere Integratie op de Arbeidsmarkt (VIA)* (No. 116850).
https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2018/11/16/rapport-verdere-integratie-op-de-arbeidsmarkt-via/116850_Rapport_Integratie_WEB.pdf

- Nafukho, F. M., Hairston, N., & Brooks, K. (2004). Human capital theory: implications for human resource development. *Human Resource Development International*, 7(4), 545–551. <https://doi.org/10.1080/1367886042000299843>
- Nickell, S. (1979). Education and Lifetime Patterns of Unemployment. *Journal of Political Economy*, 87(5, Part 2), S117–S131. <https://doi.org/10.1086/260825>
- Parks, V. (2009). Access to Work: The Effects of Spatial and Social Accessibility on Unemployment for Native-Born Black and Immigrant Women in Los Angeles. *Economic Geography*, 80(2), 141–172. <https://doi.org/10.1111/j.1944-8287.2004.tb00305.x>
- Quillian, L., Pager, D., Hexel, O., & Midtbøen, A. H. (2017). Meta-analysis of field experiments shows no change in racial discrimination in hiring over time. *Proceedings of the National Academy of Sciences*, 114(41), 10870–10875. <https://doi.org/10.1073/pnas.1706255114>
- Rooth, D. O. (2021). Correspondence testing studies. *IZA World of Labor*. Published. <https://doi.org/10.15185/izawol.58.v2>
- Roscigno, V. J., Garcia, L. M., & Bobbitt-Zeher, D. (2007). Social Closure and Processes of Race/Sex Employment Discrimination. *The ANNALS of the American Academy of Political and Social Science*, 609(1), 16–48. <https://doi.org/10.1177/0002716206294898>
- Sattinger, M. (1998). Statistical Discrimination with Employment Criteria. *International Economic Review*, 39(1), 205. <https://doi.org/10.2307/2527238>
- Shaw, D., & Elger, B. (2013). The relevance of relevance in research. *Swiss Medical Weekly*. Published. <https://doi.org/10.4414/smw.2013.13792>

- Sociaal en Cultureel Planbureau (SCP). (2015). *Survey Integratie Minderheden - SIM 2015 versie 2 - EASY* [Dataset]. Sociaal en Cultureel Planbureau (SCP).
<https://easy.dans.knaw.nl/ui/datasets/id/easy-dataset:111381>
- van Thiel, L., Hooijmans, S., & Schothorst, Y. (2015, October). Veldwerkverslag SIM 2015. TNS NIPO/Veldkamp. <https://easy.dans.knaw.nl/ui/datasets/id/easy-dataset:111381/tab/2>
- Thijssen, L. D. J. (2020). *Racial and Ethnic Discrimination in Western Labor Markets*. Universiteit Utrecht.
- Turner, M. A., Fix, M., & Struyk, R. J. (1991). *Opportunities Denied, Opportunities Diminished*. Amsterdam University Press.
- Tomaskovic-Devey, D., Thomas, M., & Johnson, K. (2005). Race and the Accumulation of Human Capital across the Career: A Theoretical Model and Fixed-Effects Application. *American Journal of Sociology*, *111*(1), 58–89. <https://doi.org/10.1086/431779>
- van Amersfoort, H., & van Niekerk, M. (2006). Immigration as a Colonial Inheritance: Post-Colonial Immigrants in the Netherlands, 1945–2002. *Journal of Ethnic and Migration Studies*, *32*(3), 323–346. <https://doi.org/10.1080/13691830600555210>
- van der Werff, S., Zwetsloot, J., & Biesenbeek, C. (2018, January). *De positie op de arbeidsmarkt van verschillende groepen personen met een niet-westerse migratieachtergrond* (No. 2018–31). SEO Economisch Onderzoek.
https://25cjk227xfsu3mkyfg1m9xb7-wpengine.netdna-ssl.com/wp-content/uploads/2020/04/2018-31_De_positie_op_de_arbeidsmarkt_van_personen_met_een_niet_westerse...pdf
- Wilbertz, J. (2013). Evaluating societal relevance of research. *University of Groningen/UMCG Research Database*, 2–25. <https://www.rug.nl/society->

business/science-shops/taal-cultuur-en-communicatie/publicaties/evaluating-societal-relevance-of-research?lang=en

Zschirnt, E., & Ruedin, D. (2016). Ethnic discrimination in hiring decisions: a meta-analysis of correspondence tests 1990–2015. *Journal of Ethnic and Migration Studies*, 42(7), 1115–1134. <https://doi.org/10.1080/1369183x.2015.1133279>

Appendix I: instruments and data analysis syntax used

The data analysis syntax used for this master thesis is stored at YoDa (Your Data) Storage, even as the data from SIM 2015 (Sociaal en Cultureel Planbureau (SCP), 2015). Furthermore, the syntax of this study is shown below.

* Encoding: UTF-8.

*data verwijderen.

*poolse en somalische data verwijderen.

DATASET ACTIVATE DataSet1.

RECODE etngba (5=SYSMIS) (6=SYSMIS).

EXECUTE.

USE ALL.

COMPUTE filter_\$=(NMISS(etngba) < 1).

VARIABLE LABELS filter_\$ 'NMISS(etngba) < 1 (FILTER)'.
.

VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.
.

FORMATS filter_\$ (f1.0).

FILTER BY filter_\$.

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (NMISS(etngba) < 1).

EXECUTE.

*dataset, iedereen in categorie 75+ uit de dataset.

RECODE leeftijd (1=1) (2=2) (3=3) (4=4) (5=5) (6=6) (7=SYSMIS).

EXECUTE.

USE ALL.

COMPUTE filter_\$(NMISS(leeftijd) < 1).

VARIABLE LABELS filter_\$ 'NMISS(leeftijd) < 1 (FILTER)'.
VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.

FORMATS filter_\$ (f1.0).

FILTER BY filter_\$.

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (NMISS(leeftijd) < 1).

EXECUTE.

*variabelen aanmaken.

*variable native aangemaakt.

DATASET ACTIVATE DataSet1.

RECODE etngba (7=1) (ELSE=0) INTO native.

EXECUTE.

*variable MTSA.

RECODE etngba (1=1) (2=1) (3=1) (4=1) (ELSE=0) INTO MTSA.

EXECUTE.

*groepen naar achtergrond (dummys).

RECODE etngba (1=1) (ELSE=0) INTO marokaanse.

EXECUTE.

RECODE etngba (2=1) (ELSE=0) INTO turkse.

EXECUTE.

RECODE etngba (3=1) (ELSE=0) INTO surinaamse.

EXECUTE.

RECODE etngba (4=1) (ELSE=0) INTO antiliaanse.

EXECUTE.

```
RECODE etngba (7=1) (ELSE=0) INTO native.
```

```
EXECUTE.
```

*variabelen educational level (dummies), maxopleiding verdeeld in geen, laag, midden, hoog.

0 = geen.

```
RECODE maxdipnu (1=1) (0=0) (2=0) (3=0) (ELSE=SYSMIS) INTO maxdlaag.
```

```
EXECUTE.
```

```
RECODE maxdipnu (0=0) (3=0) (1=0) (2=1) (ELSE=SYSMIS) INTO maxdmidden.
```

```
EXECUTE.
```

```
RECODE maxdipnu (0=0) (1=0) (2=0) (3=1) (ELSE=SYSMIS) INTO maxdhoog.
```

```
EXECUTE.
```

```
RECODE maxdipnu (0=1) (1=0) (2=0) (3=0) (ELSE=SYSMIS) INTO none.
```

```
EXECUTE.
```

```
RECODE maxdipnu (0=0) (1=1) (2=2) (3=3) (ELSE=SYSMIS).
```

```
EXECUTE.
```

*educationlevel none naar 4 om het als reference group te kunnen markeren in de
logistische regressie.

```
DATASET ACTIVATE DataSet1.
```

```
RECODE maxdipnu (1=1) (2=2) (3=3) (0=4) INTO maxdipnu1.
```

VARIABLE LABELS maxdipnu1 'noneasreferencegroup'.

EXECUTE.

*de Y-variabelen.

*dichotoom variabele vast werk. 1 = vast werk, 0 = tijdelijk werk.

RECODE vastwerk (1=1) (2=0) (ELSE=SYSMIS) INTO vastwerk1.

EXECUTE.

*dichotoom maken variabele werkloosheid. 1=werkloos, 0=niet werkloos.

RECODE hfdact (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) (96=0) (ELSE=SYSMIS) INTO
unemployment.

EXECUTE.

*dichotoom maken variabele vast of tijdelijk werk. 1= tijdelijk werk, 0= vast werk.

RECODE vastwerk (1=0) (2=1) (ELSE=SYSMIS) INTO temporaryemploymentcontract.

EXECUTE.

*variabele aanmaken waarbij 0=employed, 1= unemployed. Unemployment2.

COMPUTE employed=nuwerk.

EXECUTE.

RECODE employed (1=2) (ELSE=0).

EXECUTE.

```
COMPUTE xunemployed=hfduct.
```

```
EXECUTE.
```

```
RECODE xunemployed (1=1) (ELSE=0).
```

```
EXECUTE.
```

```
COMPUTE unemployment2=employed + xunemployed.
```

```
EXECUTE.
```

```
RECODE unemployment2 (1=1) (2=2) (ELSE=SYSMIS).
```

```
EXECUTE.
```

```
RECODE unemployment2 (1=1) (2=0) (ELSE=SYSMIS).
```

```
EXECUTE.
```

```
*descriptives.
```

```
*descriptives verhouding hoog laag opgeleid bij leeftijd.
```

```
DATASET ACTIVATE DataSet1.
```

```
CROSSTABS
```

```
  /TABLES=etngba BY maxdipnu1
```

```
  /FORMAT=AVALUE TABLES
```

```
  /CELLS=COUNT
```

```
  /COUNT ROUND CELL.
```

* Custom Tables.

* results, beschrijving. Custom Tables.

* Custom Tables, de aantallen.

CTABLES

```
/VLABELS VARIABLES=etngba maxdipnu unemployment2 vastwerk DISPLAY=LABEL
```

```
/TABLE etngba [C][COUNT F40.0] + leeftijd [C][COUNT F40.0] + maxdipnu [C][COUNT F40.0] BY
```

```
unemployment2 [C] + vastwerk [C]
```

```
/CATEGORIES VARIABLES=etngba maxdipnu vastwerk ORDER=A KEY=VALUE  
EMPTY=INCLUDE TOTAL=YES
```

```
POSITION=AFTER
```

```
/CATEGORIES VARIABLES=unemployment2 ORDER=A KEY=VALUE  
EMPTY=EXCLUDE TOTAL=YES POSITION=AFTER
```

```
/CRITERIA CILEVEL=95.
```

* Custom Tables, de percentages.

DATASET ACTIVATE DataSet1.

CTABLES

```
/VLABELS VARIABLES=etngba maxdipnu unemployment2 vastwerk DISPLAY=LABEL
```

```
/TABLE etngba [C][ROWPCT.COUNT PCT40.1] + maxdipnu
```

```
[C][ROWPCT.COUNT PCT40.1] BY unemployment2 [C] + vastwerk [C]
```

```
/CATEGORIES VARIABLES=etngba leeftijd maxdipnu vastwerk ORDER=A
```

```
KEY=VALUE EMPTY=INCLUDE
```

```
/CATEGORIES VARIABLES=unemployment2 ORDER=A KEY=VALUE
```

```
EMPTY=EXCLUDE
```

```
/CRITERIA CILEVEL=95.
```

*expected counts y=1.

```
CROSSTABS
```

```
/TABLES=maxdipnu BY unemployment2
```

```
/FORMAT=AVALUE TABLES
```

```
/CELLS=COUNT EXPECTED
```

```
/COUNT ROUND CELL.
```

*expected counts y=2.

```
CROSSTABS
```

```
/TABLES=maxdipnu BY temporaryemploymentcontract
```

```
/FORMAT=AVALUE TABLES
```

```
/CELLS=COUNT EXPECTED
```

```
/COUNT ROUND CELL.
```

*assumptie correlatie checken.

NONPAR CORR

/VARIABLES=etngba maxdipnu unemployment2 vastwerk

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie correlatie met dummies.

NONPAR CORR

/VARIABLES= MTSA maxdlaag

maxdmidden maxdhoog none unemployment2 employed temporaryemploymentcontract
nuwerk

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie correlatie met dummies ook onderscheid afkomst.

NONPAR CORR

/VARIABLES= maxdlaag maxdmidden

maxdhoog none unemployment2 employed temporaryemploymentcontract vastwerk1
turkse surinaamse

antiliaanse marokaanse

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie expected frequencies.

CROSSTABS

/TABLES=etngba maxdipnu BY unemployment2

/FORMAT=AVALUE TABLES

/CELLS=COUNT EXPECTED

/COUNT ROUND CELL.

*assumptie multicollinearity.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA COLLIN TOL

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT unemployment2

/METHOD=ENTER MTSA maxdipnu.

*assumptie outlier.

LOGISTIC REGRESSION VARIABLES unemployment2

/METHOD=ENTER etngba maxdipnu

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu)=Indicator

/SAVE=PRED PGROUP COOK LEVER DFBETA ZRESID

/CLASSPLOT

/CASEWISE OUTLIER(2)

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*educationlevel none naar 4 om het als reference group te kunnen markeren in de logistische regressie.

DATASET ACTIVATE DataSet1.

RECODE maxdipnu (1=1) (2=2) (3=3) (0=4) INTO maxdipnu1.

VARIABLE LABELS maxdipnu1 'noneasreferencegroup'.

EXECUTE.

*logistische regressie, y:unemployment, nog zonder interactie-effecten.

LOGISTIC REGRESSION VARIABLES unemployment2

```
/METHOD=ENTER etngba
```

```
/METHOD=ENTER maxdipnu1
```

```
/CONTRAST (etngba)=Indicator
```

```
/CONTRAST (maxdipnu1)=Indicator
```

```
/SAVE=PRED PGROUP COOK LEVER DFBETA ZRESID
```

```
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).
```

```
*data verwijderen als y1 = missing.
```

```
RECODE unemployment2 (1=1) (0=2) INTO unemployment3.
```

```
EXECUTE.
```

```
USE ALL.
```

```
COMPUTE filter_$=(NMISS(unemployment3) < 1).
```

```
VARIABLE LABELS filter_$ 'NMISS(unemployment3) < 1 (FILTER)'.  
.
```

```
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
.
```

```
FORMATS filter_$ (f1.0).
```

```
FILTER BY filter_$.
```

```
EXECUTE.
```

```
FILTER OFF.
```

USE ALL.

SELECT IF (NMISS(unemployment3) < 1).

EXECUTE.

*logistische regressie y=1.

LOGISTIC REGRESSION VARIABLES unemployment2

/METHOD=ENTER etngba

/CONTRAST (etngba)=Indicator

/SAVE=PRED PGROUP ZRESID

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*logistische regressie y = 1 inclusief moderators.

LOGISTIC REGRESSION VARIABLES unemployment2

/METHOD=ENTER etngba

/METHOD=ENTER maxdipnu1

/METHOD=ENTER etngba*maxdipnu1

/CONTRAST (leeftijd)=Indicator

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

/SAVE=PRED PGROUP ZRESID

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*logistische regressie educational level als moderator.

LOGISTIC REGRESSION VARIABLES unemployment2

/METHOD=ENTER etngba

/METHOD=ENTER maxdipnu1

/METHOD=ENTER etngba*maxdipnu1

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

/SAVE=PRED PGROUP ZRESID

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*model met alleen background inclusief bootstrap.

BOOTSTRAP

```
/SAMPLING METHOD=SIMPLE
```

```
/VARIABLES TARGET=unemployment2 INPUT=etngba
```

```
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
```

```
/MISSING USERMISSING=EXCLUDE.
```

```
LOGISTIC REGRESSION VARIABLES unemployment2
```

```
/METHOD=ENTER etngba
```

```
/CONTRAST (etngba)=Indicator
```

```
/SAVE=PRED PGROUP ZRESID
```

```
/CLASSPLOT
```

```
/PRINT=GOODFIT CI(95)
```

```
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

*model met educational level en background.

```
BOOTSTRAP
```

```
/SAMPLING METHOD=SIMPLE
```

```
/VARIABLES TARGET=unemployment2 INPUT=etngba maxdipnu1
```

```
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
```

```
/MISSING USERMISSING=EXCLUDE.
```

```
LOGISTIC REGRESSION VARIABLES unemployment2
```

```
/METHOD=ENTER etngba
```

/METHOD=ENTER maxdipnu1

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

/SAVE=PRED PGROUP ZRESID

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*volledige model inclusief bootstrap.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=unemployment2 INPUT=etngba maxdipnu1

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

LOGISTIC REGRESSION VARIABLES unemployment2

/METHOD=ENTER etngba

/METHOD=ENTER maxdipnu1

/METHOD=ENTER etngba*maxdipnu1

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

```
/SAVE=PRED PGROUP ZRESID
```

```
/CLASSPLOT
```

```
/PRINT=GOODFIT CI(95)
```

```
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

*volledige model inclusief bootstrap.

```
BOOTSTRAP
```

```
/SAMPLING METHOD=SIMPLE
```

```
/VARIABLES TARGET=unemployment2 INPUT=etngba maxdipnu1
```

```
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
```

```
/MISSING USERMISSING=EXCLUDE.
```

```
LOGISTIC REGRESSION VARIABLES unemployment2
```

```
/METHOD=ENTER etngba
```

```
/METHOD=ENTER maxdipnu1
```

```
/METHOD=ENTER etngba*maxdipnu1
```

```
/CONTRAST (etngba)=Indicator
```

```
/CONTRAST (maxdipnu1)=Indicator
```

```
/SAVE=PRED PGROUP ZRESID
```

```
/CLASSPLOT
```

```
/PRINT=GOODFIT CI(95)
```

```
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
DATASET ACTIVATE DataSet1.
```

```
BOOTSTRAP
```

```
/SAMPLING METHOD=SIMPLE
```

```
/VARIABLES TARGET=unemployment2 INPUT=etngba maxdipnu1
```

```
/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000
```

```
/MISSING USERMISSING=EXCLUDE.
```

```
LOGISTIC REGRESSION VARIABLES unemployment2
```

```
/METHOD=ENTER etngba
```

```
/METHOD=ENTER maxdipnu1
```

```
/METHOD=ENTER etngba*maxdipnu1
```

```
/CONTRAST (etngba)=Indicator
```

```
/CONTRAST (maxdipnu1)=Indicator
```

```
/SAVE=PRED PGROUP ZRESID
```

```
/CLASSPLOT
```

```
/PRINT=GOODFIT CI(95)
```

```
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```


*alle data verwijderen van mensen zonder werk voor de analyse met y=2.

DATASET ACTIVATE DataSet1.

USE ALL.

COMPUTE filter_\$=(NMISS(vastwerk) < 1).

VARIABLE LABELS filter_\$ 'NMISS(vastwerk) < 1 (FILTER)'.
.

VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.
.

FORMATS filter_\$ (f1.0).

FILTER BY filter_\$.

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (NMISS(vastwerk) < 1).

EXECUTE.

*data opschonen voor de tweede analyse.

DATASET ACTIVATE DataSet1.

RECODE maxdipnu (0=0) (1=1) (2=2) (3=3) (ELSE=SYSMIS).

EXECUTE.

*assumptie correlatie checken.

NONPAR CORR

/VARIABLES=etngba maxdipnu unemployment2 vastwerk

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie correlatie met dummies.

NONPAR CORR

/VARIABLES= MTSA maxdlaag

maxdmidden maxdhoog none unemployment2 employed temporaryemploymentcontract
nuwerk

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie correlatie met dummies ook onderscheid afkomst.

NONPAR CORR

/VARIABLES= maxdlaag maxdmidden

maxdhoog none unemployment2 employed temporaryemploymentcontract vastwerk1
turkse surinaamse

antiliaanse marokaanse

/PRINT=SPEARMAN TWOTAIL NOSIG

/MISSING=PAIRWISE.

*assumptie expected frequencies.

CROSSTABS

/TABLES=etngba maxdipnu BY temporaryemploymentcontract

/FORMAT=AVALUE TABLES

/CELLS=COUNT EXPECTED

/COUNT ROUND CELL.

*dataset, iedereen in categorie 75+ uit de dataset.

RECODE leeftijd (1=1) (2=2) (3=3) (4=4) (5=5) (6=6) (7=SYSMIS).

EXECUTE.

USE ALL.

COMPUTE filter_\$=(NMISS(leeftijd) < 1).

VARIABLE LABELS filter_\$ 'NMISS(leeftijd) < 1 (FILTER)'.
.

VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.
.

FORMATS filter_\$ (f1.0).

FILTER BY filter_\$.

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (NMISS(leeftijd) < 1).

EXECUTE.

DATASET ACTIVATE DataSet1.

RECODE leeftijd (1=1) (2=2) (3=3) (4=4) (5=5) (6=SYSMIS) (7=SYSMIS).

EXECUTE.

USE ALL.

COMPUTE filter_\$=(NMISS(leeftijd) < 1).

VARIABLE LABELS filter_\$ 'NMISS(leeftijd) < 1 (FILTER)'.
'

VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.
'

FORMATS filter_\$ (f1.0).

FILTER BY filter_\$.

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (NMISS(leeftijd) < 1).

EXECUTE.

*assumptie multicollinearity.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA COLLIN TOL

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT unemployment2

/METHOD=ENTER MTSA maxdipnu.

*y=2, logistische regressie met alleen background.

DATASET ACTIVATE DataSet2.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=temporaryemploymentcontract INPUT=etngba

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

LOGISTIC REGRESSION VARIABLES temporaryemploymentcontract

/METHOD=ENTER etngba

/CONTRAST (etngba)=Indicator

/SAVE=PRED PGROUP ZRESID

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*y=2, logistische regressie met background, maxelevel.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=temporaryemploymentcontract INPUT=etngba maxdipnu1

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

LOGISTIC REGRESSION VARIABLES temporaryemploymentcontract

/METHOD=ENTER etngba maxdipnu1

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

/SAVE=PRED PGROUP ZRESID

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

*y=2 volledige model inclusief bootstrap.

BOOTSTRAP

/SAMPLING METHOD=SIMPLE

/VARIABLES TARGET=temporaryemploymentcontract INPUT=etngba maxdipnu1

/CRITERIA CILEVEL=95 CITYPE=PERCENTILE NSAMPLES=1000

/MISSING USERMISSING=EXCLUDE.

LOGISTIC REGRESSION VARIABLES temporaryemploymentcontract

/METHOD=ENTER etngba

/METHOD=ENTER maxdipnu1

/METHOD=ENTER etngba*maxdipnu1

/CONTRAST (etngba)=Indicator

/CONTRAST (maxdipnu1)=Indicator

/SAVE=PRED PGROUP ZRESID

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Appendix 2: Verification of the educational level used in this study

Low educational level

- Never been to school
- Never completed primary school
- Primary school
- Lower vocational education (LBO, LTS, LEAO, LHNO, huishoud-\ambachts-school, VMBO basic-vocational or managerial-vocational)
- General secondary education (MAVO, ULO, MULO, 3 years of HBS\gymnasium\VWO, VMBO theoretical or mixed learning path)

Middle educational level

- Secondary vocational education (MBO, MTS, MEAO, BOL, BBL)
- Higher general and pre-university education (HAVO, VWO, HBS, MMS, gymnasium, high school)

High educational level

- Higher professional education (HBO, HEAO, HTS, sociale academie)
- Scientific education (University)