Bachelor's Project HGP

Differences in Fertility Behaviour between Migrants and Natives: the Case of Non-Westerners living in the Netherlands

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Summary

In non-Western countries, fertility rates are often higher than in the Netherlands. Therefore, if non-Western individuals migrate to the Netherlands and do not adjust their fertility rate to that of Dutch natives, the Dutch fertility rate will eventually rise. This increase could cause problems in Dutch society, but also solve them. To prevent or solve these potential problems related to fertility, this study aims to investigate whether non-Western migrants living in the Netherlands actually show different fertility behaviour than natives by asking the question: "What is the difference in fertility behaviour between Dutch natives and migrants of non-Western background living in the Netherlands?". This question will be answered and explained through three Poisson Regressions using secondary data from the GGS and the UN. The results show that non-Western migrants living in the Netherlands have significantly more children compared to Dutch natives, meaning that there is a difference in fertility behaviour between these groups. To some extent, this difference can be explained by the lower education levels of migrants compared to natives. Furthermore, the non-Western migrants show similar fertility behaviours as the stayers in their home countries, which means that Kulu's (2005) socialisation theory can be applied to this case study. This socialisation of the migrants from their home countries further explains the difference in fertility behaviour between non-Western migrants and Dutch natives. Finally, it was found that for non-Western migrants both income and education level moderate the relationship between migration background and fertility behaviour, while for natives only education level moderates this relationship. Therefore, it will be concluded that there is a difference in fertility behaviour between non-Western migrants and Dutch natives caused by migrants' lower education levels and socialisation from their home countries, and that this difference in fertility behaviour is influenced mainly by education levels but also by income. Since this difference in fertility behaviour will eventually increase the overall Dutch fertility rate, this may cause problems but also solve problems for Dutch society. Therefore, if this causes problems, it is recommended to the Dutch government to come up with policies that slow down or prevent the rise in fertility by increasing the education level of non-Western migrants. Moreover, if the rise in fertility solves problems, the government is recommended to come up with policies that stimulate non-Western migrants to keep their fertility stable or even increase it.

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Keywords: non-Western migrants, Dutch natives, fertility behaviour, socioeconomic characteristics, socialisation hypothesis.

1. Introduction

Over time, many migrants from all over the world, who were not born in the Netherlands, have settled in the Netherlands. Nowadays, these migrants make up about 15 per cent of the total Dutch population. This means that about 2,6 million of these migrants are living in the Netherlands (CBS, 2022). About two third of these people have a non-Western migration background as these migrants come predominantly from countries as Morocco and Turkey and from the former Dutch colonies: Suriname and the Dutch Caribbean (CBS, 2022).

However, in the countries of origin of these non-Western migrants, the fertility rate is often higher than the fertility rate in the Netherlands (1,6 children per woman in 2020) (World Bank, 2022). Therefore, if these migrants do not adjust their fertility rate to the Dutch fertility rate, the overall Dutch fertility rate will increase over time. An increase in the overall fertility rate could lead to problems in Dutch society, such as an even higher housing demand due to an even faster growing population, which will further increase housing shortages in the Netherlands (Mulder, 2006; Boelhouwer, 2019). On the contrary, an increase in the overall Dutch fertility rate, due to the arrival of migrants, could also help solving problems in Dutch society. One reason for this is that the natural growth rate in the Netherlands has steadily declined over time and in the year 2022 this rate was negative for the first time since the start of the recordings, indicating depopulation (CBS, 2022). The arrival of migrants helps to counter this negative natural growth by increasing the overall Dutch fertility rate and thus solve problems associated with depopulation, such as slower economic growth (Harding, 2020).

Therefore, based on individual secondary data, this study will examine whether the fertility behaviour of the non-Western migrants living in the Netherlands, is significantly different from that of the Dutch natives. This possible difference will then be explained based on the socioeconomic characteristics of both the non-Western migrants and Dutch natives and on the fertility behaviour in the countries of origin of these migrants. The reason for conducting this research is to contribute to society by using the results of this study to give insights to and inform the Dutch authorities about the fertility behaviour of these migrants in the Netherlands. In this way, the government can better determine whether and, if so, what measures or policies should be taken at certain moments in time to adapt the fertility rate in the Netherlands in such a way that it counteracts social problems. Therefore, especially with the number of migrants coming to the Netherlands increasing rapidly in recent years (CBS, 2023), this research is relevant as it contributes to the promotion and maintenance of a well-functioning society by helping to prevent or solve social problems associated with fertility.

So far, little research has been done on the fertility of non-Western migrants living in the Netherlands. Moreover, the studies that have been presented on this topic, such as Boschman's (2012) study, have based their results on aggregated data and/or focused on smaller geographical scales compared to this study. In addition, most of these studies focused their research only on a small number of non-Western migrant groups (Garssen & Nicolaas, 2008; van Huis, 2013). Therefore, this study contributes to existing research by investigating the difference in fertility behaviour between non-Western migrants living in the Netherlands and Dutch natives based on individual data, with a focus on a larger geographical scale and on a larger, more diverse population, which has not yet been studied and about which we therefore do not yet know much.

This research aims to investigate whether or not migrants with a non-Western background living in the Netherlands show a different fertility behaviour compared to Dutch natives. Moreover, this research aims to explain this possible difference in fertility behaviour between the non-Western migrants in the

Netherlands and Dutch natives based on the socioeconomic characteristics of individuals from both population groups and on the fertility behaviour in the countries of origin of these migrants.

To investigate this research aim, the following research question is proposed: “What is the difference in fertility behaviour between Dutch natives and migrants of non-Western background living in the Netherlands?”.

The sub-questions are divided as follows:

- Can this difference be explained to some extend by their socioeconomic characteristics?
- Can this difference be explained to some extend by their socialisation from their home countries?

This thesis will begin with a theoretical framework section in which theories, literature and relevant concepts will be discussed. In addition, this section will outline the conceptual model of this study and formulate the hypothesis. The theoretical framework will be followed by a methodology section. The methodology section will discuss the method of data collection and the method of data analysis. Data sources, data quality and ethical considerations will be discussed here as well. Thereafter, in the results section, the results of the data analysis will be shown with tables and figures and discussed through the lens of theory, the research questions and by referring to the results of other existing papers. Finally, the main points will be briefly summarised and the research questions will be answered in the conclusion section. In addition, this section considers the strengths and weaknesses of this study and provides policy recommendations.

2. Theoretical framework

2.1 Theories and concepts

For this study, four theories mentioned in an article by Kulu (2005) on the effect of internal migration on the fertility behaviour of post-war Estonian female cohorts were taken into consideration. This is because application of one of these theories can strengthen the argument about and partially explain the possible differences in fertility behaviour between non-Western migrants living in the Netherlands and Dutch natives. The four theories mentioned in this article are the socialisation, adaptation, selection and disruption hypotheses. However, since this study will use cross-sectional data and no difference is made in the number of children these migrants have before and after their migration, the socialisation hypothesis is the only theory of these four that can be tested and possibly applied. The other three theories require longitudinal data on the subjects. Therefore, only the socialisation hypothesis is relevant in this study and will hence be tested.

The socialisation hypothesis suggests that migrants will have similar fertility rates in their destination country as the stayers in their countries of origin as the "fertility preferences of these migrants reflect the fertility preferences dominant in the childhood environment of these migrants" (Kulu, 2005, p.52).

Furthermore, the concepts of "fertility behaviour", "non-Western migrants/migrant with non-Western background" and "socioeconomic characteristics" form the relevant concepts of this research as they are included in the research questions. Therefore, these concepts will be defined and explained.

First of all, the term fertility behaviour in this study refers to the fertility pattern of individuals, with the number of biological children an individual has in his/her lifetime playing an essential role in particular (Swicegood & Bean, 2001). In addition, non-Western migrants or migrants with a non-Western background are people originally from a country in Africa, Asia (excluding Japan and Indonesia), South America and Turkey, who were born there and who then crossed the border of their own non-Western country and settled in another country, such as the Netherlands in this study (CBS, n.d.; United Nations, n.d.). Finally, socioeconomic characteristics refer to the social and economic factors of individuals such as gender, income and education level. Several studies, such as the study by Nisen et al. (2017) showed that socioeconomic characteristics such as education level and income affect people's fertility behaviour. Therefore, in this study, these socioeconomic characteristics will be controlled for to investigate their influence on the possible difference in the fertility behaviour between Dutch natives and non-Western migrants living in the Netherlands.

2.2 Determinants of fertility behaviour

When studying the influence of migration on fertility behaviour, factors other than migration that influence people's fertility behaviour, such as gender, education level and income, need to be taken into account. This is something several authors have already done in their articles with a focus on the migration of non-Western migrants to the Netherlands, which is also studied in this article. Boschman (2012) is one of those authors and found that most non-Western migrants have on average more children than Dutch natives, but that this difference narrows over time, especially when these migrants live in the Netherlands for longer. Moreover, this article indicates that most non-Western migrants start having children at a younger age than Dutch natives, which partly explains the higher average number of children these migrants have compared to natives. Van Huis (2013) also examined the fertility of native-born women compared to the fertility of women from the four largest non-Western migrant groups living in the Netherlands: Turks, Moroccans, Surinamese and Antilleans. This study found more or less the same as Boschman (2012): although non-Western migrants living in the

Netherlands have more children on average than native-born women, the number of children of these migrant women decreases significantly over time, meaning that their fertility behaviour becomes increasingly similar to that of native-born women. Similarly, a study by Garssen & Nicolaas (2008) on the degree of fertility adjustment of women from two non-Western migrant groups, Turkish and Moroccan women, after arriving in the Netherlands, found that migrants adjusted their fertility levels only slowly to that of Dutch women. However, contrary to Boschman (2012) and van Huis (2013), Garssen & Nicolaas (2008) concluded that these non-Western migrant groups sometimes even showed higher fertility rates in the Netherlands than in their countries of origin, implying that the gap between the number of children these migrant groups and Dutch natives have is widening.

Moreover, several authors, whose research did not focus on the migration of non-Western migrants to the Netherlands, published case studies discussing the influences of the mentioned factors on migrants' fertility behaviour. First of all, Götmark & Andersson (2020, p.2) found in their study that an "increase in education level is associated with decreasing fertility". In addition, they also concluded that higher per capita income is associated with lower fertility. However, other researchers, such as Black et al. (2013), found the opposite and concluded that higher income is associated with higher fertility because having more children is then more affordable. Finally, when gender is taken into account, an increase in men's age leads to a significant decrease in their fertility (Hassan & Killick, 2003).

In turn, the factors that influence fertility behaviour are also influenced by migration. Therefore, migration can cause an increase but also a decrease in fertility, for instance due to the high economic costs associated with migration, which means migrants have less money for children, leading to lower fertility rates among them (Hervitz, 1985). Moreover, after migration, migrants are often introduced to a completely new economic environment that affects the share of income they have available for children and thus their fertility behaviour in the destination country. As a result, migrants' fertility behaviour is adapted to that of natives over time, causing their fertility to decrease or sometimes even increase (Krapf & Wolf, 2015).

2.3 Conceptual model

To visually represent the relationships between the concepts and theories used in this research, a conceptual model is created (Figure 1):

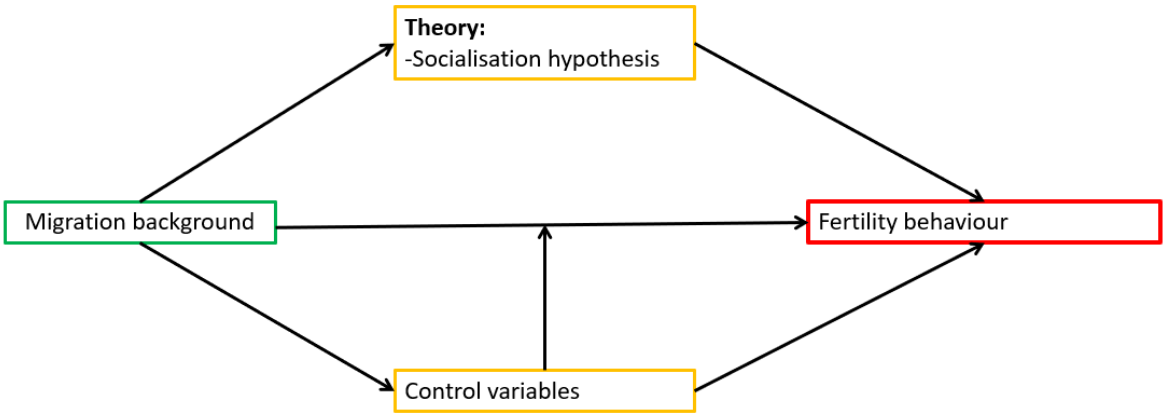

Figure 1: Conceptual model (made by author, 2023)

This model will be used as a guideline to explain the relationship between “migration background” and “fertility behaviour”. However, the “fertility behaviour” cannot be explained directly by the “migration background”. Therefore, the socialisation hypothesis and the control variables will be used, investigated and discussed to explain this relationship as they are influencing “fertility behaviour”. In other words, socialisation and composition of the population captured through the control variables are mediating the relationship between the “migration background” and “fertility behaviour”. In addition, the control variables also affect the strength and direction of the relationship between “migration background” and “fertility behaviour”. Therefore, the composition of the population captured through the control variables are also moderating the relationship between the “migration background” and “fertility behaviour”. For the control variables, the socioeconomic characteristics gender, education level and income of both migrants and natives shall be investigated and used to examine and explain the possible difference in the fertility behaviour between natives and non-Western migrants living in the Netherlands.

2.4 Hypothesis

This study is expected to show that there is a difference in fertility behaviour between people with a non-Western background living in the Netherlands and Dutch natives, as migrants are expected to have more children than Dutch natives. This is because non-Western migrants' fertility rates are expected to be influenced more by the fertility behaviour in their country of origin than in their country of destination. Therefore, it is predicted that the socialisation hypothesis, which states that migrants will have similar fertility rates in their destination country as the stayers in their countries of origin, will apply in this case, partly causing this difference in fertility behaviour (Kulu, 2005).

Moreover, the socioeconomic characteristic education level is expected to have a significant impact on this difference, as the education level of the Dutch natives is expected to be higher than the education level of non-Western migrants with the result that the natives have fewer children. This is because, in general, individuals with higher education levels have fewer children (Cohen, 2013; Götmark & Andersson, 2020).

3. Methodology

3.1 Research method

Based on the research question(s), a quantitative secondary research method was chosen for this study. This method was chosen because secondary, individual data will be collected and analysed from already existing datasets, as collecting own data on this topic is not feasible in terms of time and money. In addition, the fertility behaviour of migrants of non-Western origin and Dutch natives will be expressed in numbers, i.e. the number of children they have. Moreover, the socioeconomic characteristics gender, income and education level, which serve as control variables in this study, can all be expressed in either numbers (income) or categorised and numbered (gender and education level), which makes these variables suitable for quantitative secondary research.

The fertility behaviour of non-Western migrants will then be compared with the fertility behaviour of Dutch natives. In other words, a comparative analysis will be made between the non-Western migrants and the Dutch natives to identify similarities and/or differences between these groups. In addition, the socioeconomic characteristics of the individuals of these groups and their influence on the number of children born will be examined. This will help to explain possible differences in the fertility behaviour between non-Western migrants living in the Netherlands and Dutch natives.

Furthermore, aggregated data on the fertility rates in the countries of origin of the non-Western migrants will be compared with the fertility behaviour of non-Western migrants in the Netherlands. Based on the results of this comparison, it can be determined whether or not the socialisation hypothesis can be applied on this case.

3.2 Data collection

This secondary, individual data on the fertility behaviour of migrants, Dutch natives and the socioeconomic characteristics of these groups has been collected by means of desk research in which several data sources with already existing datasets have been examined (Cambridge Dictionary, 2023). Finally, one suitable data source that provides datasets useful for this research was selected.

This data source is the Generations & Gender Programme (GGP), which conducted several Generations & Gender Surveys (GGS) over the years on individuals aged 18-79. To date, 19 countries worldwide, especially European countries, have participated in this survey. In this survey, the GGP tracks individuals through life-course events such as births and migrations. After conducting these surveys, the GGP comes up with a dataset including widespread, harmonised, cross-sectional, individual data that does not only consist of data on the fertility and background of individuals but also on their socioeconomic characteristics gender, income and education level which makes these GGP datasets suitable for this study (GGP, 2023).

After selecting GGP as an appropriate data source, the datasets needed for this study were selected. This was done by selecting the country for which data were needed, in this case the Netherlands. After selecting datasets about the Netherlands, a request was made to obtain permission to access these datasets via a form on the website of GGP. In addition, a pledge form on the affiliation, confidentiality and acceptable use of the GGS datasets was signed and submitted to GGP. After going through this application process, permission to access the datasets was granted by the GGP, after which the datasets could be downloaded, edited and combined into a final dataset suitable for analysis. This was done using a stratified sampling method in which only individuals born in the Netherlands or in a non-Western country who are living in the Netherlands were selected from all datasets obtained. This

resulted in a final dataset with a total of 6547 cases (n=6547) comprising only Dutch natives and non-Western migrants living in the Netherlands, including their socioeconomic characteristics.

Aggregate data on fertility rates from all 32 countries of origin of the non-Western migrants included in the final dataset and currently living in the Netherlands, were also collected through desk research. The United Nations was ultimately chosen as data source. United Nations' data is freely accessible and therefore no permission was needed to access and use the data. The United Nations provides data on total fertility rates, derived from population registration systems, censuses and sample surveys, for all countries in the world for different points in time (United Nations, 2019). In this way, fertility rates from specific non-Western countries where the migrants originated from could be collected and included in a dataset. These data were eventually tested against data on the number of children of each selected non-Western migrant living in the Netherlands to test the socialisation of these migrants from their home countries. This resulted in a total of 274 cases (n=274) for this test.

3.3 Data quality and ethical considerations

GGP provides high-quality GGS data as data quality checks are made throughout the data gathering process which includes both the validation and cleaning of variables in the dataset. The data published by the GGP never contains personal identifiers of participants such as names or addresses. In fact, the GGP adheres to the General Data Protection Regulation (GDPR) and Ethical Best Practices which means that the privacy of participants in the GGS is always guaranteed. This prevents the GGP from harming participants after participating in their surveys. Moreover, the GGP collects data only from participants who have been extensively informed about the aim of the study and who explicitly agree to participate in the study. In addition, participants can leave the study whenever they want. If a participant decides to quit the study, all data about him/her will be deleted immediately (GGP, 2023).

Similar to the GGP, the United Nations also provides high-quality data, as its data collection and measurements are guided by various institutional arrangements and Data Quality Assessment Frameworks (DQAF) (United Nations, 2017). As a result, UN data are accurate and confidential (United Nations, 2023). Moreover, the United Nations ensures respondents' privacy by anonymising respondents' data before publication. In this way, respondents' personally identifiable information is always removed, preventing harming them. Moreover, the UN always seeks informed consent from its respondents before collecting data on them. The United Nations thus takes ethical concerns into account as much as possible when collecting and publishing their data, making their data ethical and usable for this research (United Nations, 2023).

In this study, GGP and UN data are used for this research only and not shared with third parties. Moreover, no attempt will be made to identify individual survey respondents based on their data characteristics, which will prevent any harm to respondents. Finally, the data used in this study will be deleted immediately after the completion of this thesis.

3.4 Data analysis

The migration background i.e., the country of origin and the fertility behaviour in the home country of the individuals, will be the independent variables in this study as these variables are expected to have an effect on the fertility behaviour of individuals. Therefore, the fertility behaviour of individuals in the Netherlands is the dependent variable in this study. Moreover, the socioeconomic characteristics gender, income and education level constitute the control variables of this study as they possibly mediate the fertility behaviour of different groups of people and moderate the relationship between the dependent and independent variables.

All variables will be used to answer the research questions by conducting statistical tests. For this, individual count data from the GGP dataset on the number of children of both migrants and Dutch natives will be used to investigate whether there is a significant difference between the fertility of migrants in their country of destination and the fertility of Dutch natives. Furthermore, all statistical tests will include the control variables to explain and show which socioeconomic characteristics have a significant influence on the possible difference in fertility behaviour between the groups. All this will be examined by running three Poisson Regressions comparing the number of children for these two groups and controlling for socioeconomic characteristics. The Poisson Regressions are used because they are suitable for testing with count data, in this case the number of children, which are unlikely to have a normal distribution.

The results of the first regression will show that there is either no significant difference or a significant difference between non-Western migrants living in the Netherlands and Dutch natives in the number of children they have. In both scenarios, an explanation for these results will be sought by adding the control variables, the socioeconomic characteristics of individuals from both groups, to the test. The results of the Parameter Estimates will show, based on the change in the Exp(B) after adding the control variables, if the effect of being a migrant increase of decreases. Furthermore, these results also show, based on the significance of the control variables, how and which socioeconomic characteristics mediate part of this possible difference in fertility behaviour between non-Western migrants and Dutch natives.

The results of the second and third Poisson Regressions, based on the Parameter Estimates, will show which socioeconomic characteristics are moderating the strength and the direction of the relationship between migration background and fertility behaviour for both non-Western migrants living in the Netherlands and Dutch natives. Moreover, the Parameter Estimates also gives the Exp(B) for each control variable of both groups, which is a ratio indicating the “predicted change in odds for a unit increase in the predictor” (Bowling Green State University, 2006, p.3). In other words, by using Exp(B), only in case of a significant result of a control variable, it will be interpreted how a one-unit increase or decrease in this variable is related to a percentage increase or decrease in the counts of the dependent variable, fertility behaviour (Laerd Statistics, 2018). The results for each group will then be used to help explaining which socioeconomic characteristics moderate the relationship between the migration background and fertility behaviour for both non-Western migrants and the Dutch natives.

In addition, data on the aggregated fertility rates in the non-Western countries where the migrants do come from will be included in the second Poisson Regression on the non-Western migrants living in the Netherlands. In this way, the socialisation hypothesis for this case can be tested. If this test shows a significant result for the fertility rates in the non-Western countries of origin of the migrants, we assume that there is a difference between the fertility behaviour in the migrants' non-Western home countries and the fertility behaviour of these migrants in the Netherlands, which implies that the socialisation hypothesis cannot be applied to this case. In the event that the test does not show a significant result, it is suggested that there is no difference between these population groups in terms of fertility behaviour which means that the socialisation hypothesis can be applied to this case.

Based on the results of the statistical tests, the sub-questions can be answered. Moreover, the possible difference in the fertility behaviour of migrants with a non-Western background in the Netherlands and the Dutch natives can also be explained. This also answers the main research question.

4. Results

4.1 Difference in fertility behaviour

The starting point of the analysis of the results is to test whether there is a difference between the number of children of non-Western migrants living in the Netherlands and Dutch natives. This is tested by means of a Poisson Regression. For this regression, there were a total of 6547 cases (n=6547).

The results of the Poisson Regression (Table 1) show that there is a significant difference in the number of children non-Western migrants living in the Netherlands (born in non-Western country) have compared to the number of children Dutch natives have in their country of birth. These results show that the non-Western migrants have a 19,3% higher risk of having children than Dutch natives in the Netherlands. This percentage indicates that if the Dutch natives have 1000 children in the Netherlands, the non-Western migrants will have 1193 children. The non-Western migrants thus have significantly more children in the Netherlands than Dutch natives, a finding previously made by other researchers, including Boschman (2012) and van Huis (2013).

Parameter	95% Wald Confidence Interval		Sig.	Exp(B)
	Lower	Upper		
(Intercept)	,399	,439	,000	1,520
[Born in non-Western country]	,086	,267	<,001	1,193
[Born in the Netherlands]	.	.	.	1

Table 1: Poisson Regression results for comparing the number of children between non-Western migrants living in the Netherlands and Dutch natives (made by author, 2023)

By including the control variables in this Poisson Regression, it can be explained which socioeconomic characteristic(s) mediate part of this difference in fertility behaviour between non-Western migrants living in the Netherlands and native Dutch. The Poisson Regression results (Table 2) show that there is a significant relationship between the socioeconomic characteristic education level and the number of children. In other words, the factor education level has a significant effect on the number of children for both native Dutch and non-Western migrants. The results indicate that for every higher level of education an individual achieves, this individual has a 11,2% lower risk of having children. This is consistent with Götmark & Andersson's (2020) finding that an increase in an individual's education level leads to a decrease in the number of children that individual will have. Since there are six different education levels in the Netherlands, this means that someone with the highest education level has more than half less risk of having children than someone with the lowest education level.

Parameter	95% Wald Confidence Interval		Sig.	Exp(B)
	Lower	Upper		
(Intercept)	,733	,840	,000	2,197
[Born in non-Western country]	,027	,208	,011	1,125
[Born in the Netherlands]	.	.	.	1
[Sex Respondent=female]	-,035	,044	,828	1,004
[Sex Respondent=male]	.	.	.	1
Highest Education Level of Respondent	-,132	-,104	,000	,888
Total Income	-4,781E-8	8,067E-6	,053	1,000

Table 2: Poisson Regression results for comparing the number of children between non-Western migrants and Dutch natives after including the control variables (made by author, 2023)

When comparing Tables 1 and 2, the Exp(B) for "Born in non-Western country" decreased after adding the control variables in the model. This means that the effect of being a migrant decreases after adding the control variables. Since education level is the only added variable that shows a significant result, the effect of being a migrant decreases due to this socioeconomic characteristic. However, the non-Western migrants still have significantly more children compared to Dutch natives (Table 2). As Dutch natives generally have higher education levels than non-Western migrants living in the Netherlands (Figure 2), part of this difference in the number of children is therefore caused by the lower education levels of non-Western migrants compared to Dutch natives. This is because people with lower education levels generally have more children (Götmark & Andersson, 2020).

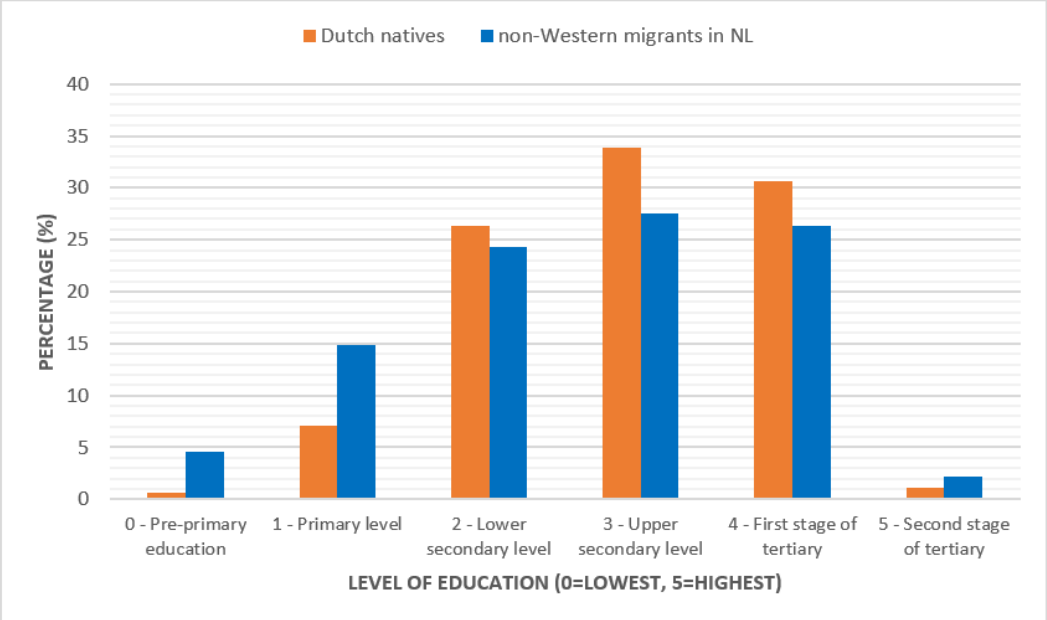

Figure 2: Comparison of the education levels of Dutch natives and non-Western migrants including sample weights (made by author, 2023)

4.2 Socioeconomic characteristics moderating fertility behaviour

To investigate which socioeconomic characteristics are influencing the strength and direction of the relationship between migration background and fertility behaviour of both non-Western migrants living in the Netherlands and Dutch natives, two more Poisson Regressions were performed, one for each group.

The first of these two Poisson Regressions was performed on non-Western migrants living in the Netherlands. In total, there were 274 cases for this group (n=274). The results of this statistical test (Table 3) show that there is a significant relationship between the factors education level and income and the number of children non-Western migrants have. In other words, the factors education level and income significantly affect the relationship between migration background and fertility behaviour for non-Western migrants living in the Netherlands. The results show that education level has the biggest influence on this, as for every higher level of education the migrants achieve, the risk of having children will decrease by 12,3%. This is supported by Götmark & Andersson (2020) who argue that an increase in someone's education level causes a decrease in the number of children. Income only has a small impact on the number of children non-Western migrants have in the Netherlands. For every extra euro of income of non-Western migrants, there is a 0,0018% increase in the risk of having children. This is a small increase, of course, but it can still affect the number of children non-Western migrants will have. If an unemployed migrant gets a job, for example, and his or her total income increases by 1000 euros, there will be a 1,8% increase in the migrant's risk of having children. This final result further exposes the contradiction between researchers on the relationship between income and fertility: on the one side are researchers like Götmark & Andersson (2020) who found a negative correlation between income and fertility and on the other side, researchers like Black et al. (2013) support the result of this test by stating that fertility increases as income increases.

Parameter	95% Wald Confidence Interval		Sig.	Exp(B)
	Lower	Upper		
(Intercept)	,754	1,156	,000	2,598
[Sex Respondent=male]	-,261	,093	,354	,920
[Sex Respondent=female]	.	.	.	1
Highest Education Level of Respondent	-,191	-,071	<,001	,877
Total Income	7,217E-6	2,791E-5	<,001	1,000018

Table 3: Poisson Regression results for non-Western migrants (made by author, 2023)

The second Poisson Regression was performed on Dutch natives and counted a total of 6273 cases (n=6273). This test showed partly similar results to the Poisson Regression of non-Western migrants (Table 4). This test also showed that for the Dutch natives there is a significant relationship between education level and the number of children these natives have. As with migrants, an increase in the education level of native Dutch also leads to a decrease in the risk of having children. Therefore, the results of Götmark & Andersson (2020) on the effect of education level on fertility, as with non-Western migrants, can again be used to support the results of the statistical test. However, compared

to the results on non-Western migrants, income does not significantly affect the given relationship for Dutch natives, just as gender does not for this group. Furthermore, education level has a smaller effect on the risk of having children for native Dutch than it has on the risk of having children for non-Western migrants: for every higher education level that the native-born reach, there is a 11,0% decrease in the risk of having children for them. The effect of education level on the risk of having children is therefore greater for non-Western migrants, as a higher education level leads to a 1,3% greater decrease in the risk of having children for them compared to the native Dutch.

Parameter	95% Wald Confidence Interval		Sig.	Exp(B)
	Lower	Upper		
(Intercept)	,737	,839	,000	2,199
[Sex Respondent=male]	-,039	,042	,940	1,002
[Sex Respondent=female]	.	.	.	1
Highest Education Level of Respondent	-,132	-,103	,000	,890
Total Income	-2,425E-6	6,933E-6	,345	1,000

Table 4: Poisson Regression results for Dutch natives (made by author, 2023)

The 95% Wald Confidence Intervals of the control variable education level, that showed a significant result for both groups, do overlap when comparing these intervals of both groups with each other (Tables 3 & 4). This means that it cannot be confirmed that there is a real difference between this socioeconomic control variable and its results for both groups. Therefore, it is uncertain whether the 1,3% difference between this variable, education level, for both groups is real or coincidental.

4.3 Socialisation hypothesis

By including the aggregate fertility rates of the population in the migrants' non-Western home countries in the second Poisson Regression on the non-Western migrants living in the Netherlands (Table 3), the application of the socialisation theory of Kulu (2005) to this case can be tested. The results (Table 5) show that there is no significant difference in the number of children the non-Western migrants have in the Netherlands compared to the number of children they have in their home countries. For this case study, this means that the non-Western migrants in their destination country, the Netherlands, do have similar fertility rates as the stayers in their home countries. This means that Kulu's (2005) socialisation theory is consistent with the results and that it can be applied to this case study, as this theory states that migrants will have similar fertility rates in their destination country as the stayers in their countries of origin (Kulu, 2005).

Parameter	95% Wald Confidence Interval		Sig.	Exp(B)
	Lower	Upper		
(Intercept)	,514	1,078	<,001	2,216
[Sex Respondent=male]	-,287	,073	,243	,898
[Sex Respondent=female]	.	.	.	1
Highest Education Level of Respondent	-,195	-,074	<,001	,874
Total Income	7,164E-6	2,778E-5	<,001	1,000017
Total Fertility Rate in non-Western countries of origin	-,015	,141	,114	1,065

Table 5: Poisson Regression results for non-Western migrants including the total fertility rates in their countries of origin (made by author, 2023)

5. Conclusion

In this thesis, the difference in fertility behaviour between natives and non-Western migrants living in the Netherlands was investigated. This study controlled for the socioeconomic characteristics of individuals from both groups to determine which of these characteristics have a significant impact on the fertility behaviour of each of the groups and which characteristics cause a possible difference. To investigate this possible difference and its causes, several Poisson Regressions were performed:

Based on the results, it is concluded that there is a difference in fertility behaviour between Dutch natives and non-Western migrants living in the Netherlands. This is because non-Western migrants have significantly more children than natives and because they have a 19,3% higher risk of having children. This means that the Dutch fertility rate will increase as the number of non-Western migrants living in the Netherlands increases (CBS, 2023). In addition, after adding the socioeconomic control variables to the regression on the difference in fertility behaviour between the groups, it was found that the effect of being a migrant decreased after adding the variable education level. However, even after adding this variable, there was still a significant difference in fertility behaviour between Dutch natives and non-Western migrants. Since migrants generally have lower education levels and more children than natives, the difference in fertility behaviour between these groups can thus be explained to some extend by this socioeconomic characteristic, education level (Götmark & Andersson, 2020). Moreover, by comparing the fertility of non-Western migrants living in the Netherlands with the fertility of stayers in their home countries, no significant difference was found. Therefore, non-Western migrants show similar fertility behaviour to the stayers in their home countries, who often show higher fertility rates. This result is consistent with Kulu's (2005) socialisation theory. The difference in fertility behaviour between non-Western migrants and natives can thus also be explained to some extend by their socialisation from their home countries.

Furthermore, the strength and direction of the relationship between migration background and fertility behaviour is also moderated by socioeconomic characteristics. For non-Western migrants, this relationship is mainly influenced by education level, but also slightly by income. For native Dutch, this relationship is only influenced by education level. However, education level has a 1,3% greater influence on this relationship for non-Western migrants than for native Dutch.

Overall, the results shown are reliable, as a total of more than 6500 cases were used in the analysis. Moreover, the results are based on individual data, which makes the relationship found between fertility behaviour and socioeconomic characteristics more reliable. However, the sample weights and data used to create Figure 2, which were used to visualise the lower education levels of non-Western migrants, were based on the full GGS dataset before the data were filtered for the final dataset. This means that the conclusion on the mediation effect may be biased. Moreover, the socialisation theory was tested by comparing discrete individual data on the number of children with continuous aggregated fertility rates, which means that this result may also be biased and lack statistical power.

Since this research shows that non-Western migrants have significantly more children than Dutch natives, the Dutch fertility rate will eventually increase after their arrival. This may cause but also solve problems for Dutch society. If this rise in the fertility rate causes problems, it is recommended that the Dutch government comes up with policies to slow down or even prevent the rise in the fertility rate. This policy should mainly focus on increasing the education level of non-Western migrants by, for example, offering them scholarships, which will make it easier for them to reach a higher education level thereby reducing their fertility as shown in this study. On the other hand, if the increase in fertility

contributes to solving problems, e.g. related to depopulation, it is recommended that the Dutch government comes up with policies that encourage non-Western migrants to maintain or even increase their higher fertility by, for example, offering them a higher child benefit per child.

6. References

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