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The triple jeopardy of single mothers with
a migration background:
An empirical study on intersectional
discrimination and the risk of poverty in
the Netherlands

Master Thesis

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List of Abbreviations

NELLS	Netherlands Longitudinal Lifecourse Study
€	Euro
OECD	Organisation for Economic Co-operation and Development
SCP	Netherlands Institute for Social Research
H1-H3	Hypotheses 1-3
M1-M5	Models 1-5
S	Single parenthood
G	Gender
E	Ethnicity
X	Vector of controls
ε	Error term
b_0	intercept
b_{1-3}	single effects of the three predictors of interest
b_{4-6}	two-way interaction parameters
b_7	three-way interaction parameter
Obs.	Observations
Std.dev.	Standard deviation
LPM	Linear probability model
LDP	Linear discriminant model

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Abstract

Background. In the Netherlands, single parents are at higher risk of poverty than coupled parents. Moreover, women are disproportionately more likely to be single parents than men. In connection, there is a clear gender poverty gap for single mothers, leading to severe consequences for both the women's and their children's life course. The high risk of poverty especially single mothers face is one indicator of structural inequalities between certain societal sub-groups. Furthermore, the ethnic background of single parents has been shown to be a risk factor for poverty, further underlining the disadvantages certain sub-groups face. **Objective.** The objective of this study is which group characteristics determine structural inequality in the form of poverty. Following Crenshaw's (1989, 1991) intersectionality theory, certain sub-groups combine different forms of disadvantages, reinforcing the individual risk of facing inequality. Therefore, I examine the single and the intersectional effects of gender, ethnicity, and single parenthood on the probability to live in poverty in the Netherlands. **Method.** Using data from the Netherlands Longitudinal Lifecourse Study (NELLS), I implement a multivariate linear probability analysis to examine the probability to live in poverty. Furthermore, I include interaction terms to measure the single and combined effects of single parenthood, gender, and ethnicity on the probability to live in poverty to analyse whether they differ between different societal sub-groups. **Findings.** I find that single parents, women, and individuals with a Non-Western ethnic background separately have a higher probability to live in poverty than their counterparts. Combining all three characteristics, single mothers with a Non-Western ethnic origin are found to have the highest predicted probability to live in poverty. However, I find that for single parents, the main driver of poverty is being female over having a Non-Western ethnic background. **Conclusion.** Within the group of parents, there are structural inequalities between the different sub-groups, leading to single mothers being the most vulnerable group to live in poverty. The intersectionality approach has thus proven useful in exploring structural inequalities.

Key words: *Structural Inequality, Intersectionality, Poverty, Single Parenthood, Gender, Migration*

Word count: 20,056

1. Introduction

1.1. Problem statement

In the Netherlands, women are much more often living in single parenthood than men. In 2009, of all single parents¹ living in the Netherlands (474,909), 17% were single fathers in comparison to 83% single mothers (Statista Research Department, 2020). Over the years, numbers for both groups increased, whereby the difference between both groups remained almost stable: In 2019, of all single parents (582,106) living in the Netherlands, 81% were single mothers in contrast to 19% single fathers (Statista Research Department, 2020). In connection, the Netherlands had one of the greatest gender poverty gaps for single parents in whole Europe (Christopher et al., 2002). Although the Dutch welfare state aims to reduce female relative to male poverty in general, the gender poverty gap especially for single mothers was found to further increase, having severe consequences for both the mothers' and their children's life-course (Gornick & Boeri, 2017).

In general, poverty can be seen as a form of structural inequality between sub-groups within one society (Liao, 2009). Structural inequalities – “the degree to which social groups such as race, gender and class differ [...] in terms of rewards attributes such as income, wealth and health” (Liao, 2009: p.6) – are highly influential in individuals' daily lives, as they impact opportunities and living conditions. They can have various causes: from selective disadvantages to unequal opportunities and various forms of discrimination like, inter alia, racism or sexism. In how far these causes are individually affecting the life course has been examined by previous researchers (Aisa et al., 2019; Casper et al., 1994; Christopher et al., 2002; Kaida, 2015; Kirk & Suvarierol, 2014; Pressman, 2003; van den Bogert, 2019). Kimberlé Crenshaw explained in an interview, how the compounding of different causes of inequality leads in combination to greater consequences like poverty, compared to considering them only separately: “Intersectionality is just a metaphor for understanding the ways that multiple forms of [...] disadvantage sometimes compound themselves and they create obstacles that often are not understood within conventional ways of thinking about anti-racism or feminism, or whatever social justice advocacy structures we have” (National Association of Independent Schools (NAIS), 2018). Crenshaw developed the theory of intersectionality already in the 1990s, however, it is still relevant nowadays, because forms of disadvantages as causes of inequality are especially in combination reinforcing the risk of consequences like poverty (Atewologun, 2018).

In 2017, “almost one in six people in the Netherlands were at risk of poverty” (Statistics Netherlands, 2019a: p.60). Separately, different causes of poverty have been examined in several studies: Gornick and Boeri (2017) discovered that females are at higher risk of facing poverty than males. Furthermore, looking at the intersectional risk of migrant women, they face a “double bind: migrant women are portrayed as culturally oppressed yet addressed primarily as mothers” and care

¹ Single parents were defined as “a parent who does not live with a partner, and who has at least one child (biological, step or adopted child) living at home, forming a private household” (Statista Research Department, 2020)

takers of the family (Kirk & Suvarierol, 2014: p.241). The intersectional risk for single parent women to live in poverty has also been examined (Christopher et al., 2002). However, only few studies have combined the poverty risk factors single parenthood, gender, and migration (Campos, 2014) and their intersectional effect on the probability to live in poverty. This research gap is especially found for the Netherlands, although in a population of around 17.3 million people, almost 24 percent of the whole population had a first or second generation migration background in the Netherlands (Statistics Netherlands, 2019c). In connection to that, almost half of all adults living in poverty in 2017 had a migration background (Hoff et al., 2019). Therefore, the focus of this thesis will be on first- and second-generation migrants from Western and Non-Western countries in the Netherlands. Moreover, as shown by Nieuwenhuis and Maldonado (2018b), especially single mothers are exposed to a high poverty risk, however, whether and in how far their ethnic background impacts their probability to live in poverty remains unclear.

1.2. Academic and societal relevance

Poverty, being one form of structural inequality, can have severe societal consequences “in the areas of health, education, crime and incarceration, social relations and politics” (Neckerman & Torche, 2007: p.341). However, in how far certain societal sub-groups are more likely to live in poverty due to different disadvantages others are not facing, remains partly unclear. Indicated by the recent scandal about the Dutch tax office becoming known in the beginning of 2021², the societal importance of investigating the disadvantages of certain societal sub-groups, inter alia, due to structural discrimination, were shown once again. A controversial debate about institutionalised discrimination against minorities in the Netherlands arose in the society (BBC, 2021). Hence, it is discrimination which is an important contributor to structural inequality within a society. Campos (2014) discovered in her work on Latin-American women that migrant single mothers are often facing poverty after their migration to Spain. However, a similar research has not been done yet for single mothers with a migration history in the Netherlands. Because I found this research gap for the intersectional effect of single parenthood, gender, and migration on the likelihood to live in poverty in the Netherlands, this research provides new insights into inequality research especially for the societal sub-group of single mothers with a migration history. Therefore, I investigate the relation between structural inequality in the form of poverty and the characteristics of certain societal sub-groups to examine, who is the most likely to face structural inequality in the Netherlands.

² The Dutch government stepped down “over the child welfare fraud scandal” where “thousands of families were wrongly accused of child welfare fraud and told to pay money back” (BBC, 2021) . Many families were accused to defraud and have been criminalised due to minor mistakes like missing signatures on applications and, consequently, had to pay back high amounts of governmental funding for the costs of childcare. “Many of those affected were from an immigrant background”, leading to a controversial debate about institutionalised discrimination against minorities in the Netherlands (BBC, 2021).

1.3. Research question

Building on the intersectionality theory by Kimberlé Crenshaw (1989,1991), the focus of this study is on the following research question: *How are single parenthood, gender, and ethnicity in combination affecting the risk of poverty in the Netherlands?* To examine this question, the single and two-fold effects of the three risk factors on poverty will be analysed first, resulting in four sub-questions: *Are single parents, women, and individuals with a Non-Western ethnic background respectively more likely to live in poverty in the Netherlands than non-single parents, men, and individuals with a Dutch or Western ethnic background? Are single mothers more likely to live in poverty than single fathers in the Netherlands? Are single parents with a Non-Western ethnic background more likely to live in poverty than single parents without or with a Western ethnic background? And are women with a Non-Western ethnic background more likely to live in poverty than men with the same ethnicity characteristics?* To answer these research questions, I use rich data from the Netherlands Longitudinal Lifecourse Study (NELLS) from the first wave of data collection from 2008 to 2010 and implement several linear probability models. Specifically, for the purpose of studying the combined effect on the probability to live in poverty and to answer the main research question, I analyse the interaction terms between the three possible influence factors single parenthood, gender and ethnicity.

1.4. Structure

To analyse the main research and the sub-questions, the theoretical framework is introduced by further explaining structural inequality in combination with discrimination and intersectionality. Then, poverty as the outcome of interest will be defined and, thereafter, the three risk factors will be shown. After outlining the theory, I will present a conceptual model and the derived hypotheses, followed by relevant other influence factors that need to be considered in the analysis. The research design will be outlined by describing the used data, the generated variables, and the methodological approach to analyse the research question. Thereafter, the data distribution and descriptive statistics will be presented, followed by the linear probability analysis and the subsequent results. After a robustness check, the results will be discussed and brought into context. This thesis ends with a conclusion and an outlook for future research.

2. Theoretical Framework

2.1. Theory

This thesis builds on intersectionality theory – the idea that different causes of inequality are interacting and in combination reinforcing the risk for structural inequality of certain societal sub-groups (Atewologun, 2018). Based on Crenshaw’s (1989, 1991) fundamental work on intersectionality, which originated in the analysis of Black American females, different disadvantaged groups and their risk of poverty in the Netherlands will be investigated. Here, the focus will be on single mothers with a Non-Western migration history to investigate their triple jeopardy to live in poverty due to the different forms of disadvantages they face in comparison to other sub-groups. In the following, inequality in combination with intersectionality theory will be further discovered. Then, poverty will be defined, followed by the poverty risk differences of certain societal sub-groups.

2.1.1. Structural Inequality, Intersectionality, and Discrimination

Inequality research has focussed on two different forms of inequality. Besides individual inequality, referring to overall differences between individuals in values and goods, structural inequality between certain societal groups within a society is a phenomenon that has been studied in many ways (Aisa et al., 2019; Brodmann & Polavieja, 2011; Christopher et al., 2002; Gornick & Boeri, 2017; Liao, 2009). Liao (2009: p.6) defined structural inequality “as the degree to which social groups such as race, gender and class differ [...] in terms of rewards attributes such as income, wealth and health”. Based on certain characteristics, individuals belong to certain societal sub-groups which can be more likely to face structural inequality than other sub-groups. This research focusses on structural inequality, as I examine societal group differences in facing inequality in terms of poverty. In his work on inequality and heterogeneity, Blau (1977) differentiated between two forms of structural parameters that are interrelatedly impacting individuals’ life courses. On the one hand individual characteristics like gender, parenthood or ethnicity, are one form of parameters that indicate heterogeneity between certain sub-groups within a society. The differences between the sub-groups are on a horizontal level, as there is no ranking possible between them (Liao, 2009). On the other hand, individuals differ in terms of wealth, power or income, being the second form of structural parameters that differ on a vertical level, because certain individuals have for example more power or income than others. “Heterogeneity refers to a horizontal differentiation or population distribution between [...] groups [...] whereas inequality refers to a vertical differentiation or status distribution of” the second form of structural parameters (Liao, 2009: p.8).

Following Blau (1977), both forms of parameters intersect, leading to different individual life outcomes within the same society. Hence, there is an intersectional relation between for example gender and income, leading to heterogeneity and inequality between groups within a society. Connecting this idea with Crenshaw’s (1989, 1991) intersectionality theory, “in the social sciences, an

intersection denotes the crossing, juxtaposition, or meeting point, of two or more social categories and axes, or systems of power, dominance, or oppression” (Atewologun, 2018: p.2). Accordingly, intersectionality contains the idea that social categories like identities, sociodemographic characteristics, processes and systems are interdependent, leading to differing individual life outcomes (Dhamoon, 2011). It “draws attention to individuals’ and groups’ multiple positionality at micro (individual) and macro (sociostructural) levels” (Atewologun, 2018: p.2). In Crenshaw’s (1989, 1991) fundamental work on intersectionality regarding women of colour, the author found that these individuals face a multiplicative greater inequality than portraying only women or people of colour. Hence, this is not pointing to a heterogeneous society with horizontal differences between groups, but the higher likelihood of women of colour to face structural inequality indicates a vertical differentiation between societal sub-groups based on the first form of structural parameters. Hence, with intersectionality theory, Crenshaw (1989, 1991) expands Blau’s (1977) differentiation between horizontal and vertical differences between societal sub-groups by connecting both forms of structural parameters and putting them in relation to structural inequality.

Building upon this, Crenshaw (1989) explains why these parameters are intersected the way they are by connecting structural inequality with discrimination. Scherr (2017) defined discrimination as a socially constructed differentiation between individuals and groups, that are imagined to be connected due to similarity and unfamiliarity, affiliation and exclusion. Discrimination is rooted in societal structures and included in socially influential discourses and ideologies. Discriminatory differentiation between individuals and groups due to certain shared characteristics as well as the differentiation between a minority and a majority group not only in individual behaviour and interactions, but also in organisations and nation states, are different ways to express discrimination (Scherr, 2017). The concept can manifest itself in various forms, such as sexism or racism.

Racism is one form of discrimination based on ‘race’ and ethnicity: “‘Race’ refers to various attributes or competencies assigned on the basis of biologically grounded features such as skin colour. Ethnicity refers to a social group whose members share a distinct awareness of common cultural identity, differentiating them as social group” (Giddens & Sutton, 2014: p.106). The process behind the classification of a group due to a certain biological characteristic based on ‘race’ is called racialisation. “With a racialised system, aspects of individuals’ daily lives – employment, personal relations, housing, healthcare, education and legal representation – are shaped and constrained by their own positions within that system” (Giddens & Sutton, 2014: p.107). By contrast, ethnicity is a socially constructed phenomenon which can be connected to cultural differences between groups, like language, religion, or history. Racism as a form of discrimination based on ‘race’ has existed for a long time already, however, ‘race’ has been discredited as a scientific concept, as there are no “clear-cut ‘races’”, but a great genetic diversity within and between populations, indicating that “‘race’ is nothing more than an ideological construct” (Giddens & Sutton, 2014: p.107). Based on the discreditation of the concept of ‘race’, a new form of racism emerged: “The ‘new racism’ uses cultural rather than

biological arguments to justify the continued separation of ethnic groups [...] and the right of the majority culture to expect ethnic minorities to assimilate into it” (Giddens & Sutton, 2014: p.108). This research focusses on the ‘new racism’ against ethnic minorities impacting and changing individuals’ daily lives and life course.

Sexism is a different form of discrimination causing inequalities between men and women, based on socially constructed gender differences. The concept is defined as “individuals’ attitudes, beliefs, and behaviours, and organizational, institutional, and cultural practices that either reflect negative evaluations of individuals based on their gender or support unequal status of women and men” (Swim & Hyers, 2009: p.407). Based on this definition, a distinction must be made between gender and ‘sex’, as the latter bases on biological and anatomical differences and the former on social and cultural differences between males and females. “This distinction between sex and gender is fundamental, as many differences between males and females are not biological in origin”, but socially constructed (Giddens & Sutton, 2014: p.95). Hence sexism bases on socially constructed gender differences, leading to the discrimination of individuals in their daily lives – whether in education, on the labour market, or in the distribution of care.

Combining the different forms of discrimination with Crenshaw’s theory (1991), she differentiated between three different forms of intersectionality: Structural, political, and representational intersectionality. The structural form bases on the social characteristics of individuals, like gender or ethnicity. Depending on the position within the structural intersection of these characteristics, an individual may face different levels of inequality. “Many women of colour, for example, are burdened by poverty, child care responsibilities, and the lack of job skills”, which white women might not face in the same way (Crenshaw, 1991: p.1245). In the United States, white women are in so far privileged over Black women, as they do not face the double burden of sexism and racism. Nevertheless, they face structural disadvantages based on their gender in comparison to white men, for example, as manifested in the gender pay gap on the labour market (Christopher et al., 2002; Gornick & Boeri, 2017). However, Crenshaw (1989, p.140) stressed that is crucial to distinguish between single- and multiply-burdened individuals in the study of social inequality, because “the intersectional experience is greater than the sum of racism and sexism, any analysis that does not take intersectionality into account cannot sufficiently address the particular manner in which Black women are subordinated”. Concluding, structural intersectionality states that the social inequality Black women face is not the sum of the burdens women face and the burdens Black people face, but the multiplicative of the two.

Political intersectionality “highlights the fact that women of colour are situated within at least two subordinated groups that frequently pursue conflicting political agendas” (Crenshaw, 1991: pp.1251-1252). Hence, following Crenshaw (1991), political stakeholders fail to consider individuals who combine different characteristics, like being female and having a different ethnic background than the majority group, within their political agenda. Representational intersectionality is considering

structures within societies as a whole: Racism and sexism for example are two phenomena that are culturally constructed within a society. One could argue that not only racism and sexism are phenomena that are socially constructed, but the whole idea of gender and ethnicity bases on a social construct. “But to say that a category such as race or gender is socially constructed is not to say that that category has no significance in our world” (Crenshaw, 1991: p.1296). Hence, following Crenshaw (1991), the phenomena exist independently from their origin and are, therefore, meaningful and momentous. They are dependent on unequal power distributions leading to privileged and subordinated individuals that face different levels of structural inequality.

In all, certain societal sub-groups face greater inequality than others solely due to structural parameters like gender or ethnicity. Crenshaw (1989) explains this relation with the structural intersectionality of different forms of discrimination that in a multiplicative combination are greater impacting individuals’ life course than the sum of their individual impact. This structural inequality between different societal groups can be reinforced by political intersectionality when certain sub-groups fall through the cracks of political agenda setting. Against this theoretical backdrop, I am going to investigate the different levels of structural inequality certain societal sub-groups face in consideration of structural intersectionality. First, poverty as the representative of structural inequality will be defined, being the outcome of interest.

2.1.2. Poverty

Structural inequality can manifest itself, inter alia, in poverty, when certain groups have a higher risk of poverty than others. Poverty is a consequence of different individual, institutional and societal circumstances, and power relations. There are different forms of poverty that need to be differentiated: Subjective, relative, and absolute poverty. Subjective “poverty [...] rejects absolute classifications of poverty in terms of e.g. income and [...] revolves around the subjective experience of a lack of resources deemed necessary to achieve a life considered normal and acceptable” (Meij et al., 2020: p.227). This form of poverty is subjective as it is measured by individual experiences and comparisons with the surrounding society. Absolute poverty is based on a “fixed (group-specific) cut-off level z_a that is applied across all potential resource distributions. In comparisons over time [...] the standard is unchanged even in the face of economic growth [...]” (Foster, 1998: p.336). Hence, an absolute poverty threshold is a fixed line and individuals falling below this line – e.g. in terms of income – are considered poor. Contrastingly, relative poverty depends on the income distribution and varies for example in a face of economic growth. Following the relative poverty definition of the OECD (2021), “people are classified as poor when their equivalised disposable household income is less than 50% of the median prevailing in each country”. Hence, the “result is a poverty threshold $z_r = ar(x)$ that varies one-for-one with the standard of living, in that a 1% increase in r is matched by a 1% increase in z_r ,” (Foster, 1998: p.336). This study will follow a relative definition of poverty by using the individual household incomes and setting a threshold at having 50% of the median household income of the Netherlands in

the respective year of the survey (see data section for more information). I choose to measure relative poverty because of the structure of the underlying data and its consideration of economic fluctuations to facilitate the generalisability of this research.

Looking at poverty levels in the Netherlands, the Netherlands Institute for Social Research (SCP) examined the situation in the country in their annual poverty survey. In 2017, around 939,000 people were living below the “SCP ‘modest but adequate poverty’ threshold”, including “necessary expenditure on unavoidable basic needs such as food, clothing, and shelter (housing) [...], (and [M.V.] minimal expenditure on recreation and social participation” (Goderis et al., 2018: p.2; Hoff et al., 2019). This threshold amounted €1,135 per month per person in 2017. Hence, 5.7% of the Dutch population lived underneath this poverty threshold. Almost half of all adults living in poverty in 2017 had a migration background, whereby only around a quarter of the total population had a first or second generation migration background (Hoff et al., 2019). Statistics Netherlands (2019c) showed in a study on child poverty that in 2018 mostly children living in single-parent families were at risk of living in poverty in the Netherlands. “Almost one-quarter of all children in one-parent families” were at high poverty risk, they “run five times as high a risk as those living in two-parent families” (Statistics Netherlands, 2019d). Poverty risk is defined as the “percentage of individuals whose income falls below the poverty line” and Bárcena-Martín and Moro-Egido (2013: p.69) showed that the poverty risk is not gender neutral, so that women are more at risk of poverty than men. Concluding on the poverty situation in the Netherlands, around 6% of the Dutch population lived underneath the poverty threshold in 2017, whereby certain sub-groups lived in poverty more often than others.

Similar to the Netherlands, different risk factors increasing the likelihood for poverty have been determined using different approaches: Besides gender differences in poverty risks, the ethnic background and single parenthood seemed to be influential risk factors (Aisa et al., 2019; Casper et al., 1994; Christopher et al., 2002; Daly, 1992; Fortuijn & Ostendorf, 2004; Gornick & Boeri, 2017; Kaida, 2015; Meij et al., 2020; Nieuwenhuis & Maldonado, 2018b; Pressman, 2002). Looking at the three parameters separately and in an intersectional way, previous studies showed that the respective societal sub-groups have different poverty risks. To further examine their effects on poverty, they will be disentangled in the following sections.

2.1.3. Single Parenthood

Nieuwenhuis and Maldonado (2015) discovered in their study on 18 different OECD countries that in general, single parents are at a higher risk of poverty than coupled parents. In the Netherlands, from 1990 to 2010, the prevalence of single-parent households “as a percentage of all households with dependent children” increased from 10% to more than 15%, meaning that about 15% “of all households with children were headed by a single parent” in 2010 (Nieuwenhuis & Maldonado, 2018b: pp.2-3). During the same time employment rates among single parents increased and the risk of poverty rate decreased slightly. Nonetheless, in 2010, around 30 percent of the single-parent families were at risk

of poverty due to, *inter alia*, greater disadvantages on the labour market, stigmatization as welfare recipients and fewer career opportunities due to care responsibilities. Based on those expectancies and stigmatization, single parents are likely to face statistical discrimination³, *inter alia*, on the labour market, leading to greater structural inequality (Moro, 2009).

In this context, Nieuwenhuis and Maldonado (2018b: p.7) refer to the “triple bind of single-parents”, being “disproportionally caught in the interplay between inadequacies in resources, employment and policies”. Due to the missing income and resources of a partner, single parents have a greater vulnerability to low income, unemployment consequences, and are less flexible regarding occupations, care, and time management. “In addition to their limited resources, there are at least two important reasons to believe that employment is less adequate for single parents than for other workers: gendered inequality and increasingly precarious employment conditions” (Nieuwenhuis & Maldonado, 2018b: p.9). In-work poverty has been shown to be high among single parents pointing to inadequate earnings, especially in connection with the missing second household income (Nieuwenhuis & Maldonado, 2018a). Gender differences in single parenthood, employment, and the risk for poverty will be further investigated in the following section. Third, Nieuwenhuis and Maldonado (2018b) discussed social policies to be highly influential in the experience of poverty of single parents. Child benefits, free and available childcare, and housing benefits are examples for adequate policies improving the situation for single parents and the absence of those support systems leads to outcomes like poverty among single parents. If social policies are missing, only partly exist or are unevenly distributed, they can be inadequate and not beneficial for single parents (Nieuwenhuis & Maldonado, 2018b). Concluding, single parents are likely to face economic disadvantages on the labour market and in employment conditions, making them highly dependent on macro-level social support systems and the welfare state and leading to high risks of poverty.

Cohen (2002) investigated in how far the cohabitation of another adult in the single parent household – outside of marriage – impacts the employment rates and the inequality of single mothers in the US. The author found that there are differences between ethnic groups regarding the impact of another adult cohabiting, and overall, “the presence of other adults in a single mother’s household appears to increase employment, [although (M.V.)] this advantage has important limits” (Cohen, 2002). Concluding, the cohabitation of another adult in a single parent household can be influential for the inequality single parents face. However, due to the underlying data structure, in this research the focus will be on single parents cohabiting solely with their children. Nonetheless, single parenthood should not be seen as a fixed category, but it is time variant, as single parents can engage in a new cohabitating relationship.

³ “Statistical discrimination is a theory of inequality between demographic groups based on stereotypes that do not arise from prejudice or racial and gender bias. It occurs when rational, information-seeking decision makers use aggregate group characteristics to evaluate relevant personal characteristics of the individuals with whom they interact” (Moro, 2009: p.1).

The Netherlands' gender gap in poverty for single parents was one of the greatest in whole Europe (Christopher et al., 2002). Hence, the inadequacy in employment and earnings due to gendered inequality is a major problem in the Netherlands. According to Christopher et al. (2002), especially single mothers are not supported enough by the Dutch welfare state, as they still face gender inequality and discrimination on the labour market. "This suggests that generous income transfers on their own are not sufficient to eradicate gender inequality in poverty; it seems that policies that support women's employment are also necessary" (Christopher et al., 2002: p.235). This points to inadequate policies to encourage and facilitate especially Dutch single mothers to work in the labour market.

Nieuwenhuis (2015) outlined the Dutch policy context of the support to lone parents. Different financial support policies take effect when becoming a parent: The "child allowance", where "parents of children under the age of 18 receive a universal child allowance", which is paid every three months; the "Child-related budget", which is an "additional financial support, paid by the tax authority and targeted to low-income parents"; the "childcare support", which is a low-income targeted financial support to cover a percentage of the costs of childcare"; and the "income-related combination deduction", which is "a tax deduction available to parents who combine employment with care for children under 12" (Nieuwenhuis, 2015: p.3). According to the author, these support systems are lacking to combat poverty among single parents, especially for single mothers who make up a significantly larger group compared to single fathers. "Many women already are at a disadvantage upon becoming a lone mother. Policies only addressing the current position of lone mothers, without addressing the relative lack of prior work experience, therefore seem less likely to be effective in contexts where part-time employment among women is common, such as the Netherlands" (Nieuwenhuis, 2015: p.5). Hence, single mothers are more likely to live in poverty than single fathers, even with the support systems available in the Netherlands. Moreover, "lone parents show high poverty rates among those who are employed", which can also not be absorbed by the support system (Nieuwenhuis, 2015: p.6). Against this backdrop, the risk of single parents to experience poverty in connection with gender will be further investigated in the next section, as single mothers were found to have a greater poverty risk than single fathers (Christopher et al., 2002; Gornick & Boeri, 2017; Nieuwenhuis & Maldonado, 2015, 2018b; Pressman, 2003).

2.1.4. Gender

Women have been discovered to be at higher risk of facing poverty than men (Aisa et al., 2019; Casper et al., 1994; Christopher et al., 2002; Daly, 1992; Gornick & Boeri, 2017; Pressman, 2002, 2003). In the literature, this process is called the 'feminization of poverty' (Gornick & Boeri, 2017). Gornick and Boeri (2016: p.7) analysed that besides men's stronger connectedness to the labour market, "as a group, women still earn lower pay than do men for each hour worked, partly due to their concentration in lower paying occupations and partly due to pay discrimination based on gender". The pay discrimination based on gender can be connected with sexist discrimination, being one form of

discrimination causing great inequalities between men and women. Regarding the situation in the Netherlands, Boll and Lagemann (2019) analysed the gender pay gap in 26 European Countries in 2014. The European unadjusted average of the difference in average wages between women and men across all countries was about 14.2%. Netherlands' unadjusted gender pay gap was slightly above the European average: Dutch women earned around 14.8% less than Dutch men, unadjusted for observable individual characteristics. The unexplained gender pay gap, adjusted for observable characteristics, accounted around 5% in 2014 (Boll & Lagemann, 2019).

Coming to the intersectional poverty risk of single mothers, Gornick and Boeri (2017) argue that family structures are influential for female poverty: "Among single mothers, the heightened poverty risk is driven by the lack of a partner's income coupled with the disadvantages women face in the labour market" (Gornick & Boeri, 2017: p.19). Hence, following Gornick and Boeri (2017), the societal context is highly influential for female poverty risks, as structural sexism in income and the labour market based on socially constructed gender differences, are one driver for the risk of poverty. Christopher et al. (2002) examined how single mothers are experiencing higher poverty rates than other family forms and bring forward three main reasons: First, single men are less likely to live with children compared to single women, as "women usually have custody of the children in cases of divorce or nonmarital births" (Christopher et al., 2002: p.221). Second, the authors found that single motherhood has a negative impact on the mothers' earnings leading to a greater gender pay gap. Lastly, "Mothers face wage penalties for child rearing because they often reduce their hours of paid work or leave the labour force due to caregiving responsibilities" (Christopher et al., 2002: p.221). Pressman (2003) presents similar findings: The author discovered that female headed households (FHH) have a different labour force participation in comparison to other household forms, leading to a greater poverty risk for single mothers. "This was found to have a major impact on female poverty and to be a major cause of the gender poverty gap" (Pressman, 2003: p.360). Also, Pressman (2003) found that single mothers tend to work in job fields that typically are less well paid compared to male household heads. Concluding, there are several influence factors on the micro and macro level leading to a greater poverty risk for women in general and in particular for single mothers (Christopher et al., 2002; Gornick & Boeri, 2017; Pressman, 2003). In the following section, additionally to the interrelation of single parenthood and gender, the ethnic background will be examined as another risk factor for poverty.

2.1.5. Ethnic Background and 'New Racism'

Based on the previously defined form of discrimination, the 'new racism' based on ethnicity has an impact on individuals' risk for poverty due to structural discrimination. Looking at the single effect of ethnicity on the risk of poverty, Sáenz and Morales (2019) showed that there were great variations in the poverty rates between different ethnic groups in the US. White Americans had the lowest percentage of people living in poverty compared to other ethnic groups (Sáenz & Morales, 2019).

Brodmann and Polavieja (2011) examined the economic situation of migrants in Denmark. They found that first generation migrants had “lower employment and participation probabilities [...] compared to native Danes, after accounting for differences in education and other demographic factors” (Brodmann & Polavieja, 2011: p.83). Due to a higher concentration in low skilled jobs, individuals with a migration background were found to have lower chances for upward mobility and lower potentials for higher earnings. The authors combined these findings with structural dynamics within Denmark and concluded that, inter alia, “the high-skill bias of the Danish occupational structure may also negatively impact immigrants’ integration into the labour market” (Brodmann & Polavieja, 2011: p.82). Hence, individuals with a migration history were found to be significantly disadvantaged regarding the labour market access and income.

Combining gender and ethnicity in their intersectional risk for poverty, “the ‘feminization of poverty’ thesis was criticized for its failure to recognize that minority women are disproportionately represented among the poor” (Elmelech & Lu, 2004: p.159). Hence, combining the gender poverty gap with differences between ethnic minority and majority groups is necessary to further examine the risk for poverty. Elmelech and Lu (2004: p.174) found in their research in the US on “ethnic variation in the gender poverty gap” that white women have been more likely to be poor than white men, but male members of ethnic minority groups were more likely than white women to be poor. “Black and Puerto Rican women experience extreme economic hardship owing to being both women and members of a minority group” (Elmelech & Lu, 2004: p.158). While this finding cannot be generalised for all minority groups, their findings indicate that ethnic and gender differences are important to consider in combination when analysing the risk of poverty. Moreover, migrant women face different obstacles on the job market in comparison to non-migrant women due to the socially constructed racialised differences. “Social constructions of racialised difference [...] have very real consequences in the form of (structural) racism: the hierarchies, exclusions, discriminations, and inequalities made on the basis of racialised difference” (van den Bogert, 2019: p.49). Concluding, migrant women are at higher poverty risks due to structural disadvantages and discrimination processes inter alia on the job market. Combining this with Crenshaw’s (1989) intersectionality theory, these group differences can be explained with different forms of discrimination certain sub-groups are more likely face than others. Kirk and Suvarierol (2014) found that Dutch integration policies are not preventing these processes, so that structural and cultural constraints hinder the emancipation to combine employment and care work especially for migrant mothers.

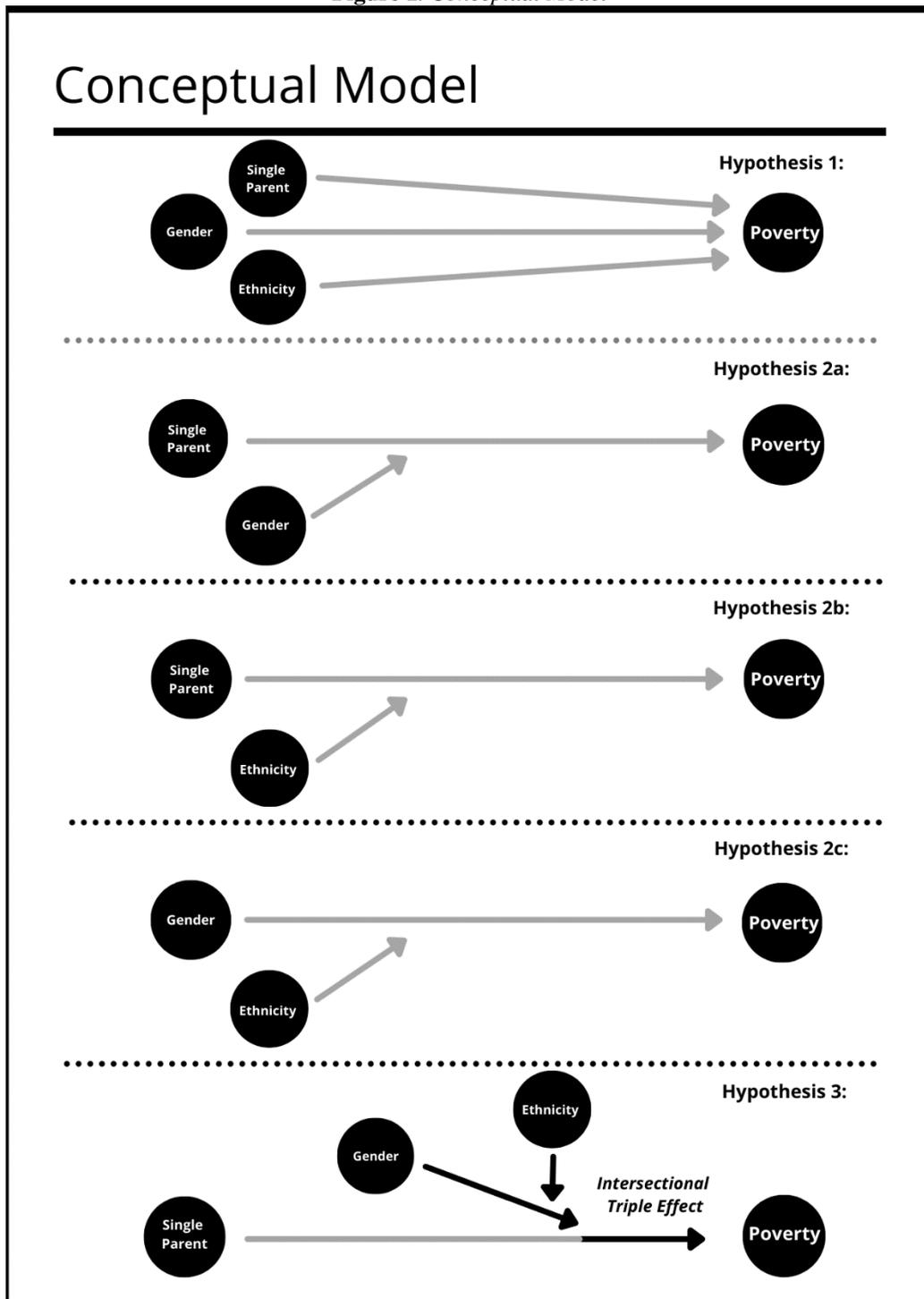
Kenway and Palmer (2007) examined the intersection between single parenthood and ethnicity and the risk of poverty. The authors found for Great Britain that “differences in family structure account for part of the high income poverty rates among Black African households, and the majority of the highish poverty rates among Black Caribbean households” (Kenway & Palmer, 2007: p.33). Single parents with these migration backgrounds were found to have higher poverty rates than the overall population average. However, these findings could not be generalised for all ethnic minority groups.

Campos (2014: p.165) discovered in her work on Latin-American women in Spain that “poverty and single parenthood are two elements that often appear simultaneously in the trajectories of migrant women”. Hence, looking at the intersection between single parenthood, ethnicity and gender, single mothers with a migration background were found to be at great poverty risks, on the one hand due to the migration process itself and on the other hand due to cultural stereotypes they face in the emigrating countries (Kirk & Suvarierol, 2014). Especially for single mothers, this hinders their emancipation regarding financial and legal independence as they are already at higher poverty risks due to their care responsibilities (Campos, 2014; Kaida, 2015; Kirk & Suvarierol, 2014).

For the following analysis, a conceptual differentiation is necessary to make clear which categorisations are being used. In the presented papers, different terminology has been used to describe the ethnic origin of the individuals. From ethnicity, over ethnic background to migrants, it needs to be clarified, which terminology is the focus of this research. Based on the used data for this analysis, the focus will be on first- and second-generation migrants from Western and Non-Western countries. Hence, when I write about Western or Non-Western ethnic origin or background, or ethnicity, it refers to migrants in the first generation and individuals with both or one parent who migrated to the Netherlands. Third and further generation migrants are not differentiated from Dutch people. A more detailed differentiation follows in the research design section. Against this backdrop, in the following section the interconnection of the three poverty risk factors single parenthood, gender, and ethnicity will be conceptualised. Following intersectionality theory, different forms of discrimination are interacting and in combination reinforcing the risk for structural and dynamic consequences, so that they will be analysed in their interconnection with structural inequality in the form of poverty.

2.2. Conceptual Model

Figure 1. Conceptual Model



Source: Author's own graphical representation based on theoretical framework.

Following the concepts of structural and representational intersectionality (Crenshaw, 1991), discrimination can manifest itself in different ways and the different forms are interacting and in combination reinforcing the risk for structural and dynamic consequences, like the risk of poverty. The outcome of interest in this study is poverty and the investigation which characteristics are influential risk factors and how they interrelatedly affect the probability to live in poverty. The three predictors of

interest are single parenthood, gender, and ethnicity. As derived from the previous sections, single parents are experiencing higher poverty rates than other family forms, inter alia, due to the obstacles they face on the job market (section 2.1.3.). Women face greater poverty risks than men, and individuals with a migration background are exposed to greater poverty risks than individuals without a migration background (section 2.1.4. & 2.1.5.). Figure 1 shows the derived conceptual models, combining the three risk factors and looking at their interrelated effect on the risk of poverty.

As discovered in previous research and presented in the theoretical framework, the three risk factors – single parenthood, gender, and ethnicity – are separately reinforcing the risk of poverty. Therefore, in the first model, each one of them is expected to have a positive effect on the probability to live in poverty. Moreover, gender and ethnicity are both expected to separately moderate the effect of single parenthood on the probability to live in poverty. Additionally, gender and ethnicity are the two base concepts underlying Crenshaw's (1989, 1991) intersectionality theory, which is why they are in combination expected to have a different effect on poverty than looking at them separately. Lastly, the main effect of interest is the combination of the three categories (black arrows). Based on the theoretical background, it is expected that the intersectional effect of gender and ethnic background is moderating the effect of single parenthood on poverty in a multiplicative way. Hence, gender, the ethnic background and single parenthood are expected to have a multiplicative effect on poverty, so that single mothers with a Non-Western ethnic background have a multiplicative higher poverty risk than individuals with other combined gender, ethnic and parenthood characteristics. From this conceptual framework, the following hypotheses were derived.

2.3. Hypotheses

Based on sections 2.1.3. - 2.1.5., the exclusive effects of single parenthood, gender and ethnicity are expressed in the following hypothesis:

Hypothesis 1. *Single parents, women, and individuals with a Non-Western ethnic background respectively have a significantly higher chance of living in poverty than non-single parents, males, and individuals with a Dutch ethnic background.*

In section 2.1.4., gender differences between male and female single parents were derived, leading to the following hypothesis:

Hypothesis 2a. *Single mothers have a significantly higher chance of living in poverty than single fathers.*

In section 2.1.5., ethnicity differences between single parents with and without a migration background were derived, leading to the following hypothesis:

Hypothesis 2b. *Single parents with a Non-Western ethnic background have a significantly higher chance of living in poverty than single parents with a Dutch ethnic background.*

In section 2.1.5., gender differences between men and women with and without a migration background were derived, leading to the following hypothesis:

Hypothesis 2c. *Women with a Non-Western ethnic background have a significantly higher chance of living in poverty than men with a Non-Western ethnic background.*

Regarding the triple jeopardy of single mothers with a migration background, in section 2.1.5., previous findings were shown, indicating the following relation:

Hypothesis 3. *The effect of gender and ethnicity is moderating the effect of single parenthood on poverty in a multiplicative way, so that single mothers with a Non-Western ethnic background have a significantly higher chance of living in poverty than individuals with other combined parenthood, gender, and ethnicity characteristics.*

2.4. Other influence factors

Lu et al., (2019: p.7) showed that the “geographic region was a predictive factor for taxable income, total income, and poverty status” of single parents in the United States. Nieuwenhuis (2015) examined differences in regional policies in support to single parents. The author outlined that in 2015 the ‘Participation Law’ came into effect which regulated the social assistance for the whole Netherlands. “Before the Participation Law came into effect, differences were found among municipalities in the degree to which lone parents were exempted from the requirement to seek employment, in relation to their care responsibilities”, so that the level of assistance for single parents differed between regions (Nieuwenhuis, 2015: p.3). As this research is based on data between 2008 and 2010, the Participation Law did not come into effect by then. Hence, the regional surrounding could be influential for the individual risk of poverty and should therefore be controlled for in the analysis.

Moreover, Lu et al. (2019) examined inequalities between male and female single parents regarding poverty and income and discovered that age is a significant influence factor on the risk of poverty of single parents. They showed that age was “significantly associated with poverty status” (Lu et al., 2019: p.7). In a different methodological approach, the authors showed that “age was positively associated with taxable and total income [...]. However, as expected, this relationship was not linear as age squared was negative, meaning that there is a diminishing marginal return in the association between age and taxable and total incomes” (Lu et al., 2019: p.7). This relation could, however, not be found for the poverty status of single parents. Nevertheless, the authors showed that age could be an influence factor for the prediction of poverty and should therefore be controlled for in the analysis.

To examine structural intersectionality and to control for individual inequality, it is furthermore necessary to include education into the analysis. Aisa et al. (2019) showed that education lowers the risk for poverty, so that both have a negative interrelation. “In the case of men taking those with primary education as reference, completing secondary or tertiary reduces their risk of being poor by 68.5% and 83.8%. The differences are less significant for women; those with secondary and tertiary education face a probability of poverty of 48.9% and 74.3% lower than those with only primary, respectively” (Aisa et al., 2019: p.29). Hence, education lowers the risk of poverty, however, the protecting effect of education is lower for women than for men. To account for these differences in this study I will adjust for education in the empirical analysis.

Lu et al. (2019) further showed that the marital status had a significant effect on the poverty status of single parents. Divorced single parents had a higher poverty status and total income than separated single parents. Hence, those single parents who were divorced had a lower risk of poverty than separated single parents. “This could be due to the fact that legal separation allows for the retention of health care and other benefits including certain social security benefits that terminate with a divorce, and spouses may still be responsible for the debt of the other in a legal separation, unlike a divorce where the debts are handled during the dissolution process” (Lu et al., 2019: p.11). Concluding, the status of the relationship between the single parent and the father or mother of the child who is less or not involved in the care responsibilities could be influential for the poverty status on an individual inequality level and should be adjusted.

Lastly, the number of children was found to have an impact on the individual risk of poverty for single parents (Lu et al., 2019). Lu et al. (2019) showed that a “higher number of children would lead to higher non-work income”, as the social support and welfare income by the – in this case – American government would be higher (Lu et al., 2019: p.12). In their research, having more children was positively affecting the non-work income of the respondents and, therefore, decreasing the risk of living in poverty. However, this was the case for the U.S., where the social support system greatly differs to the Dutch system. Nonetheless, the number of children should be included in the model as a control variable to control for familial and individual inequality.

Against this theoretical backdrop, the research design will be examined in the following section. First, the data of analysis will be described, followed by the operationalisation of the different variables that are relevant for the analysis. Before going into the analyses, the methodology will be described at last.

3. Research Design

3.1. Data

To test the theoretical concept and the four hypotheses, the *Netherlands Longitudinal Lifecourse Study* (NELLS) from 2008 to 2010 and from 2013 (second wave) was chosen as a dataset. This panel survey study was conducted in the Netherlands and resulted in a public use dataset, based on a “mixed-mode form, using both face-to-face and internet methods”, and including an “oversample of ethnic minorities” (Tolsma et al., 2014: p.3). In the face-to-face interviews socio-demographic and -economic facts of the respondents were collected by trained interviewers. The internet method included a self-completion questionnaire to collect latent information about the respondents (De Graaf et al., 2011).

The sampling followed a two-stage stratified sampling process, at first a “quasi-random selection of 35 municipalities by region and urbanization” and second, “a random selection from the population registry based on age and country of birth of the respondent and his/her parents” (Tolsma et al., 2014: p.9). In a first step, a division of the municipalities into three regions and four levels of urbanization was done, whereby “sampling was not completely random because the four big cities in the West (Amsterdam, Rotterdam, Den Haag and Utrecht) had to be included in order to obtain a representative sample of Moroccans and Turks” (Tolsma et al., 2014: p.9). As the emergence of these ethnic minorities was low in rural regions, the sample only included regions of very strong, strong, or moderate urbanization degrees for these groups. “As a result, by design, the sample does not cover the limited number of Moroccans and Turks living in very small villages in the country-side” (Tolsma et al., 2014, p.9). Further information on ethical considerations regarding the use and analysis of the data is included in table 13 in the *appendix*.

Regarding the response rates in the first wave in 2008 to 2010, the net response rate among all respondents amounted 52%, 46% among individuals with a Moroccan background, 50% among those with a Turkish background, and 56% among respondents living in the Netherlands with a background other than Moroccan or Turkish (Tolsma et al., 2014). The ethnic categories Others “(i.e. persons living in the Netherlands, excluding Moroccans and Turks)” and respondents with a Moroccan background included an overrepresentation of women, in contrast to no significant gender difference in response for respondents with a Turkish background (Tolsma et al., 2014: p.20). Moreover, the ethnic background of respondents was distinguished between first- and second-generation migrants. “If the person and one or two parents are born outside the Netherlands, he/she is considered of first-generation foreign origin. If the person is born in the Netherlands and one or two parents are born outside the Netherlands, he/she is considered of second generation foreign origin” (Tolsma et al., 2014: p.25). The individual country of origin was based on the mother’s country of birth if both or just the mother was foreign born. Countries of origin are categorised in the following groups: Turkish, Moroccan, Western (“all European countries (excluding Turkey), US, Canada, Pacific (mainly Australia and New Zealand), Japan and Indonesia”) and Non-Western (“All other countries, including Aruba, the Dutch

Antilles and Suriname”) (Tolsma et al., 2014: p.25). The four groups were divided in first- and second-generation foreign origin.

Moreover, the NELLS dataset contains district variables. “Respondents are nested in 256 districts (“*Wijk*”) within 35 municipalities (“*Gemeente*”)” (De Graaf et al., 2011: p.12). They are assigned to a district based on the postcode, however, the postcodes were replaced by random IDs, so that the inclusion of the regional level in the analysis is possible without risking to violate the privacy of the respondents. In addition to the classification of the respondents within a district, 39 characterising statistics were added from Statistics Netherlands to analyse the situation within these districts. After having discussed the data for this research, I now turn to the variables used to conduct the analysis.

3.2. Variables

In the following section, I present the variables considered for the analysis by explaining their generation. Besides the main variables of interest – poverty, single parenthood, gender, and ethnicity – the control variables for the model will be presented. All presented variables were generated in the first wave of the data in 2008-2010.

3.2.1. Poverty

The dependent variable of interest is the probability to live in poverty, which is why I define the poverty threshold in the Netherlands at the respective time point first. The median equivalised household disposable income amounted €20,700 in 2009 in the Netherlands (Statistics Netherlands, 2017). I chose 2009 as the year of interest, because it is the time point in the middle of the data collection, whereby the differences to the income in 2008 and 2010 amount only €100 to €300 more per year. The equivalised disposable income “is the disposable income adjusted for differences in household size and composition. This correction is made using equivalence factors. [...] The standardized income is a measure of the prosperity of (the members of) a household” (own translation)⁴ (Statistics Netherlands, 2017). To establish a poverty threshold, the yearly amount is converted into a monthly median equivalised household disposable income: Dividing it by 12 leads to a monthly income of €1,725. The relative poverty definition by the OECD (2021) says that “people are classified as poor when their equivalised disposable household income is less than 50% of the median prevailing in each country”. Hence, the relative poverty threshold in the Netherlands in 2009 amounted less than 50% of €1,725, or in other words less than €862.5 per month.

⁴ Original text: “*Het gestandaardiseerd besteedbaar inkomen is het besteedbaar inkomen gecorrigeerd voor verschillen in grootte en samenstelling van het huishouden. Deze correctie vindt plaats met behulp van equivalentiefactoren. In de equivalentiefactor komen de schaalvoordelen tot uitdrukking die het gevolg zijn van het voeren van een gemeenschappelijke huishouding. Met behulp van de equivalentiefactoren worden alle inkomens herleid tot het inkomen van een eenpersoonshuishouden. Op deze wijze is het welvaartsniveau van verschillende typen huishoudens onderling vergelijkbaar gemaakt. Het gestandaardiseerd inkomen is een maat voor de welvaart van (de leden van) een huishouden*” (Statistics Netherlands, 2017).

The NELLS dataset only offers ranges of the monthly household income instead of the precise amount. Based on the following question, the respondents were supposed to specify their net household income: “*What is the net income per month of you and your partner (if applicable) together? This concerns a partner with whom you live with or are married*” (own translation)⁵ (De Graaf et al., 2011: p.23). The respondents could choose between 17 different categories indicating different ranges of income. The first categories “*Less than 150€ per month*”, “*€150 - €299 per month*”, and “*€300 - €499 per month*” were irregular. The following categories “*€500 - €999 per month*” increased steadily by €500 up until “*€7000 or more per month*”. Lastly, respondents could choose the category “*I do not know, I would rather not say*” (De Graaf et al., 2011: p.23-24). Therefore, I use the category which is covering the precise poverty threshold (€500-€999) as the threshold. As the upper limit of this category is relatively close to the actual threshold, this limitation is seen as unproblematic. Hence, I generate a new binary variable “**poverty**” which equals *1* when a respondent chose the category “*€500 - €999 per month*” or a lower category, and which equals *0* when a respondent chose the category “*€1000 - €1499 per month*” or a higher category. Having generated this new variable, the final estimation sample contains 2,261 observations in total, 2,093 observations who lived above the poverty threshold and 168 observations who lived in poverty.

3.2.2. Single Parenthood

As being a single parent was not directly queried in the survey, this variable had to be generated. At first, respondents were asked: “*Do you have any children? We also mean any stepchildren here*” and “*do the following people live in this house: Children of you and / or your partner?*” (own translation)⁶ (De Graaf et al., 2011: pp.15/37). I generate a new variable which combines both questions, to examine whether a respondent lived with children in the same household. It is assumed that the respondents only had to do all the care work when their child or children still lived in the same household. Hence, I generate a new binary variable “**child**” which equals *1* if both questions were answered with “*yes*”, and which equals *0* when both questions were answered with “*no*”. Second, the respondents were asked: “*Do you currently have a partner? By this we mean someone with whom you have been at least 3 months or longer in a relationship, you do not have to live with them*” and “*do the following people live in this house: Your partner?*” (own translation)⁷ (De Graaf et al., 2011: pp.15/26). Again, I generate a new variable which combines both questions, to examine whether a respondent lived with a partner in the same household. It is assumed that the respondents had to take care of the child or children by themselves, when they did not have any partner or when they had a partner who was not

⁵ Original question: „*Wat is het netto inkomen per maand van u en uw partner (indien van toepassing) samen? Het gaat hier om een partner waarmee u samenwoont of getrouwd bent*” (De Graaf et al., 2011: p.23).

⁶ Original questions: “*Heeft u kinderen? We bedoelen hier ook eventuele stiefkinderen*” and “*Wonen er in deze woning de volgende personen? Kinderen van u en/of uw partner*” (De Graaf et al., 2011: pp.15/37).

⁷ Original questions: “*Heeft u op dit moment een partner? Hieronder verstaan we iemand met wie u ten minste 3 maanden of langer een relatie heeft, u hoeft daar niet mee samen te wonen.*” and “*Wonen er in deze woning de volgende personen? Partner (van respondent)*” (De Graaf et al., 2011: pp.15/26)

living in the same household. Hence, I generate a binary variable “*partner*” which equals *1* when both questions were answered with “yes”, and which equals *0* when the respondents had no partner or when they had a partner who did not live in the same household. In a last step both newly generated variables were combined with each other to examine, whether a respondent was a single parent or a parent in a partnership. The binary variable “*single parent*” equals *1* when a respondent had a child living in the same household (*child=1*), but no partner/no partner living in the same household (*partner=0*). It equals *0* when a respondent had a child living in the same household (*child=1*), and a partner living in the same household (*partner=1*). Concluding, a respondent could either be a single parent (*single parent=1*) or no single parent, but a parent in a partnership (*single parent=0*). Having generated this new variable, from a total of 2,261 observations, 1,951 observations (86.29%) were non-single parents in the first wave of the data and 310 observations (13.71%) were single parents.

3.2.3. Gender

The respondents’ gender has been collected and, based on administrative data from Statistics Netherlands, added to the data, so that no new variable needed to be generated based on other characteristics (De Graaf et al., 2011: p.12). However, I recode the existing variable, so that the variable “*gender*” equals *0* when a respondent is male, and it equals *1* when a respondent is female. Looking at the gender distribution in the dataset, from a total of 2,261 observations, 955 respondents were male (*gender=0*) and 1,306 were female (*gender=1*). Male respondents accounted for around 42%, whereas female respondents accounted for around 58% of the final estimation sample.

3.2.4. Ethnic Background

The ethnic background of the respondents is inspired by a classification of Statistics Netherlands and bases on the country of birth. “If the person and one or two parents are born outside the Netherlands, he/she is considered of *first-generation foreign origin*. If the person is born in the Netherlands and one or two parents are born outside the Netherlands, he/she is considered of *second generation foreign origin*” (Tolsma et al., 2014: p.25). Moreover, “The exact origin is determined by mother’s country of birth if both parents (or only the mother) were born outside the Netherlands. If the mother was born in the Netherlands, the origin is determined by father’s country of birth. A person is classified as being of *Dutch origin* if both parents are born in the Netherlands, irrespective of own country of birth” (Tolsma et al., 2014: p.25). The countries of origin were categorised in five different groups, each divided into first- and second-generation ethnic background, besides the group of Dutch origin. The four other groups were *Moroccan*, *Turkish*, *Non-Western*, and *Western origin*. “Western origin refers to all European countries (excluding Turkey), US, Canada, Pacific (mainly Australia and New Zealand), Japan and Indonesia (including Dutch Indonesia; the former Dutch colony). All other countries, including Aruba, the Dutch Antilles and Suriname are considered Non-Western” (Tolsma et al., 2014: p.25).

Looking at the distinction made for this research, I combine respondents of Dutch and of Western origin in one group as there were no significant group differences between the two groups regarding their probability to live in poverty, adjusted for the other covariates (see table 3 in *appendix*). This can partly be explained by their cultural similarities and, following, their lower risk for racial discrimination. I further combine respondents of Moroccan, Turkish, and Non-Western origin in another group, as the differentiation between them would lead to too small groups and, consequently, to a lack of statistical power (see table 4 in *appendix*). Moreover, they are expected to be more exposed to racial discrimination based on their ethnic and cultural characteristics, compared to those with a Western origin, so that they can be viewed in contrast to each other. Additionally, first- and second-generation foreign origins are not differentiated, so that a binary variable is generated that equals 0 when a respondent has a Dutch or Western origin (*dummy ethnic=0*), and it equals 1 when a respondent has a Non-Western, Moroccan, or Turkish origin (*dummy ethnic=1*). This reduction to two categories is further discussed in the discussion and conclusion section. Having generated this new variable, from a total of 2,261 observations, 1,084 observations (47.94%) had a Dutch or Western ethnic origin, and 1,177 observations (52.06%) had a Non-Western ethnic origin.

3.2.5. Control Variables

As outlined, education needs to be adjusted for in the model as it might be moderating the effect of the variables of interest on poverty. The respondents were asked: “*Have you completed this education with a diploma? No education? Primary school? General/ Pre-vocational programme? Vocational programme? Polytechnic/applied/lower college? First upper/single tier university degree? Second/ Further upper tier university degree? Doctoral degree?*” (own translation)⁸ (De Graaf et al., 2011: p.18). For each of the education levels they could answer separately with ‘yes’ or ‘no’, so that several binary variables were constructed. For this analysis, I generate a new variable to combine them based on own classifications. “*Education*” equals *0* when a respondent completed no education or primary school. It equals *1* when a respondent completed a I or II secondary education, hence a pre-vocational or a vocational training, a “foreign education, not classifiable lower education”, or a “foreign education, not classifiable middle education” (Tolsma et al., 2014: pp.39). “*Education*” equals *2* when a respondent completed a “polytechnic/applied/lower tier college degree after 3-4 years of study”, when the respondent completed first or second upper university degree, a doctoral degree, or a “foreign education, not classifiable higher education” (Tolsma et al., 2014: pp.38-39). Hence, I generate a categorical variable with three categories from 0 to 2. Looking at the distribution of the observations,

⁸ Original question: „*Welke van de volgende opleidingen heeft u gevolgd? Heeft u deze opleiding met een diploma afgerond? Als u in het buitenland onderwijs heeft gevolgd, neem dan het Nederlandse niveau dat er het meest op lijkt. Lagere school? Lbo, vmbo-kb/bbl? Mavo, vmbo-tl? Havo? Vwo/gymnasium? Mbo-kort (kmbo), primair leerlingwezen, bol/bbl niveau 1 of 2? Mbo-tussen/lang (mbo), secundair/tertiar leerlingwezen, bol/bbl niveau 3 of 4? Hbo? Universiteit (bachelor)? Universiteit (master, doctoraal)? Promotietraject? Buitenlandse opleiding, niet goed in te delen, lager onderwijs? Buitenlandse opleiding, niet goed in te delen, middelbaar onderwijs? Buitenlandse opleiding, niet goed in te delen, hoger onderwijs? Geen opleiding?*” (De Graaf et al., 2011: p.18).

from a total of 2,261 observations, 242 (10.7%) fall under category 0; 1,336 (59.09%) fall under category 1; and 683 (30.21%) fall under category 2.

Moreover, *age* was chosen as a control variable. The respondents ranged in the first wave from 15 to 49 years. This variable was constructed based on administrative data and added to the NELLS data (De Graaf et al., 2011). Additionally, I chose the number of children as a control variable. Based on the question “*how many (still living) children do you have? Also stepchildren, foster children and adopted children*” (own translation)⁹, the respondents could give a numeric answer (Tolsma et al., 2014: p.89). Based on the respondents’ answers, a variable “*number of children*” was generated with a range from *1 to 8* children. With a frequency of 994, most observations had 2 children. Another variable that was chosen as a control is the marital status of the observations. Based on the questions “*Are you married with your partner? Yes or no*”, and “*Have you ever been divorced in your live? Yes or no*” (own translation)¹⁰ (De Graaf et al., 2011: p.28), a new variable was generated. The categorical variable “*relation*” equals *0* when an observation was not married and never divorced. It equals *1* when an observation was not married but divorced. “*Relation*” equals *2* when an observation was married and divorced, and it equals *3* when an observation was married and never divorced. Looking at the distribution of this variable, 229 observations were not married and not divorced; 96 were not married but divorced; 120 were married and divorced; and 1,633 were married and never divorced. 183 of the observations were missing. In a further step, those observations who were missing were analysed. All of them were single parents, so that this could indicate a systematic bias, as only single parents did not answer these questions. Hence, the inclusion of this variable into the analysis would lead to a strong reduction of relevant cases. Therefore, the marital status will not be included in the further analysis. The issues that come with the exclusion of the marital status from this research will be further elaborated in the conclusion and discussion section. Lastly, in the robustness check the regional level will be adjusted for in the models by including regional dummies to control for regional differences in the level of assistance for lone parents and their poverty risks.

3.3. Methodological Approach of Analysis

“Specifically, quantitative designs can offer insights into additive, multiplicative, and intersectional effects of various identity categories” (Atewologun, 2018: p.10). Following the quote from Atewologun (2018), this research uses a quantitative approach by doing a multivariate linear probability analysis to examine the effect of single parenthood, gender, and ethnicity on the probability to live in poverty. ‘*Poverty*’ follows a binomial distribution, so that I consider a linear probability model (LPM) with ordinary least squares (OLS) estimation, as well as a logistic regression model with

⁹ Original question: „*Hoeveel (nog levende) kinderen heeft u? Ook stiefkinderen meetellen voor zover die bij u in huis hebben gewoond*“ (De Graaf et al., 2011: p.37)

¹⁰ Original questions: „*Bent u gehuwd met uw partner?*” and “*Bent u in uw leven ooit gescheiden?*” (De Graaf et al., 2011: p.28)

maximum likelihood estimation. The LPM assumes a linear relation between the probability to live in poverty and the regressors, whereby the logistic model assumes a logistic relation between both. The LPM can be criticised, as the model might predict probabilities outside the range of 0 and 1, which does not happen with a logistic model, however, a logistic model too requires functional form assumptions which also limit its functionality. The logistic model assumes a linear relation between the independent variables and the log odds which could also not be the true functional relationship in the data. In the recent literature, LPMs are more often preferred over logit models for the ease of interpretation (Angrist & Pischke, 2008; Holm et al., 2015). Hence, I chose an LPM, as properties of the LPM are well understood and the coefficient estimates are easier to interpret. As the true functional relationship between poverty and the regressors is not known, I will discuss other functional relations like the logistic model. Moreover, to control for predicted probabilities outside the range of 0 and 1, I will compare the results with a linear discriminant model.

Moreover, to test whether the effect of all three forms of discrimination is multiplicative, interaction terms between the variables will be included into the regression models to estimate their relation to poverty. Following the theoretical approach, being a woman and having a Non-Western ethnic background are moderating the effect of single parenthood on poverty, so that this effect is different than only measuring the impact of the characteristics on poverty separately. More detailed, based on the theoretical background, I expect that the effect of single parenthood on poverty varies, depending on the gender and the ethnic origin of the observations. This research follows the idea of Jaccard (2001) on the concept of interactions of three categorical variables:

“For an interactive [...] model with three qualitative predictors, X, Q, and Z, and the corresponding product terms between them, let X be the focal independent variable, let Q be the first order moderator variable, and let Z be the second-order moderator variable. For the case of dummy coding the [...] coefficient for a three-way product term is a ratio of two two-way interaction parameters. It focuses on the predicted [...] [probability (M.V.)] for the group scored 1 on the dummy variable for X divided by the predicted [...] [probability (M.V.)] for the reference group on X and divides this [...] ratio for the group scored 1 on the dummy variable for Q by the corresponding [...] ratio for the reference group on Q. This two-way interaction parameter is subjected to the three-way interaction contrast by dividing the parameter for the group scored 1 on Z by the parameter for the reference group on Z” (Jaccard, 2001: p.28).

Connecting this explanation with the given research approach, the binary predictor single parenthood equals the focal independent variable X, gender equals the first-order moderator variable Q, and ethnic origin equals the second-order moderator variable Z. Hence, to analyse the five derived hypotheses and to predict the probability of an observation to live in poverty, who has certain values on the predictor variables, the following five linear probability models will be examined:

$$P(Y = 1|S, G, E, X) = b_0 + b_1S + b_2G + b_3E + \gamma X + \varepsilon \quad (\text{M1})$$

$$P(Y = 1|S, G, E, X) = b_0 + b_1S + b_2G + b_3E + b_4SG + \gamma X + \varepsilon \quad (\text{M2})$$

$$P(Y = 1|S, G, E, X) = b_0 + b_1S + b_2G + b_3E + b_4SE + \gamma X + \varepsilon \quad (\text{M3})$$

$$P(Y = 1|S, G, E, X) = b_0 + b_1S + b_2G + b_3E + b_4GE + \gamma X + \varepsilon \quad (\text{M4})$$

$$P(Y = 1|S, G, E, X) = b_0 + b_1S + b_2G + b_3E + b_4SG + b_5SE + b_6GE + b_7SGE + \gamma X + \varepsilon \quad (\text{M5})$$

$P(Y=1|S,G,E,X)$ symbols the probability of living in poverty Y – the dependent variable of interest – given some value of the independent variables. Hence, looking at the probability of being above or underneath the poverty threshold, Y equals 1, when an observation is beneath the poverty threshold, and Y equals 0, when an observation is above the poverty threshold. Hence, the equation represents the influence of the predictors single parenthood, gender, ethnicity, and the controls on the probability of living in poverty. S stands for the independent variable single parenthood, G for the first-order moderator gender and E for the second-order moderator ethnic origin. X is a vector of controls, including the before defined control variables. ε stands for the error term which needs to be considered in the regression equation. The coefficient b_0 stands for the intercept, describing the probability of living in poverty when all predictors equal zero. The coefficients b_{1-3} describe the single effects of the three predictors of interest for the groups that equal 1 on the respective dummy variables. “Because the term is involved in product terms involving both moderator variables, it is conditioned on zero for both moderators”, hence considering only the reference groups of the other two remaining dummy variables (Jaccard, 2001: p.30). The coefficients b_{4-6} describe the two-way interaction parameters of the respective variables when the third predictor of interest equals 0. For example, b_4 is the coefficient of the two-way interaction between single parent and gender when the dummy variable ethnic origin equals 0, adjusted for the effect of the control variables. The coefficient γ describes the vector of effects of the control variables. The last remaining coefficient b_7 describes the three-way interaction parameter as explained in the quote by Jaccard (2001). Against this methodological backdrop, the model assumptions are presented in the following section.

3.4. Model Assumptions

In a linear probability model, the standard errors must be heteroscedastic, because they can only take two possible values: They equal the observed value minus the predicted value p and, therefore, equal either $0 - p = -p$ or $1 - p$. Consequently, the standard errors might be biased, as well as the confidence intervals and the significance test statistics. To counteract this violation of the homoscedasticity assumption, I use robust standard errors based on the sandwich estimator of variance to receive unbiased standard errors of the coefficients (Kohler & Kreuter, 2017).

The linearity assumption of the model is only necessary for numeric predictors, as a linear relation between the numeric predictors and the probability for the dependent variable to be 1 is assumed. Age is a numeric predictor for which the linearity assumption needs to be checked. To test the linearity assumption, I conduct a bivariate regression and test whether the inclusion of age as a second order polynomial improves the model fit by using a likelihood-ratio test to “decide whether to reject or not to reject a restriction on the parameter” (Taboga, 2017). The H₀-hypothesis that the more restrictive linear model is nested in the less restrictive quadratic model can be rejected at a significance level of 0.001 ($p\text{-value}=0.0000$). Hence, including age as a second-degree polynomial into the model results in a statistically significant improvement in model fit at a 0.1%-significance level. Looking at the number of children, as with age, I conduct a bivariate regression. In a second step, the variable is included as a second order polynomial, and I compare both models by using a likelihood-ratio test. The H₀-hypothesis that the more restrictive linear model is nested in the less restrictive quadratic model cannot be rejected at any conventional significance level. Including the number of children as a second-degree polynomial into the model does not result in a statistically significant improvement in model fit, which is why in the further analysis I include the variable as a first order polynomial. In the following section, I will present descriptive statistics to discuss the distribution of the observations along the variables of interest. Thereafter, I will analyse the linear probability models and their results, followed by a robustness check of the results.

4. Analysis

4.1. Distribution and Descriptive Statistics

Table 1. *Descriptive statistics.*

Variable	Obs.	Mean/Proportion	Std. Dev.	Min	Max
Poverty	2,261	0.074	0.262	0	1
Single Parent	2,261	0.137	0.344	0	1
Gender	2,261	0.578	0.494	0	1
Ethnicity	2,261	0.521	0.500	0	1
Education	2,261	1.195	0.609	0	2
Age	2,261	36.643	5.810	15	49
Children (number)	2,261	2.195	1.008	1	8

Notes: The table shows the mean for continuous and the proportion for categorical variables, the standard deviation and the minimum and maximum of the variables used in the analysis.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Table 1 shows the mean for continuous and the proportion for categorical variables, the standard deviation and the minimum and maximum of the variables used in the analysis. The mean age in the first wave of the data is about 37 years. Moreover, the mean number of children an observation had is about 2.2 children, which is more than the average in the total Dutch population in 2009 of 1.79 children per woman and 1.704 per man (Statistics Netherlands, 2020b). Most observations followed a I or II secondary education, a pre-vocational or a vocational training. I will further outline the distribution of the other four variables of interest in table 2.

Looking at the distribution in the data, as an overview, table 2 shows the amount of single and non-single parents and the distribution within specific subgroups. Moreover, the table presents the related share of the subgroups. From a final estimation sample of 2,261 observations, 2,093 (92.6%) lived above the poverty threshold, whereby 168 (7.4%) observations lived underneath the poverty threshold. Connecting these numbers with single parenthood, from the 2,093 observations who did not live in poverty, 1,887 (90,2%) were non-single parents, in contrast to 206 (9.8%) single parents. This distribution looks different for those observations who lived in poverty: From a total of 168 observations living in poverty, 64 (38.1%) were non-single parents and 104 (61.9%) were single parents. Hence, from a total of 310 single parents, 33.5% lived in poverty in 2009, compared to 3.3% of a total of 1,951 non-single parents. This conditional distribution shows that single parents relatively more often lived in poverty in comparison to non-single parents.

Regarding the gender distribution of living in poverty, from a total of 168 observations living in poverty, 22 (13.1%) were male and 146 (86.9%) were female. Hence, from the 955 male observations, 2.3% lived in poverty in 2009, compared to 11.2% of a total of 1,306 female observations. This conditional distribution reveals that women relatively more often lived in poverty in comparison to men. Moreover, looking at the observations who lived in poverty, 43 (25.6%) had a Western or Dutch ethnic origin and 125 (74.4%) had a Non-Western ethnic origin. Hence, from the 1,084

observations with a Dutch or Western ethnic background, 4% lived in poverty in 2009, compared to 10.6% of a total of 1,177 observations with a Non-Western ethnic background. This conditional distribution shows that observations with a Non-Western ethnic background relatively more often lived in poverty in comparison to those with a Western or Dutch ethnic origin.

Table 2. *Data distribution*

Group	Total	%	Single parents	%	Non-Single parents	%
N	2,261	100	310	13.7	1,951	86.3
Female	1,306	57.8	253	81.6	1,053	54
Male	955	42.2	57	18.4	898	46
Non-Western	1,177	52.1	196	63.2	981	50.3
Dutch/Western	1,084	47.9	114	36.8	970	49.7
Poverty	168	7.4	104	33.5	64	3.3
No Poverty	2,093	92.6	206	66.5	1,887	96.7
Non-Western + Female	670	56.9	162	82.6	508	51.8
Non-Western + Male	507	43.1	34	17.4	473	48.2
Dutch/Western + Female	636	58.7	91	79.8	545	56.2
Dutch/Western + Male	448	41.3	23	20.2	425	43.8
Poverty + Female	146	86.9	99	95.2	47	73.4
Poverty + Male	22	13.1	5	4.8	17	26.6
Poverty + Non-Western	125	74.4	72	69.2	53	82.8
Poverty + Dutch/Western	43	25.6	32	30.8	11	17.2
Non-Western + Poverty + Female	108	86.4	70	97.2	38	71.7
Non-Western + Poverty + Male	17	13.6	2	2.8	15	28.3
Dutch/Western + Poverty + Female	38	88.4	29	90.6	9	81.8
Dutch/Western + Poverty + Male	5	11.6	3	9.4	2	18.2
Non-Western + No Poverty + Female	562	53.4	92	74.2	470	50.6
Non-Western + No Poverty + Male	490	46.6	32	25.8	458	49.4
Dutch/Western + No Poverty + Female	598	57.4	62	75.6	536	55.9
Dutch/Western + No Poverty + Male	443	42.6	20	24.4	423	44.1

Notes: The table shows the distribution of the respective groups, in total and separately for single and non-single parents and the share (%) of the respective subgroups.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Of a total of 2,261 observations, 13.7% of the respondents were single parents and around 86.3% were non-single parents. This distribution resembles the distribution in the total population of the Netherlands in 2009: 13.4% of all children under the age of 18 years lived in single-parent households, compared to 71.5% living with married couples, 13.5% living with unmarried couples and 1.6% living in other forms of households (Statistics Netherlands, 2020a). Looking at the ethnicity distribution in the final estimation sample, from the complete sample, around 48% of the respondents belong to the

Dutch/Western origin group, whereas around 52% belong to the Non-Western ethnic group. This distribution is not representative for the whole population as the data “include an oversample of two large ethnic minority groups in the Netherlands (Turks and Moroccans)” (Tolsma et al., 2014: p.4). From a total population of 16.49 million people in 2009, only about 20% of the people had a migration background, whereby around 11% had a Non-Western migration background – in contrast to around 52% respondents with a Non-Western origin in the data (Statistics Netherlands, 2021; Tolsma et al., 2014).

Coming to the distribution of single and non-single parents with a Non-Western background, from a total of 1,177 observations with a Non-Western ethnic origin 16.7% were single parents. Regarding the distribution of single and non-single parents with a Western/Dutch origin, from a total of 1,084 observations 10.5% were single parents. The gender distribution of the single parents shows that from a total of 310 observations, around 18% were males and around 82% were females. This conditional distribution resembles the distribution in the total population of the Netherlands in 2009: From a total of 474,909 single parents around 17% were males, whereas around 83% of the single parents were females (Statista Research Department, 2020). Thus, the gender distribution in the group of single parents in the data resembles that of the total Dutch population.

As this research examines the triple interaction of single parenthood, gender, and ethnicity, it is necessary to also look at the distribution between the three characteristics. From a total of 196 single parents with a Non-Western ethnic origin 82.7% were single mothers and 17.3% were single fathers. This contrasts with 79.8% single mothers with Dutch/Western ethnic origin and 20.2% single fathers with a Dutch/Western ethnic origin from a total of 114 single parents in this group. Regarding the poverty distribution throughout these groups, the data contain 70 single mothers with a Non-Western ethnic background that live underneath the poverty threshold, compared to 29 single mothers with a Dutch/Western ethnic background. Hence, from a total of 99 single mothers who lived underneath the poverty threshold 71% had a Non-Western ethnic background, whereas 29% of the single mothers living underneath the poverty threshold had a Dutch/Western ethnic background. Looking at table 2, the groups of male single and non-single parents that live underneath the poverty threshold are small for both of Non-Western or of Dutch/Western ethnic origin. This is a limitation to this research which will be further discussed in the discussion and conclusion section. Against this descriptive backdrop, in the following section, I will discuss the results of the linear probability models.

4.2. Results

Table 3 shows the five nested models M1-M5 predicting the probability to live underneath the poverty threshold, adjusted for all predefined control variables. For the ease of interpretation, the two continuous control variables age and number of children are mean-centred by subtracting the respective means from the variables, and they are standardised by dividing the mean-centred variables by their respective standard deviation.

Table 3. Comparison of linear probability models predicting the probability to live in poverty.

	M1	M2	M3	M4	M5
Single parent	0.277*** (0.026)	0.053 (0.037)	0.250*** (0.041)	0.275*** (0.026)	0.111+ (0.064)
Female	0.039*** (0.009)	0.014+ (0.008)	0.039*** (0.009)	0.020* (0.009)	0.009 (0.006)
Non-Western	0.020* (0.010)	0.018+ (0.010)	0.014+ (0.008)	-0.001 (0.010)	0.009 (0.009)
<i>Education</i>					
Secondary education I / II	-0.117*** (0.027)	-0.119*** (0.026)	-0.117*** (0.027)	-0.114*** (0.027)	-0.118*** (0.026)
Polytechnic / University bachelor/master/doctoral degree	-0.139*** (0.027)	-0.141*** (0.027)	-0.138*** (0.027)	-0.136*** (0.027)	-0.140*** (0.027)
Age	-0.004 (0.006)	-0.002 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.002 (0.006)
Age x age	0.014* (0.006)	0.016** (0.006)	0.014* (0.006)	0.014* (0.006)	0.016** (0.006)
Number of children	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)	0.008 (0.006)
Single parent x Female		0.283*** (0.048)			0.181* (0.080)
Single parent x Non-Western			0.044 (0.054)		-0.098 (0.077)
Female x Non-Western				0.037* (0.018)	0.009 (0.015)
Single parent x Female x Non-Western					0.166+ (0.100)
Constant	0.101*** (0.028)	0.115*** (0.028)	0.103*** (0.028)	0.109*** (0.028)	0.119*** (0.027)
Observations	2261	2261	2261	2261	2261

Note: Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Age, age x age, and number of children are mean-centred and standardized coefficients.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

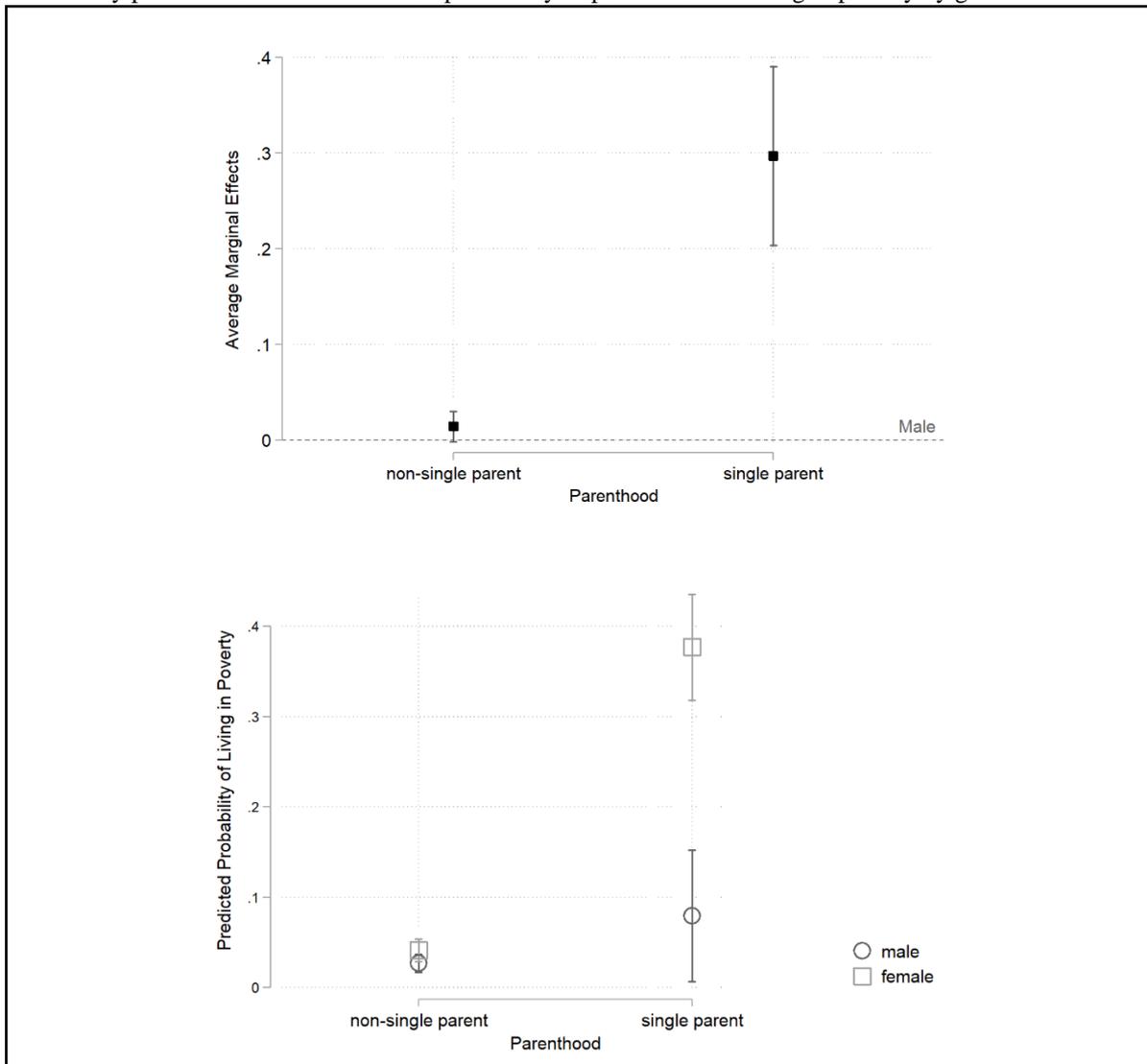
In M1, only the single effects of single parenthood, gender and ethnicity are included in the model as well as the control variables to test for hypothesis 1, whether single parents, women and individuals with a Non-Western ethnic origin have a significantly higher chance of living in poverty than non-single parents, men, and individuals with a Dutch or Western ethnic origin. In a second step, in M2, M3, and M4, the double interactions to test for hypotheses 2a, 2b, and 2c, whether single mothers have a significantly higher probability of living in poverty than single fathers, whether single parents with a Non-Western ethnic background have a significantly higher probability of living in poverty than single parents with a Dutch or a Western ethnic background, and whether women with a Non-Western ethnic background have a significantly higher chance of living in poverty than men with a Non-Western ethnic background, are separately included in the three models. In a last step, in M5, the triple interaction is included in the model to test for the third and main hypothesis, whether single mothers with a Non-Western ethnic background have a significantly higher chance of living in poverty than individuals

with other combined parenthood, gender and ethnic characteristics. For computational reasons also the double interactions of the three variables of interest need to be included in M5, to be able to measure the triple effect of single parenthood, gender, and ethnicity on the probability to live in poverty. In all five models, education has a significant negative effect on the probability to live in poverty, whereby the number of children does not have a significant effect. The age polynomial is also positive and significant, indicating different poverty risks over the life course. Hence, the probability to live in poverty becomes greater in older ages in all models, but the insecurity of the prediction also increases with age.

Looking at the results of M1, single parenthood has a positive highly significant effect on the probability to live in poverty: Being a single parent leads to a 27.7%-points higher probability to live in poverty compared to non-single parenthood, adjusted for the other covariates. The effects of gender and ethnicity on the probability to live in poverty are also positive and significant: At a 0.1%-significance level being female increases the probability to live in poverty by 3.9%-points compared to being male. Having a Non-Western ethnic origin increases the probability to live in poverty by 2%-points compared to having a Dutch or Western ethnic origin, whereby this finding is significant at a 5%-significance level.

In M2, I include the interaction between single parenthood and gender. The interaction term is highly significant, indicating significant group differences in the probability to live in poverty. Figure 2 shows the average marginal effects of gender on living in poverty by parenthood and the predicted probability of living in poverty of the four groups included in the interaction between gender and parenthood, both including 95% confidence intervals. Looking at the average marginal effects (*upper plot*), female single parenthood leads to a highly significant ($p < 0.001$) change in the probability of living in poverty that equals 29.7%-points, compared to male single parenthood. Whereas female non-single parenthood also has a positive but only slightly significant effect on living in poverty that equals 1.4%-points, compared to male non-single parenthood, leaving the controls at their observed values. Hence, single mothers have a highly significant ($p < 0.001$) probability of 37.7%-points to live in poverty, which can be seen by the predicted probability of single parenthood on living in poverty by gender in figure 2 (*lower plot*). Single fathers have a significant ($p < 0.05$) probability to live in poverty of 8%-points, whereby the confidence intervals are fully overlapping with the predicted probabilities of non-single male and female parents. In the group of non-single parents, the gender differences are much smaller, as well as the probability to live in poverty: non-single mothers have a highly significant ($p < 0.001$) probability of 4.2%-points to live in poverty, compared to a highly significant ($p < 0.001$) probability of 2.7%-points of non-single fathers.

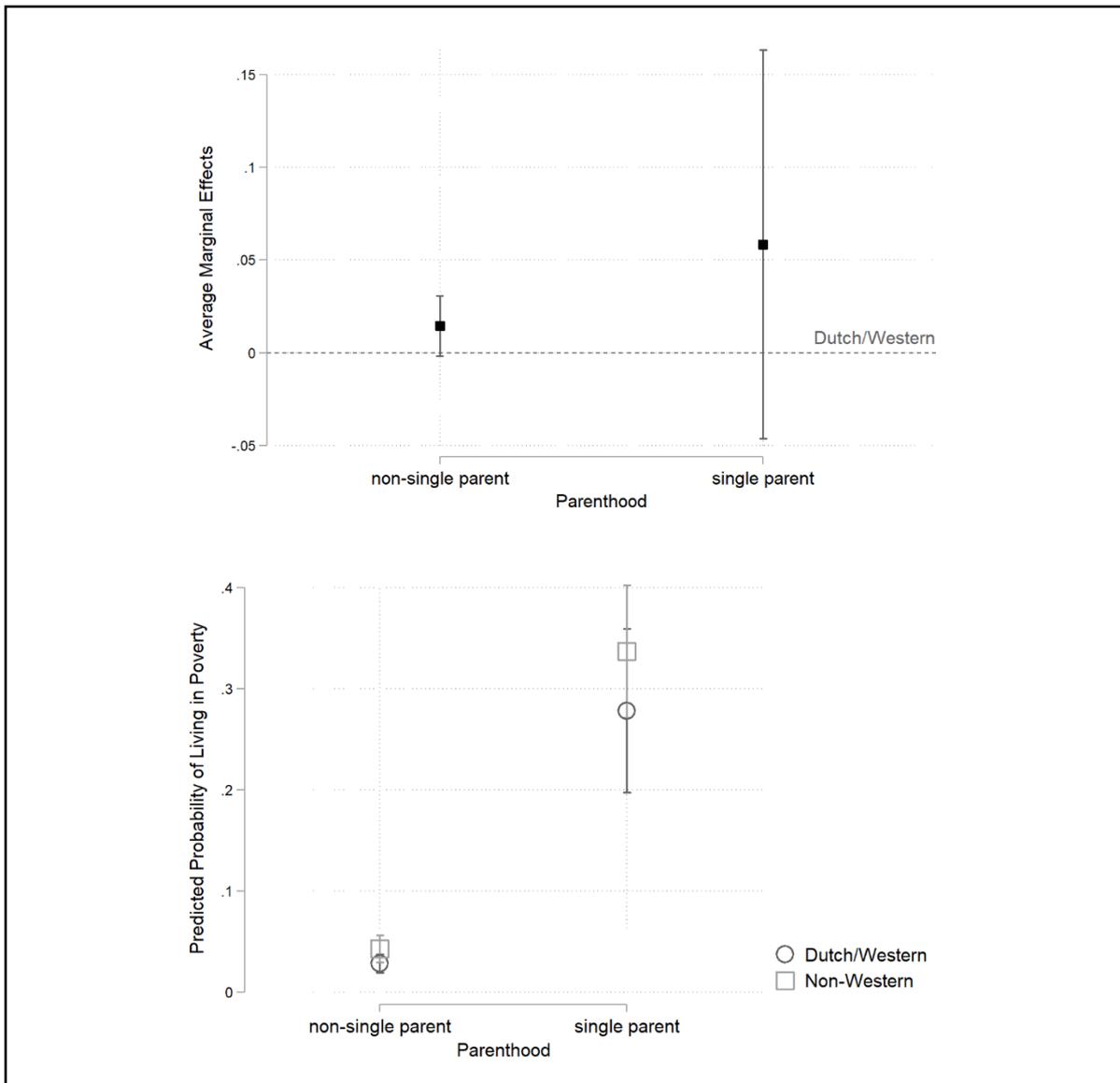
Figure 2. *Upper:* Average marginal effects of gender (baseline: male) on living in poverty with 95% confidence intervals by parenthood. *Lower:* Predicted probability of parenthood on living in poverty by gender.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

In M3, instead of gender, ethnicity was included in interaction with parenthood, adjusted for the other covariates. The inclusion of this interaction term does not explain much more than M1, which is indicated by the insignificant interaction term, indicating no significant group differences. Figure 3 shows the average marginal effects of ethnicity on living in poverty by parenthood and the predicted probability of living in poverty of the four groups included in the interaction between ethnicity and parenthood, both including 95% confidence intervals. Besides the risk difference between single parents and non-single parents, the ethnic origin does only insignificantly change the probability to live in poverty within the respective groups of single parents and non-single parents.

Figure 3. *Upper:* Average marginal effects of ethnicity (baseline: Dutch/Western) on living in poverty with 95% confidence intervals by parenthood. *Lower:* Predicted probability of parenthood on living in poverty by ethnicity.

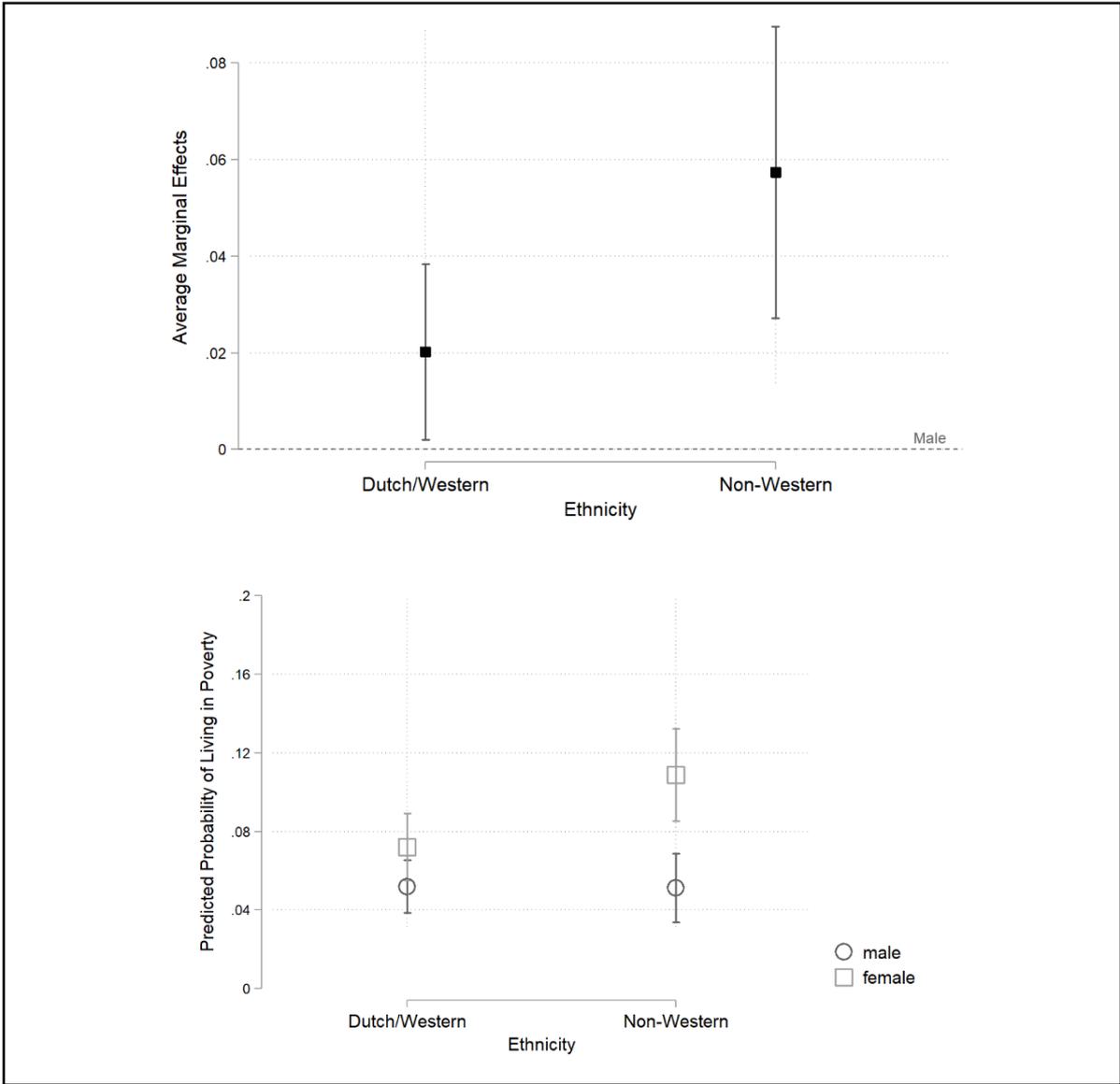


Source: Own graphical representation based on author's analysis with NELS data (Tolsma et al., 2014).

Looking at the average marginal effects (*upper plot*), being a single parent of Non-Western ethnic origin leads to no significant change in the probability of living in poverty, compared to Dutch or Western single parents, adjusted for the other covariates included in the model. Being a non-single parent with a Non-Western ethnic origin has a positive and marginal significant effect ($p < 0.1$) on living in poverty that is equal to 1.4%-points, compared to Dutch or Western non-single parents. Although these group differences are not significant, one can discern a tendency towards hypothesis 2b by looking at the predicted probabilities (*lower plot*). Single parents with a Non-Western ethnic origin have the highest significant ($p < 0.001$) probability to live in poverty from the four sub-groups with a probability of 33.7%-points. Those single parents with a Dutch or Western ethnic origin have a highly significant ($p < 0.001$) probability of 27.9%-points to live in poverty. In contrast, non-single

parents with a Dutch or Western ethnic origin have a highly significant ($p < 0.001$) probability of 2.9%-points to live in poverty and non-single parents with a Non-Western ethnic origin have a highly significant ($p < 0.001$) probability of 4.3%-points to live in poverty. However, indicated by the confidence intervals the ethnic differences within the group of single parents are insignificant, so that single parenthood alone largely determines the effect on poverty, not the ethnic background within this group.

Figure 4. Upper: Average marginal effects of gender (baseline: male) on living in poverty with 95% confidence intervals by ethnicity. Lower: Predicted probability of ethnicity on living in poverty by gender.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

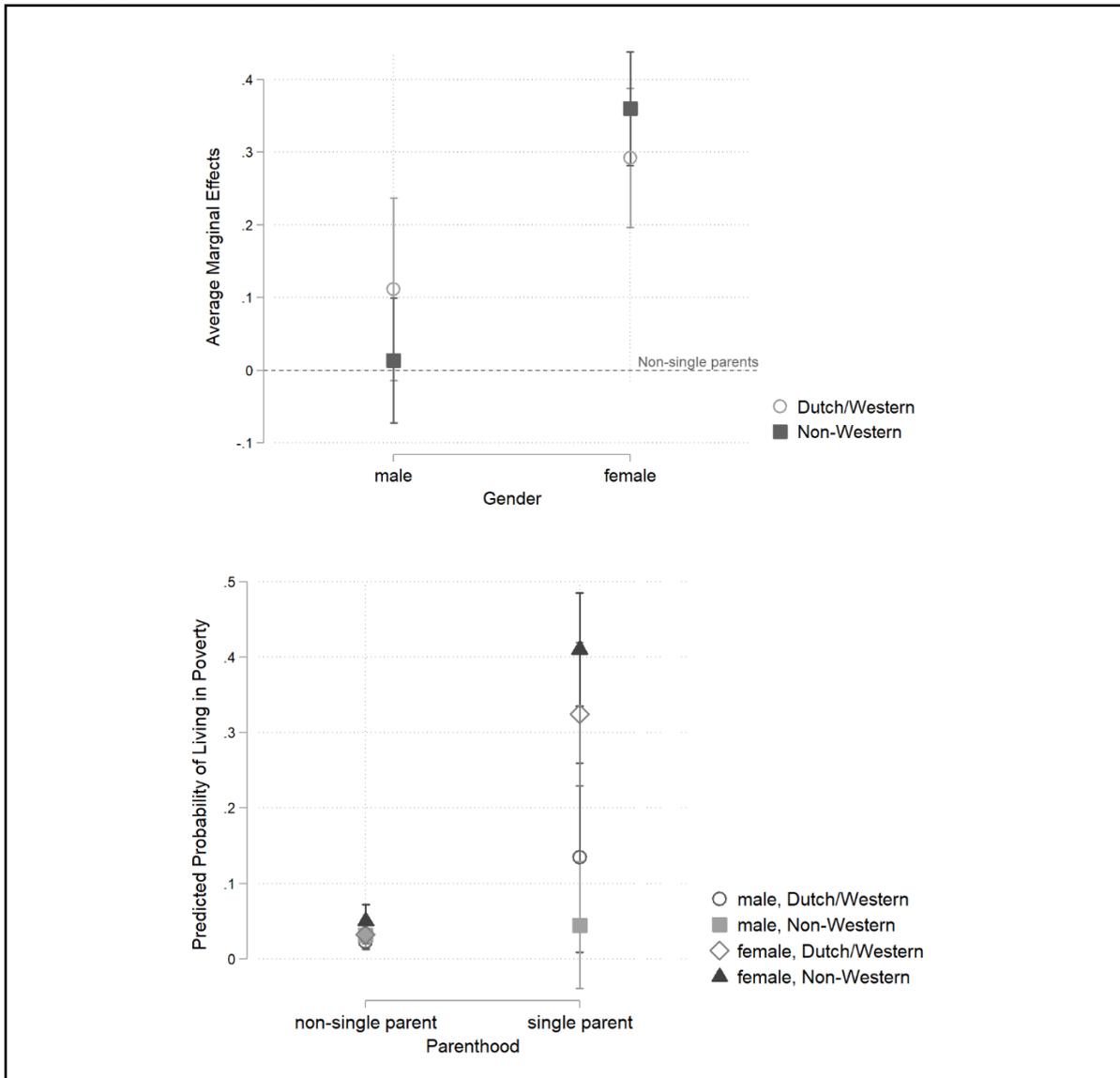
In M4, ethnicity was included in interaction with gender, adjusted for the other covariates. The interaction term is marginally significant, indicating significant group differences in the probability to live in poverty. Figure 4 shows the average marginal effects of gender on living in poverty by ethnicity and the predicted probability of living in poverty of the four groups included in the interaction between ethnicity and gender, both including 95% confidence intervals. Looking at the average marginal effects

(*upper plot*), being a woman of Non-Western ethnic origin leads to a highly significant ($p < 0.001$) change in the probability of living in poverty that equals 5.7%-points, compared to men of Non-Western ethnic origin, adjusted for the other covariates included in the model. Being a woman with a Dutch or Western ethnic origin has a positive and significant effect ($p < 0.05$) on living in poverty that is equal to 2%-points, compared to Dutch or Western men. Hence, women with a Non-Western ethnic origin have the highest significant ($p < 0.001$) probability to live in poverty from the four sub-groups with a probability of 11%-points (*lower plot*). Those women with a Dutch or Western ethnic origin have a highly significant ($p < 0.001$) probability of 7.2%-points to live in poverty. In contrast, men with a Dutch or Western ethnic origin have a highly significant ($p < 0.001$) probability of 5.2%-points to live in poverty and men with a Non-Western ethnic origin have a highly significant ($p < 0.001$) probability of 5.1%-points to live in poverty. Moreover, indicated by the not overlapping confidence intervals, the gender differences within the group of Non-Western observations are significant. This stays in contrast to the gender differences within the group of Dutch or Western observations, as the confidence intervals of male and female observations within this group are overlapping. Concluding, there are significant gender differences within the group of Non-Western observations, whereby women of Non-Western ethnic origin have the highest predicted probability to live in poverty, adjusted for controls and in comparison to the other combined characteristics.

Coming to the fifth model (M5), the three-way interaction, as well as the three two-way interactions and the main effects of single parenthood, gender, and ethnicity are included in the model, adjusted for the controls. Figure 5 shows the average marginal effects of parenthood on living in poverty by gender and ethnicity and the predicted probability of living in poverty of the eight groups included in the interaction between parenthood, gender, and ethnicity, both including 95% confidence intervals. The three-way interaction is marginally significant at a 10%-significance level, hence, there are marginally significant group differences in the probability to live in poverty, so that a multiplicative effect of single parenthood, gender, and ethnicity on the probability to live in poverty could be found.

As already indicated by M2, being a single mother leads to a much greater change in the probability of living in poverty than male single parenthood. Looking at the two ethnic subgroups within the group of single mothers, being a single mother of Non-Western ethnic origin leads to a highly significant ($p < 0.001$) change in the probability of living in poverty that equals 36%-points, compared to being a Non-Western non-single mother, adjusted for the controls (*upper plot*). Being a single mother of Dutch or Western ethnic origin leads to a highly significant ($p < 0.001$) change in the probability of living in poverty that equals 29.2%-points, compared to being a Dutch or Western non-single mother. As indicated by the overlapping confidence intervals of the two ethnic subgroups within the two gender groups, gender is the main driver of the change in the probability of living in poverty. However, the marginally significant triple interaction term expresses that within the group of single parents being a woman of Non-Western ethnic origin significantly changes the probability of living in poverty, compared to the non-single counterpart.

Figure 5. *Upper:* Average marginal effects of parenthood (baseline: non-single parents) on living in poverty with 95% confidence intervals by gender and ethnicity. *Lower:* Predicted probability of parenthood on living in poverty by gender and ethnicity.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

This can also be seen by looking at the predicted probability of living in poverty in figure 5 (*lower plot*). The group differences between Non-Western non-single fathers and Dutch or Western non-single fathers are small regarding their likelihood to live in poverty, adjusted for the other covariates. Non-single fathers with a Dutch or Western ethnic origin have a significant ($p < 0.001$) probability of 2.3%-points to live in poverty, and non-single fathers with a Non-Western ethnic origin have a significant ($p < 0.001$) probability of 3.1%-points to live in poverty. Looking at non-single mothers, both with a Dutch or Western ethnic origin or with a Non-Western ethnic origin have a slightly higher probability to live in poverty than their male counterparts. Non-single mothers with a Dutch or Western ethnic origin have a significant ($p < 0.001$) probability of 3.2%-points to live in poverty, and non-single mothers with a Non-Western ethnic origin have a significant ($p < 0.001$) probability of 5%-points to

live in poverty. Since all confidence intervals within the group of non-single parents overlap, there are no significant subgroup differences within the group of non-single parents.

Coming to the group of single parents, single fathers with a Non-Western ethnic origin do only slightly differ to their non-single counterpart, however, their probability of 4.5%-points to live in poverty is not significant and therefore not expressively. Single fathers with a Dutch or Western ethnic origin have a marginally significant ($p < 0.1$) higher probability to live in poverty compared to their non-single counterpart, with a probability of 13.4%-points. What is outstanding are the two groups of single mothers: Single mothers with a Dutch or Western ethnic origin have on average a highly significant ($p < 0.001$) probability of 32.4%-points to live in poverty, adjusted for the controls. Moreover, single mothers with a Non-Western ethnic origin are the group with the highest probability to live in poverty: They have a highly significant ($p < 0.001$) probability of 41%-points to live in poverty. Concluding on these different likelihoods to live in poverty, net of the included control variables, single mothers with a Non-Western ethnic origin are the most likely group to live in poverty. Both single mothers with a Non-Western and single mothers with a Dutch or Western ethnic origin have greater predicted probability to live in poverty than their male counterparts.

In summary, single parenthood is significantly increasing the probability to live in poverty. The effect of gender and ethnicity is also positive and significant, so that being female and having a Non-Western ethnic background are separately increasing the probability to live in poverty. Moreover, the interaction of gender and single parenthood is positive and significant, so that there are significant group differences between female and male single parents in their probability to live in poverty, also compared to non-single parents. This is not the case for the interaction between ethnicity and single parenthood: The coefficient of the interaction is positive but not significant, indicating that there are no significant group differences between Non-Western and Western or Dutch single parents. However, the inclusion of gender in the interaction in the last model shows marginally significant results: The coefficient of the triple interaction between single parenthood, gender and ethnicity is positive, indicating significant group differences. The evaluation of the predicted probabilities showed that single mothers with a Non-Western ethnic background have the highest probability of living in poverty. However, single mothers with a Dutch or Western ethnic origin also have a much higher probability to live in poverty compared to single fathers, independent from their ethnic background. Hence, in terms of poverty risks of single parents, being a woman is mainly driving the poverty probability, not the ethnic background. In the following, I will check the robustness of these results.

4.3. Robustness

To check for the robustness of the results, in a first step, I use a logistic model to predict the probability of living in poverty to test for other functional relations. Table 6 in the *appendix* shows the output of the logistic regression models, displaying the odds ratios to live in poverty with the respective significance level and confidence intervals. M3 of the logistic model differs to the LPM as the

interaction between single parenthood and ethnicity is marginally significant and negative in the logistic model. Comparing the average marginal effects (figure 3 and figure 7 (*appendix*)), the direction of the effects differs, however, in both cases the confidence intervals are overlapping, indicating only small group differences between Dutch/Western and Non-Western single parents, compared to their non-single counterparts. Moreover, in M4 the interaction term is insignificant, whereby the direction of the effect equals the one in the LPM (compare figure 4 and figure 8 (*appendix*)). In the logistic model, the triple interaction in M5 is insignificant, in contrast to a significant effect in the LPM. However, looking at the average marginal effects (figure 5 and figure 9 (*appendix*)), the direction of the effects is similar in both models. All other results remain unchanged when using a logistic model, and in conclusion the interpretation of the results must not be adjusted.

In a second step, I run the models with the dependent variable poverty measured in the second wave in 2013, to reduce the problem of reversed causality. That is, all predictors are predetermined as poverty is measured later in time vis-à-vis the right-hand-side variables. As presented in table 7 (*appendix*), most results are shown to be robust, whereby they differ in their significance level, which may be driven by lower case numbers and a reduction in statistical power. Only the size and direction of the double effect in M4 and the triple effect differs in M5, which can also be connected to low case numbers. Hence, when comparing the predicted probabilities of both models (figure 5 and figure 10 (*appendix*)), the direction of the different predictions for the single subgroups are similar. Only for Non-Western single fathers, the model with poverty measured in wave 2 predicts a higher probability than in the other model. However, in M1-M3 the direction and size of the effects equal those of the main results, which is reassuring.

Moreover, I run the five LPMs additionally adjusted for time-invariant regional differences by including dummy variables for each region. The results are presented in table 8 (*appendix*) and most results of the LPM are shown to be robust. Only the effect of ethnicity is shown to be insignificant in M1 after adjusting for regional differences, however, the triple interaction in M5 remains significant on a 10%-significance level. Hence, regional levels are not moderating the effect of the predictors on the probability to live in poverty. In a last step, the predicted probabilities were generated based on a linear discriminant model (LDM): After the estimation of the five different LPMs with ordinary least squares estimation, the equation parameters were transformed based on the LDM to overcome the problem of predicted probabilities outside the interval of 0 and 1. Table 9 to 12 and figure 11 to 14 (*appendix*) show the respective predicted probabilities for M2 to M5. The results show similar tendencies. Only the differences within the group of single parents between the different subgroups are greater which can be connected to the parameter transformation in the linear discriminant model, so that the results of the LPMs are shown to be robust. Concluding on these robustness checks, most results are shown to be robust, however, the effect of ethnicity differs most in the different models, which needs to be discussed in the following section.

5. Discussion and Conclusion

5.1. Discussion

This study aimed to examine the relation between single parenthood, gender, ethnicity, and structural inequality in the form of poverty. More detailed, I investigated the research question *how single parenthood, gender, and ethnicity are in combination affecting the risk to live in poverty in the Netherlands*. Using the first wave of the Netherlands Longitudinal Lifecourse Study (NELLS) from 2008 to 2010, 2,261 single and non-single mothers and fathers with a Dutch, Western or Non-Western ethnic background (first and second generation) were analysed. I found that single mothers with a Non-Western ethnic background were the most disadvantaged group, as they had the highest predicted probability to live in poverty. However, in terms of poverty risks of single parents, I found that being a woman was mainly driving the poverty probability, not the ethnic background: Within the group of single mothers, the ethnic background only marginally impacted the probability to live in poverty.

To come up with these findings, four sub-questions were first answered to lead up to the main question. *Are single parents, women, and individuals with a Non-Western ethnic background respectively more likely to live in poverty in the Netherlands than non-single parents, men, and individuals with a Dutch or Western ethnic background?* The descriptive results already gave an indication: they showed that single parents relatively more often lived in poverty in comparison to non-single parents in the estimation sample. Moreover, following the descriptive results, women relatively more often lived in poverty in comparison to men and observations with a Non-Western ethnic background relatively more often lived in poverty in comparison to those with a Western or Dutch ethnic background. This matches many previous studies in the Netherlands and in other countries, where women were found to have a higher poverty risk than men (Aisa et al., 2019; Casper et al., 1994; Christopher et al., 2002; Daly, 1992; Gornick & Boeri, 2017; Pressman, 2002, 2003), individuals with a migration background were found to have a higher poverty risk than those without a migration background (Brodmann & Polavieja, 2011; Sáenz & Morales, 2019), and single parents were found to have a higher poverty risk than other family forms (Nieuwenhuis & Maldonado, 2018b).

These relations were also approved by the first linear probability model. Hence, hypothesis H1, that single parents, women, and individuals with a Non-Western ethnic background respectively have significantly higher probabilities to live in poverty in contrast to their counterparts cannot be rejected, adjusted for controls. As I controlled for certain drivers of individual inequality, one explanation to these findings is structural inequalities between the groups. Whether they are caused by different forms of discrimination remains unclear, because discrimination cannot be explicitly measured within this research approach, but only theoretically considered as a cause for inequalities. However, based on the findings, gender, single parenthood and ethnicity are drivers of inequality in the form of poverty, pointing to discriminatory structures in the Netherlands. Further research should examine more closely why these groups are particularly affected by poverty.

The second sub-question refers to the intersectional effect between single parenthood and gender on poverty: *Are single mothers more likely to live in poverty than single fathers in the Netherlands?* In previous research, single mothers were found not to be supported enough by the Dutch welfare state, as they still faced gender inequality and discrimination on the labour market (Christopher et al., 2002). Therefore, I expected single mothers to have a significantly higher probability of living in poverty than single fathers (H2a) and this could not be rejected based on the results. Hence, there is a gender poverty gap for single parents which cannot be explained by educational or ethnic differences. Different causes for this structural inequality were discussed in previous research. Besides the societal context affecting single mothers' poverty risks due to structural discrimination in income or the labour market, they are more likely to reduce working hours or to leave the labour market due to childcare responsibilities. Moreover, Pressman (2003) found that single mothers tend to work in different job fields with poorer pay in comparison to single fathers. Concluding, this study outlines a significant gender poverty gap for single mothers in the Netherlands, calling for further research to investigate the causes.

Regarding the third sub-question, *whether single parents with a Non-Western ethnic background are more likely to live in poverty than single parents without or with a Western ethnic background*, the situation is different than with gender. In previous research, single parents with a migration background were found to have higher poverty rates than the overall population average (Elmelech & Lu, 2004). Therefore, I expected for single parents with a Non-Western ethnic background to have a significantly higher probability of living in poverty than single parents with a Dutch or a Western ethnic background (H2b). The ethnic differences within the group of single parents were tested in a third linear probability model and were found to be insignificant. Hence, hypothesis 2b needs to be rejected. This stands in contrast with previous research, as single parenthood alone seemed to determine the positive effect on the probability to live in poverty, not the ethnic differences within this group. One explanation for this could be that both single parents and individuals with a Non-Western ethnic origin separately already face structural inequality, however, these structural inequalities are not multiplied, but merely operating separately.

The fourth sub-question embodies Kimberlé Crenshaw's (1989, 1991) intersectionality theory underlying this study: *Are women with a Non-Western ethnic background more likely to live in poverty than men with the same ethnicity characteristics?* In Hypothesis 2c, gender and ethnicity were expected to have a multiplicative positive effect on the probability to live in poverty. More detailed, women with a Non-Western migration background were expected to have a significantly higher probability of living in poverty than men with a Non-Western migration background (H2c). Based on the findings, this hypothesis cannot be rejected, as I found significant differences between males and females both with a Non-Western ethnic background in their likelihood to live in poverty. This goes along with different previous research, where similar results were found (Elmelech & Lu, 2004; Kirk & Suvarierol, 2014; van den Bogert, 2019). The intersectional, multiplicative effect of gender and ethnicity is greater than

the sum of both inequality drivers, so that an intersectional differentiation between the sub-groups is highly important in inequality research to address the poverty risk that is particular to women with a Non-Western ethnic background. What is also noteworthy was the lack of significant difference in poverty risks between men and women within the Dutch/Western ethnic group. Gender differences in the probability to live in poverty were significant only in the Non-Western ethnic group, indicating that women with a Non-Western ethnic background are the most vulnerable group compared to the others and further underlining the importance of the intersectionality approach to adequately examine structural inequalities.

In addition, in previous research it was shown that single mothers with a migration background were facing great poverty risks, on the one hand due to the migration process itself and on the other hand due to cultural stereotypes they face in the emigrating countries (Campos, 2014). However, the risk differences to other combined parenthood, gender and ethnic characteristics have not been examined yet, especially not for the Netherlands. As found for the triple interactions in previous research in Spain, I expected for this research that combining single parenthood, gender and ethnicity in a triple interaction leads to a multiplicative increasing effect on the probability to live in poverty in the Netherlands. This was done in a fifth linear probability model, and I found a marginally significant effect of the triple interaction. Answering the main research question, hypothesis 3, that single mothers with a Non-Western ethnic background have the highest predicted probability of living in poverty than individuals with other combined parenthood, gender, and ethnic characteristics, cannot be rejected on a marginal significance level. I found evidence for the triple burden of single mothers with a Non-Western ethnic background to have the highest predicted probability of living in poverty compared to other societal sub-groups in the Netherlands.

Besides the evidence for the triple burden, what stood out in the findings was that for single parents it is primarily their gender that influences the risk of poverty, not the ethnic background. The intersectional effect of gender and ethnicity on the poverty risk was significant, but in combination with single parenthood the ethnic background seemed to play a lesser role than gender. This was differently expected, as I expected both gender and ethnicity to have a similarly strong effect on the poverty risk of single parents. One explanation for this could be the unconscious bias on the labour market, which single mothers in particular face. DeJean et al. (2012) found that single mothers face greater stereotypes than single fathers, regarding their childcare abilities as well as their individual characteristics. Accordingly, it could be that single mothers are per se already more discriminated against on the labour market and fall through the cracks of political agenda setting, regardless of their ethnic origin. Moreover, other selection mechanisms could have led to growing disparities between single mothers independent from their ethnic origin. The involvement of the father could be one influence factor for the poverty risk of single mothers. McLanahan (2004: p.617) showed that the feminist movement in the 20th century enabled women to become independent from men due to controlling their fertility, pursuing an education and making a career, but “the pill and legalized

abortion made it easier for men to shirk their paternal responsibilities". Hence, the differences in paternal support might be more influential for single mothers than their ethnicity in the likelihood to live in poverty. However, to evaluate the factors that influence the structural inequalities demonstrated by this work, further research is needed to investigate the causes in more depth.

5.2. Limitations and Strengths

The main contribution to the existing research is in combining all three characteristics of single parenthood, gender, and ethnicity in one model to provide a better understanding of the interaction of all three in their effect on social inequality in the form of poverty. Moreover, although the subgroups consist only of small case numbers, I was able to find evidence in favour of most of the hypotheses. Another strength of this work lies in empirically analysing the intersectionality theory established by Crenshaw (1989, 1991). Focussing mainly on the US, Crenshaw's theory has only been applied to a few countries and contexts, limiting the generalisability of the theory. With its focus on the Netherlands and on further combining different individual characteristics to measure their impact on social inequality gives new insights in the social inequality research and underpins Crenshaw's (1989, 1991) theory.

This study points to the necessity for a greater differentiation between societal subgroups in further research, as well as in the political agenda. It is based on data from 2008-2010, during the time of the world economic crises, when relative poverty in the Netherlands increased (OECD, 2015). On the one hand, this can be seen as a limitation, because it covers a time of economic emergency, making it more difficult to generalise the results. For instance, single mothers tend to be only loosely attached to the labour market and might be the first ones to be laid off in an economic crisis. Then, my effect estimates would be an upper limit and they could be smaller during better economic times. On the other hand, the research shows which societal subgroups have the highest risk of poverty in times of economic crisis. Hence, it identifies which subgroups are the most vulnerable, so that political stakeholders should provide support and intervention strategies for them based on their higher risk to fall into poverty. In addition, relative poverty was used, which is sensitive to external effects like an economic crisis. Further research should examine the extent to which the risk of poverty changes for these subgroups in times of economic upswing. Whether they benefit from the upswing, or whether little changes for them due to remaining structural disadvantages should be investigated to further identify which structures lead to inequalities within society.

This research has further limitations that need to be discussed to interpret the findings. As the model bases on societal subgroups, the numbers of observations within each subgroup greatly differ and are partly small. However, this distribution can be linked to the actual distribution in the population. To give an example, in the Netherlands, around 6% of the Dutch population lived in poverty in 2017, whereby individuals with a migration background were overrepresented, as well as single parents and women (Statistics Netherlands, 2019b, 2019d). This distribution was also shown in

this study. Nonetheless, this is a limitation that impacts the findings and could lead to imprecisely measured results, which needs to be considered when interpreting this research and when doing further research on this topic.

Additionally, regarding individuals with different ethnic backgrounds, I did not differentiate between first- and second-generation foreign origin, whereby there could be differences between the two groups. However, if I had considered them separately, the subgroups would have been even smaller, which would have made the analysis less reliable. In further research, it could be interesting to look at both subgroups in combination with single parenthood and gender separately. Even the third generation could be analysed to see if poverty is additionally passed on from generation to generation. Moreover, I did not differentiate more precisely between the countries of origin, which reduces the significance for the individual ethnic groups. Due to the small estimation sample, a differentiation between the countries of origin again would have led to small subgroups and to possibly biased results. However, in further research, the different ethnic groups should be further investigated.

Another limitation that can be criticized is the exclusion of the marital status from this research because the inclusion of this variable into the analysis would lead to a strong reduction of relevant cases and could bias the overall outcome. Nevertheless, the marital status is important for the analysis, as it could influence the risk of poverty of the sub-groups. In further research, a larger estimation sample should be chosen with bigger population subgroups, so that the inclusion of the marital status into the analysis allows to produce further findings. Lastly, the operationalisation of the outcome variable can be criticized as being limited. I could not use the exact poverty line as a threshold, as the available data only gave income categories instead of the precise income. Therefore, more people may have fallen below the poverty line than is the case. In further research, income as a continuous variable should be used with precise income information to obtain more accurate results.

5.3. Conclusion

This research showed that single mothers with a Non-Western ethnic background are the most vulnerable group to structural inequalities within the group of parents, whereby gender is the main driver over ethnicity. Hence, combining the three risk factors in a multiplicative way lowers the risk of underestimating the inequalities between certain societal sub-groups. Overall, single mothers are the most likely to face poverty, pointing to certain societal dynamics that influence their individual life course. In addition to discriminatory structures on the labour market, and different selection mechanisms driving the poverty risks, the political agenda setting is influential. Single parents are per se more dependent on the social support system because they often must compensate for a missing second income of a partner. However, differences between single mothers and single fathers in their poverty risks do not seem to be sufficiently considered by policy makers, especially regarding their ethnic background. Hence, one important conclusion of this research is the relevance of differentiating more detailed between societal subgroups in the political agenda setting and social support system of

the Netherlands by adapting Crenshaw's intersectionality approach (1989, 1991). It is necessary to carry out more targeted prevention work, as especially single mothers with a Non-Western ethnic background are the most likely to live in poverty, contrary to the existing support systems available in the Netherlands in 2008-2010. In 2015, the 'participation law' came into effect which regulates the social assistance for the whole Netherlands. Nieuwenhuis (2020) showed that the poverty risk of single parents in the Netherlands was in the bottom third compared to other European countries, but it remained stable at around 30% being at risk of poverty between 2010 to 2018. This indicates that the measures taken between 2010 and nowadays have not improved the situation of single parents in the Netherlands. Policies are needed that enable especially single mothers to have the same living standards as they would have with the support of a partner. On the one hand, free and available childcare opportunities are important to enable them to work in full-time. On the other hand, the unconscious bias about single mothers on the labour market needs to be reduced by reducing stereotypes towards single parents and single mothers in particular. For example, incentives for employers to support them could be created. Moreover, the responsibility of the children's other parent should be increased. The financial support of the missing partner could be increased, as well as the care responsibilities. Although gender was found to be the main poverty driver for single parents instead of ethnicity, single mothers with a Non-Western ethnic background were the group with the highest predicted probability to live in poverty. Hence, the disadvantages that ethnic minorities face should be addressed in political decision making to reduce discriminatory structures on the labour market as well as in social support systems. The fact that these structures are an existing problem in the Netherlands was also shown by the recent scandal about the Dutch tax office, outlined in the introduction (BBC, 2021). Concluding, certain societal sub-groups face barriers and disadvantages, others do not face, underlining the importance of a change in the political agenda setting as well as a reduction of stereotypes towards single parents on the labour market.

Besides these political implications, the findings should be connected to other forms of inequalities forced by structural discrimination: Additionally to the probability to live in poverty, the situation on the job market and in occupation, as well as labour market outcomes of those societal subgroups should be further investigated in future research to gain more insights to what extent the triple interaction brings significantly different social conditions. Moreover, the causes of structural inequalities within the Dutch society should be further investigated to better understand why certain groups are more disadvantaged than others and to implement more targeted policy intervention measures. This study showed that the intersectionality approach to examine inequalities within a society is a useful measure: Focussing not only individually on gender, ethnicity or single parenthood in their effects on poverty, but also in combination has been proven to give further insights into inequality research. Concluding, I showed that structural inequality in the form of poverty still is a societal problem within the Netherlands, leading to unequal opportunities and life courses especially for single mothers with a Non-Western ethnic background.

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Appendix

Table 4. Comparison of Dutch and Western ethnic background predicting poverty.

	M1
Single parent	0.248*** (0.041)
Female	0.021* (0.008)
Western ethnic origin	0.031 (0.032)
<i>Education</i>	
Secondary education I / II	-0.112 (0.108)
Polytechnic/University bachelor/master/doctoral degree	-0.137 (0.108)
Age	-0.046* (0.018)
Age x age	0.001* (0.000)
Number of children	0.009 (0.007)
Constant	0.934** (0.337)
Observations	1084

Note: Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Table 5. Tabulation of ethnic background by poverty.

Ethnic Background	Poverty		Total
	No	Yes	
Dutch	982	37	1,019
Western	59	6	65
Non-Western	82	4	86
Moroccan	465	60	525
Turkish	505	61	566
Total	2,093	168	2,261

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

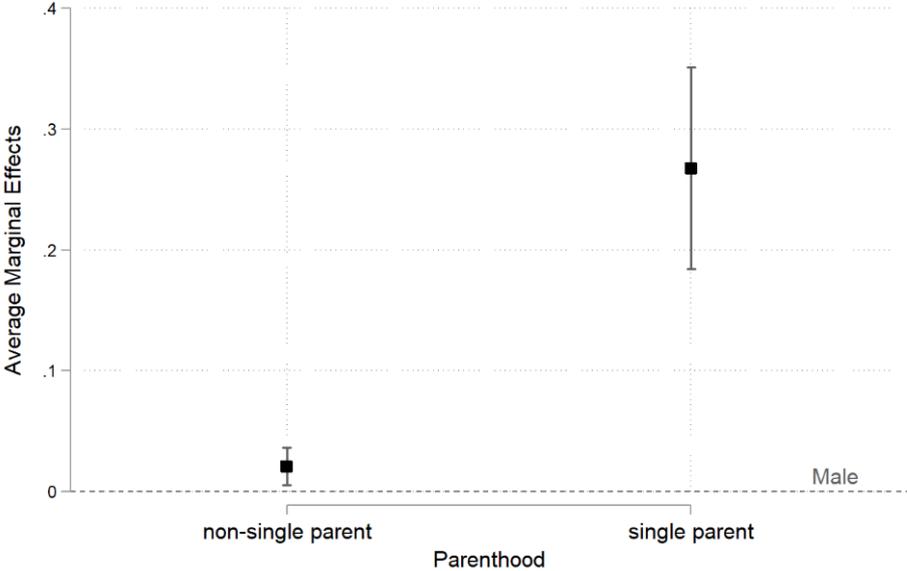
Table 6. Comparison of logistic models predicting the odds ratio to live in poverty.

	M1	M2	M3	M4	M5
Single parent	12.112*** [8.358,17.553]	3.891* [1.325,11.433]	25.972*** [12.383,54.473]	12.12*** [8.365,17.56]	24.001** [3.508,164.225]
Female	3.133*** [1.903,5.158]	2.043* [0.147,3.642]	3.139*** [1.908,5.164]	3.924** [1.437,10.72]	3.343 [0.716,15.599]
Non-Western	1.786** [1.155,2.762]	1.779* [1.147,2.758]	3.257*** [1.631,6.503]	2.310 [0.789,6.765]	4.900* [1.104,8.689]
<i>Education</i>					
Secondary education I / II	0.333*** [0.211,0.528]	0.318*** [0.199,0.507]	0.354*** [0.226,0.557]	0.332*** [0.210,0.525]	0.334*** [0.211,0.531]
Polytechnic/University bachelor/master/doctoral degree	0.173*** [0.093,0.324]	0.164*** [0.087,0.308]	0.183*** [0.098,0.342]	0.174*** [0.0928,0.325]	0.171*** [0.091,0.323]
age	0.639*** [0.501,0.815]	0.628*** [0.493,0.801]	0.658*** [0.514,0.844]	0.639*** [0.501,0.814]	0.654*** [0.510,0.838]
Age x age	1.006*** [1.00,1.01]	1.006*** [1.003,1.010]	1.006** [1.002,1.009]	1.006*** [1.003,1.010]	1.006** [1.002,1.010]
Number of children	1.099 [0.920,1.310]	1.091 [0.913,1.305]	1.105 [1.002,1.009]	1.101 [0.923,1.314]	1.095 [0.917,1.309]
Single parent x Female		3.789* [1.193,12.037]			1.082 [0.135,8.689]
Single parent x Non-Western			0.347* [0.148,0.816]		0.071* [0.006,0.830]
Female x Non-Western				0.738 [0.234,2.330]	0.564 [0.107,2.974]
Single parent x Female x Non-Western					6.328 [0.455,88.073]
Constant	59.570*	116.523*	21.600	49.387*	25.325
Observations	2261	2261	2261	2261	2261
Pseudo R ²	0.2909	0.2957	0.2960	0.2911	0.3022
BIC	918.1163	920.0761	919.6302	925.5621	935.4108

Note: 95% confidence intervals in brackets; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

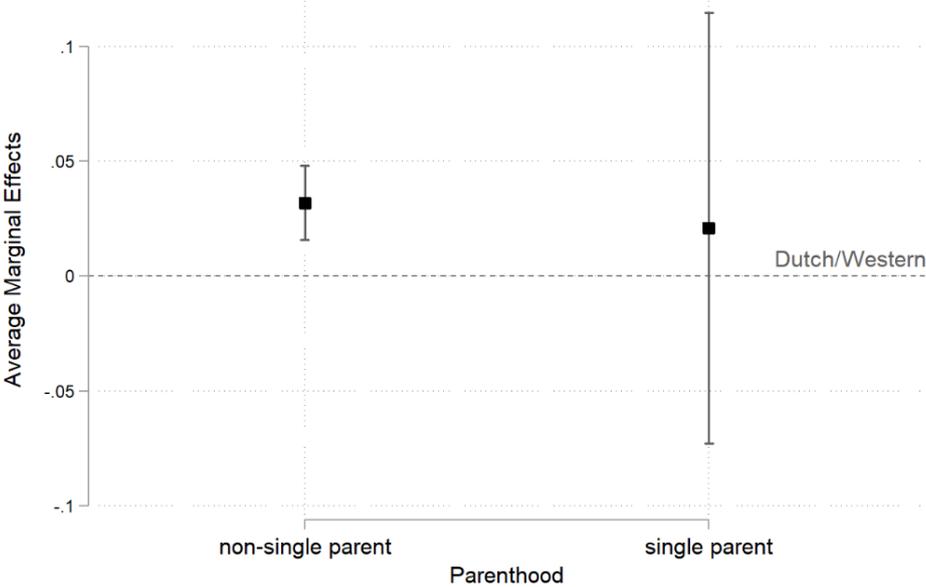
Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 6. Average marginal effects after logistic regression of gender on living in poverty with 95% confidence intervals by parenthood.



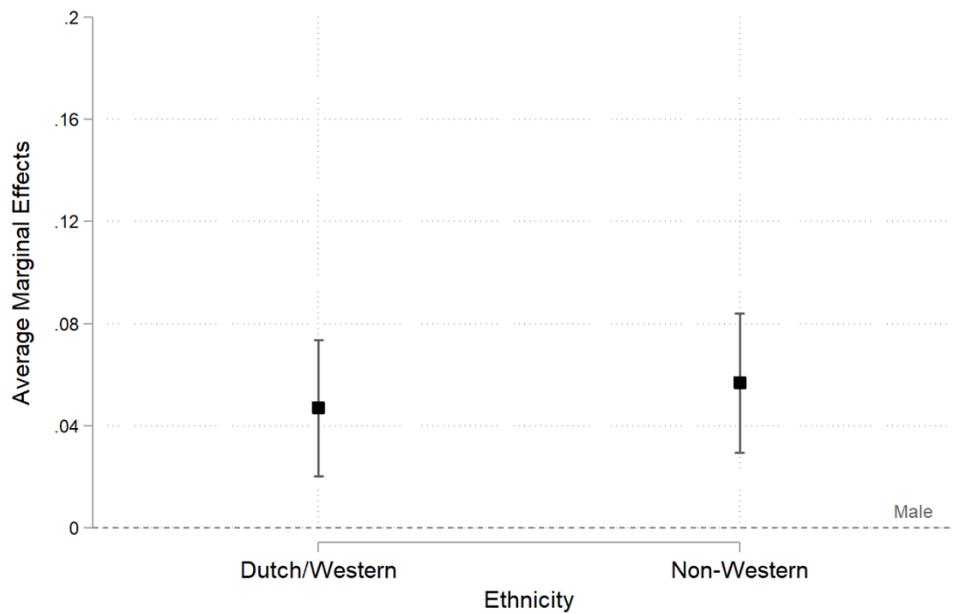
Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Figure 7. Average marginal effects after logistic regression of ethnicity on living in poverty with 95% confidence intervals by parenthood.



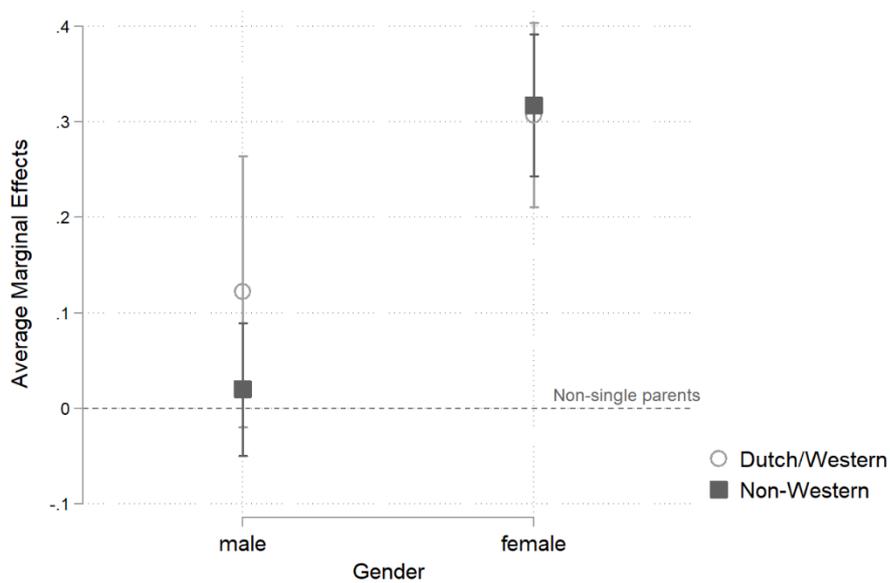
Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Figure 8. Average marginal effects after logistic regression of gender on living in poverty with 95% confidence intervals by ethnicity.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Figure 9. Average marginal effects after logistic regression of single parents on living in poverty with 95% confidence intervals by ethnicity and gender.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

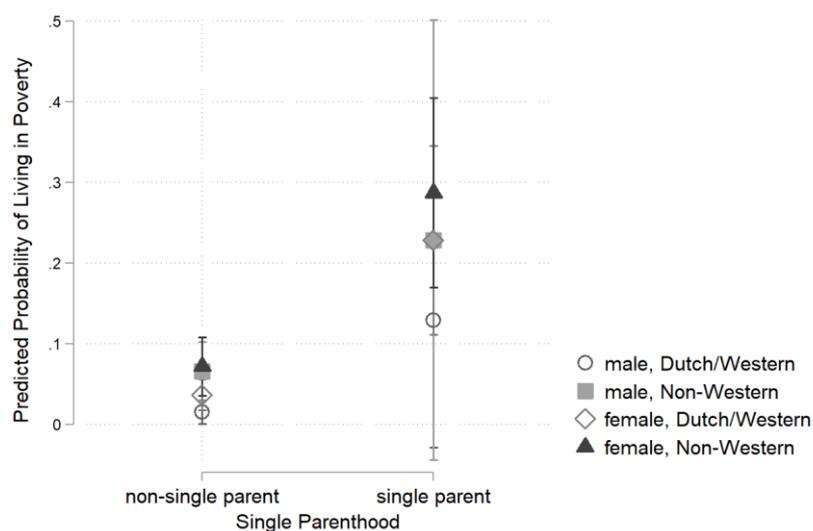
Table 7. Comparison of models predicting the probability to live in poverty in Wave 2.

	M1	M2	M3	M4	M5
Single parent	0.188*** (0.038)	0.131+ (0.071)	0.172*** (0.050)	0.188*** (0.038)	0.114 (0.080)
Female	0.021 (0.013)	0.016 (0.013)	0.021 (0.013)	0.026+ (0.013)	0.022+ (0.012)
Non-Western	0.046** (0.016)	0.045** (0.016)	0.043** (0.015)	0.053* (0.021)	0.051* (0.020)
<i>Education</i>					
Secondary education I / II	-0.094+ (0.049)	-0.092+ (0.049)	-0.094+ (0.049)	-0.095+ (0.049)	-0.094+ (0.049)
Polytechnic/University bachelor/ master/doctoral degree	-0.106* (0.049)	-0.104* (0.049)	-0.106* (0.049)	-0.107* (0.049)	-0.106* (0.049)
Age	0.005 (0.008)	0.005 (0.008)	0.005 (0.008)	0.005 (0.008)	0.006 (0.008)
Age x age	-0.015* (0.006)	-0.015* (0.006)	-0.015* (0.006)	-0.015* (0.006)	-0.014* (0.006)
Number of children	0.003 (0.009)	0.003 (0.009)	0.002 (0.009)	0.003 (0.009)	0.003 (0.009)
Single parent x Female		0.072 (0.083)			0.077 (0.099)
Single parent x Non-Western			0.031 (0.076)		0.049 (0.162)
Female x Non-Western				-0.013 (0.030)	-0.015 (0.028)
Single parent x Female x Non-Western					-0.025 (0.183)
Constant	-0.530* (0.213)	-0.500* (0.211)	-0.514* (0.220)	0.118* (0.051)	-0.484* (0.217)
Observations	1173	1173	1173	1173	1173

Note: Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Age, age x age, and number of children are mean-centred and standardized coefficients.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 10. Predicted probability of single parenthood on living in poverty in wave 2 by gender and ethnicity.



Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Table 8. Comparison of models predicting poverty, controlled for regional differences.

	M1	M2	M3	M4	M5
single parent	0.269*** (0.028)	-0.001 (0.044)	0.240*** (0.043)	0.266*** (0.028)	0.073 (0.068)
female	0.046*** (0.010)	0.018+ (0.010)	0.045*** (0.010)	0.023* (0.010)	0.010 (0.008)
Non-Western	0.003 (0.013)	0.006 (0.013)	-0.002 (0.011)	-0.022 (0.014)	-0.008 (0.013)
<i>Education</i>					
Secondary education I / II	-0.100*** (0.028)	-0.099*** (0.027)	-0.100*** (0.028)	-0.096*** (0.028)	-0.097*** (0.027)
Polytechnic/University bachelor/master/doctoral degree	-0.126*** (0.029)	-0.126*** (0.028)	-0.126*** (0.029)	-0.123*** (0.029)	-0.125*** (0.028)
Age	-0.034** (0.013)	-0.038** (0.013)	-0.035** (0.013)	0.003 (0.007)	-0.039** (0.013)
Age x age	0.000** (0.000)	0.001** (0.000)	0.000** (0.000)	0.016** (0.006)	0.001** (0.000)
Number of children	0.006 (0.007)	0.005 (0.006)	0.006 (0.007)	0.006 (0.007)	0.004 (0.006)
Single parent x Female		0.335*** (0.053)			0.213* (0.084)
Single parent x Non-Western			0.046 (0.056)		-0.124 (0.088)
Female x Non-Western				0.045* (0.021)	
Single parent x Female x Non-Western					0.197+ (0.108)
Regional dummies
Constant	0.672** (0.233)	0.758** (0.236)	0.690** (0.234)	0.078* (0.031)	0.772*** (0.233)
Observations	2261	2261	2261	2261	2261

Note: Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Age, age x age, and number of children are mean-centred and standardized coefficients.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Table 9. Predicted probability after linear discriminant model of parenthood on living in poverty by gender.

	Mean	Std. Dev.	Min.	Max.
Female x Single Parents	.7909986	.1186067	.5438215	.9916705
Male x Single Parents	.036598	.0924097	.0052535	.6722193
Female x Non-Single P.	.0160927	.0389318	.0021753	.8258501
Male x Non-Single P.	.0080833	.015864	.0016612	.218936

Note: Predicted Probabilities to live in poverty based on M2 indicated by mean.
 Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 11. Predicted probability after linear discriminant model of parenthood on living in poverty by gender.



Note: On X-Axis: 0=non-single parents; 1=Single parents.

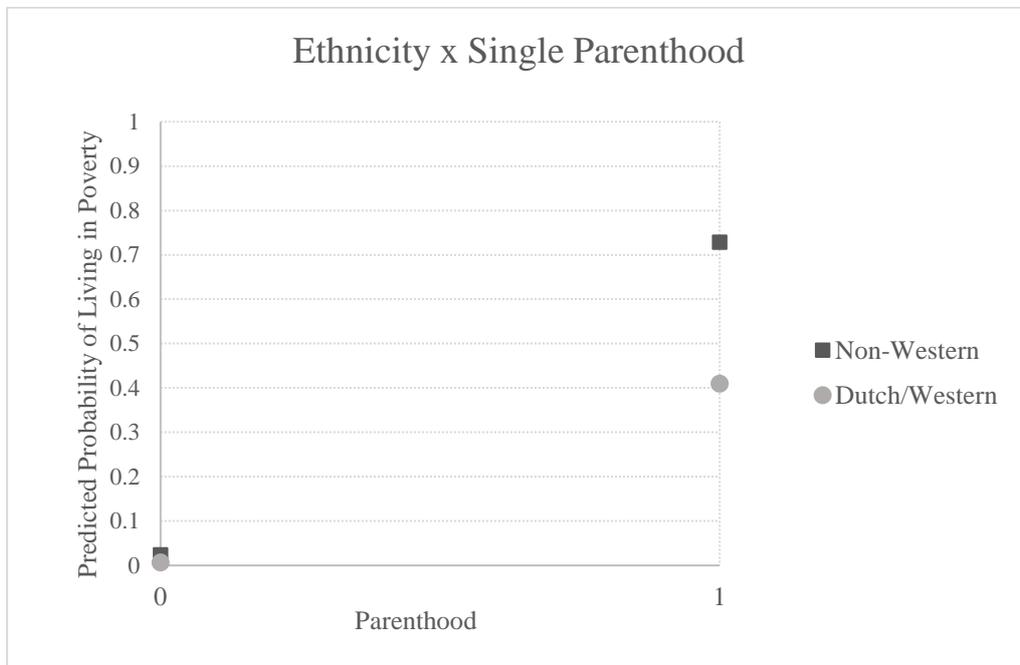
Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Table 10. Predicted probability after linear discriminant model of parenthood on living in poverty by ethnicity.

	Mean	Std. Dev.	Min.	Max.
Non-W. x Single P.	.7286344	.1567563	.3337819	.9766575
West./Dutch x Single P.	.4095425	.1711629	.1684017	.9826682
Non-W. x Non-Single P.	.0239098	.0459217	.002326	.8344309
West./Dutch x Non-S. P.	.0065285	.0101983	.0017878	.2469007

Note: Predicted Probabilities to live in poverty based on M3 indicated by mean.
 Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 12. Predicted probability after linear discriminant model of parenthood on living in poverty by ethnicity.



Note: On X-Axis: 0=non-single parents; 1=Single parents.

Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Table 11. Predicted probability after linear discriminant model of ethnicity on living in poverty by gender.

	Mean	Std. Dev.	Min.	Max.
Female x Non-W.	0.20907	0.3099077	0.005851	0.971301
Female x West./Dutch	0.07802	0.1828211	0.003011	0.970521
Male x Non-W.	0.041928	0.1327402	0.002058	0.883728
Male x West./Dutch	0.025092	0.0945692	0.002082	0.988618

Note: Predicted Probabilities to live in poverty based on M4 indicated by mean.
 Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 13. Predicted probability after linear discriminant model of ethnicity on living in poverty by gender.



Note: On X-Axis: 0=non-single parents; 1=Single parents.

Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

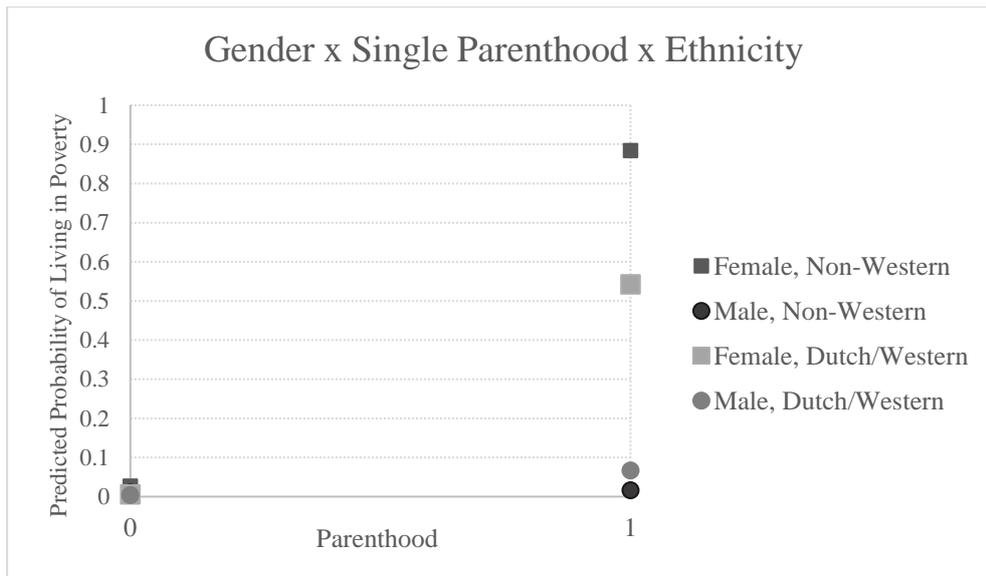
Table 12. Predicted probability after linear discriminant model of single parenthood on living in poverty by gender and ethnicity.

	Mean	Std. Dev.	Min.	Max.
Female x Non-West. x S.P.	.8837695	.0744465	.7236717	.9920084
Male x Non-West. x S.P.	.0158464	.0191189	.0026772	.0715106
Female x West./Dutch x S.P.	.5420066	.1494978	.3435432	.9814912
Male x West./Dutch x S.P.	.0667546	.1762191	.0166151	.8732914
Fem. x Non-W. x Non-S.P.	.0263219	.0515358	.0029676	.8220547
Male x Non-W. x Non-S.P.	.0105423	.0185708	.0020773	.2081686
Fem. x West./Dutch x Non-S.P.	.0053999	.0103826	.0021151	.2111606
Male x West./Dutch x Non-S.P.	.0040726	.0044553	.0017694	.0490914

Note: Predicted Probabilities to live in poverty based on M4 indicated by mean.

Source: Author's own analysis based on NELLS data (Tolsma et al., 2014).

Figure 14. Predicted probability after linear discriminant model of parenthood on living in poverty by gender and ethnicity.



Note: On X-Axis: 0=non-single parents; 1=Single parents.

Source: Own graphical representation based on author's analysis with NELLS data (Tolsma et al., 2014).

Table 13. *Ethical considerations*

Reliability of the data	The data were specifically conducted for scientific research in the social sciences; hence, a high level of data quality and reliability is expected. The interview questions underlying this research were standardized by giving validated scales to the interviewers, increasing the comparability between the observations. Moreover, the data collection was financed by the Dutch Research Council (NWO), the Tilburg University and the Radboud University Nijmegen, so that the data were funded for scientific purpose (De Graaf et al., 2011).
Traceability of observations	The individual level data and the district level data were anonymised by the data collectors, as well as a quasi-random sample was chosen. This reduced any traceability risk of observations to a minimum, as I did not have access to the original non-anonymised data.
Informed consent	I did not explicitly ask the interviewed observations for consent; however, this was done by the researchers during the data collection. Since I use secondary data, I rely on the fact that the consent of the respondents was collected correctly during the interviews.
Voluntary participation	The participation in the NELLS study was voluntary, however, “in order to maximize the response rate, respondents got incentives to participate” if they did not participate in the first place (De Graaf et al., 2011: p.7). They received monetary incentives ranging from €10 to €35 for the participation in the face-to-face interviews. The incentives increased with the stage of the data collection and the “non-response category”, which is why different amounts were paid (De Graaf et al., 2011: p.7). This may have influenced the voluntariness of participation, as participants may have been more reliant on the money than others and therefore more likely to participate in the study than others. However, there was no clear evidence of certain groups being underrepresented in the data (De Graaf et al., 2011).
Usage and confidentiality	The data are public use data for university or academic research institute members, or members of other non-profit organisations. Hence, no additional data use declaration needed to be signed. Nonetheless, I followed a sensitive and confidential use of the data by using anonymised data in a scientific manner and for scientific research only. Moreover, I did not trace single observations, but solely looked at group averages in order not to draw conclusions about single observations.

Note: The table shows the ethical considerations of using the Netherlands Longitudinal Lifecourse Study (NELLS), based on the author’s perspective.