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Erasmus School of Economics

Bachelor Thesis [programme IBEB]

Title thesis: Analysing the gender-gap differences between Creole-Surinamese and Hindustani-Surinamese, after being exposed to Dutch culture.

Name student: Regine Barge

Student ID number: 484340

Supervisor: H.D. Webbink

Second assessor: Anne Gielen

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Section 1: Introduction

Today, the gender gap struggle is a common topic of discussion in society. The issue is widely debated regarding mainly pay inequality, but abuse and oppression are also addressed. Furthermore, the gender gap is not only discussed among society, but has actively been set as a sustainable development goal for the 2030 agenda by the United Nations (UN) (The United Nations, 2020). The gender gap, to this day, has economic consequences regarding education, labour force participation and the level of income.

The Netherlands hosts people from many different cultures and origins. This is partly, due to the many colonies the Dutch Empire had conquered (Abu Bashal & Kavak, 2018). One of these colonies was Suriname, located in the Americas, Suriname is made up of many cultures. In the 17th and 18th century Suriname's economy was mostly dependent on the plantation harvests. Producing goods such as sugar, coffee, cotton and cacao (Hoefte, 2020). These plantations were worked by slaves, mostly brought over from West Africa (Creoles). But it was not until slavery was abolished in 1863, that the diversity in Suriname surged. After the abolishment a transition period took place, in which these ex-slaves had to perform paid work on the plantations (The Editors of Encyclopaedia Britannica, 1999). In order to replace the lost work force, contract laborers (UC Berkeley, 2010) were brought in. These were mostly from British India (Hindustanis) and the Dutch East Indies (Javanese). It was though that most of these contract labourers would return to their homelands, but most of them remained in Suriname, making it a vast culturally diverse country (Hoefte, 2020).

The interesting aspect of all these cultures residing in Suriname is that they are made up of greatly different ideals and habits, not only regarding religion, but especially looking at the gender differences between the Creole and Hindustani culture. In the Creole culture women tend to be the economic and emotional centre of the household. Scientifically referred to as the term matrifocality. Whereas the Hindustani culture follows a more patriarchal structure where women are subordinate to men (Hoefte, 2020).

The Creole culture follows a matrifocal structure, where women head the household. In their culture it is more common for women to have children from different partners, with some women even practising serial monogamy. Thus, it is widely accepted for men to have

different partners simultaneously. This structure also affects the economic position of men and women. Women achieved higher levels of education, which in turn led to better job opportunities with a high level of income in comparison to Creole men (Kirsch, 2006). This matrifocal culture is instituted from a young age, where girls undergo a ritual as a rite of passage (involving stinging ants, which symbolize courage and power) and boys do not.

In Hindustani culture, a more patriarchal approach is followed, with men being head of the household. In their culture marriage and even arranged marriage by the parents is the norm. Furthermore, unlike in the Creole culture having a mistress ("buitenvrouw") or multiple partners is not accepted. The patriarchal structure also affects the economic position of men and women. Men tend to have more access to (higher levels of) education, which in turn leads to better job opportunities with a high level of income in comparison to Hindustani women. Hindustani women tend to be more confined to household work and in 2018 they actually only represented 18% of the country's (India) GDP and only 25% of the labour force ("School Has Been a Right for Girls in India Since 2009. So Why Aren't They Going?", 2019).

Many researchers have found that culture and religion influence and perhaps even motivate gender inequality (Rwafa, 2016), especially in non-western countries. This sparked the following research question:

To what extent has living in the Netherlands changed the large gender-gap, regarding socio-economic positions, present between the Creoles and Hindustanis originating from Suriname?

This research question is supported by three hypotheses:

1. *The gender-gap has been reduced, looking at the level of education*
2. *The gender-gap has been reduced, looking at the labour force participation*
3. *The gender-gap has been reduced, looking at the level of income across gender*

Firstly, the theoretical framework featuring previous research will be presented. This will be followed by the presentation of the so-called SPVA Study sourced from 'het Statistisch Vademecum' for the years 1988, 1991, 1994 and 1998. This will be succeeded by the methodology, which will present and analyse empirical data regarding Surinamese people

living in the Netherlands. Then, a summary of the results and the main findings of this paper will be reviewed and used to answer the research question. Lastly, limitations and potential further research will be suggested.

Section 2: Theoretical Framework

Socio-economic gender gaps are a widely discussed and researched topic around the globe, but also in the Netherlands. They surface in policy reports, political debates & elections, and the everyday news. Socio-economic gender gaps represent social and economic inequalities. The most common one is the gender pay gap (regards income and wage differences). However, socio-economic gender gaps are also related to education and labour force participation gaps (Oritz-Ospina & Roser, 2018). The 'income effect' and 'price effect' of behavioural economics could possibly explain these gender gaps. The paper "Who, What, Where, and When? Specifying the Impact of Educational Attainment and Labour Force Participation on Family Formation" assumes that family formation is a valuable and costly good, which seems like a fair assumption as both Creoles and Hindustanis attach value to their family (Liefbroer & Corijn, 1999). The income effect reasons that a higher level of education should generally lead to higher earnings and thus achieving the good (family formation) can be attained earlier and in larger quantities in comparison to people with a lower level of education. On the other hand, the price effect reasons that the good incurs opportunity cost (people have less time to devote to labour). The higher educated one is, the higher the opportunity cost tends to be. The price effect tends to (is excepted to) dominate among women and the income effect among men. These effects can thus help to determine whether one stays at home with the family or takes part in the labour market and gets a job. However, other aspects can influence whether one takes part in the labour force or not (and thus the socio-economic gender gap differences), such as: geographic location, cultural legacies, historical developments and religion (Klingorová & Havlíček, 2015). The latter is analyzed in the paper "Religion and gender inequality: The status of women in the societies of world religions" by Klingorová and Havlíček. The paper examined data regarding four large religions (Christianity, Buddhism, Hinduism, and Islam) in 50 states (note that the paper refers to countries as states). Amongst others, this paper found that states (countries) where the majority of people had no religious affiliation had the lowest level of gender inequality, states with mainly Christians and Buddhists had around the average gender inequality measured across observed variables and states who largely consisted of Hindus

and Muslims had the highest levels of gender inequality (gender gaps) across the observed variables (note that this paper did consider labour force participation, but not education and income).

This paper also mentioned other factors (geographic location, cultural legacies, and historical developments) that could influence socio-economic gender gaps. This, and having studied in the Netherlands, led to the main research question: *To what extent has living in the Netherlands changed the large gender-gap, regarding socio-economic positions, present between the Creoles and Hindustanis originating from Suriname?* The research question addresses all three remaining factors. The effect of (having moved to and) living in the Netherlands speaks to geographic location. The analysis of both the Creoles and Hindustanis, two widely different ethnicities/cultures, speaks to cultural legacies. Lastly, the slave history from Suriname, that both the Creoles and the Hindustanis faced, refers to historical developments. As mentioned above socio-economic gender gaps can refer to education, labour force participation and income differences, respectively leading to this paper's hypotheses.

Section 3: Data

This paper relies on the cross sectional data of a questionnaire with autochthonous respondents, more specifically called the 'Sociale Positie en Voorzieningengebruik Allochtonen' (SPVA), over the years 1991, 1994, and 1998. The survey was carried out by the 'Institute voor Sociologische-Economisch Onderzoek van de Erasmus Universiteit Rotterdam' in cooperation with 'Bureau Veldkamp te Amsterdam'. The dataset focussed on immigrants from Turkey, Morocco, Antillean and Surinamese households. This paper will only concentrate on the data concerning the Surinamese households, as they are the focus of this paper. It is important to note that the interviews were held with the head of the family and that via him/her information regarding potential other family members was obtained (through information cards to be filled out by the other family members). The variables, which are used for the analysis, are described below.

Firstly, the variable ethnicity will be discussed, as it can be considered as the most important variable. The variable highlights whether he/she considers himself/herself Hindustani, Creole or part of another ethnicity.

Secondly, the dependent variables, education, labour force participation, and level of income, are described. The variable education states, in terms of number of years, the highest level of education/diploma he/she has received. The variable labour force participation looks at the gross labour force (the employed and unemployed but who are willing to work and are actively seeking a job of at least 12 hours per week). Lastly, the variable the level of income is measured in Dutch guilders ("gulden") and according to the net income group he/she belongs too (10 possibilities, incl. rather not say). Hence, for the level of income variable, the value assigned is the average income, in Dutch guilders, of that income group he/she belongs to.

Thirdly, the independent variables, gender and exposure, are explained. The variable gender describes whether the head of the family being interviewed is male or female (Male = 1; Female = 2). The variable exposure describes the number of months he/she has lived in the Netherlands. Calculated from the year he/she moved to the Netherlands, assuming this is January since the dataset is limited to the year, he/she has moved to the Netherlands. The number of months that he/she has lived abroad since that year he/she has moved here (disregarding holidays), is subtracted from the latter.

Finally, the control variable is illustrated. The control variable age is used. The variable measures his/her age at the time the interview was taken. This variable is taken into account to prevent spurious correlation and thus decrease biased results.

Tables 1 reports the summary statistics for the variables used in this paper.

Table 1: Summary Statistics for the Creoles and the Hindustanis

	Creoles					*Hindustanis*				
Variables	*Mean*	*St. Dev.*	*Min*	*Max*	*Obs.*	*Mean*	*St. Dev.*	*Min*	*Max*	*Obs.*
Yrs. of education	11.209	3.269	0	16	1,774	10.085	4.331	0	16	1,796
Labour force participation	0.702	0.457	0	1	1,639	0.649	0.477	0	1	1,677
Ln income difference	7.650	0.495	6.310	8.412	850	7.609	0.491	6.310	8.412	805
Gender	1.588	0.492	1	2	1,853	1.519	0.500	1	2	1,862
Exposure	223.659	116.461	0	852	1,515	211.787	86.756	0	552	1,595
Year										
1994	0.131	0.337	0	1	1,860	0.170	0.376	0	1	1,871
1998	0.754	0.431	0	1	1,860	0.703	0.457	0	1	1,871
Age	36.096	15.363	12	89	1,855	35.409	14.041	12	89	1,865

Section 4: Methodology

The aim of the analysis is to estimate the impact of gender on several outcome variables for specific ethnic groups, and the change in this impact over time. I will estimate equations with the following structure:

$$\boldsymbol{Y_{Education} = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \epsilon} \quad (\mathbf{1})$$

$$\boldsymbol{Y_{Labour\ force\ participation} = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \epsilon} \quad (\mathbf{2})$$

$$\boldsymbol{ln(Y_{Level\ of\ income}) = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \epsilon} \quad (\mathbf{3})$$

In these equations Y represents the outcome variable, which is respectively for hypothesis 1, hypothesis 2, and hypothesis 3: education, labour force participation, and level of income. $\boldsymbol{\beta 0}$ displays the constant term (when the independent variables are 0). $\boldsymbol{\beta 1}$ describes the regression coefficient value that measures a unit change in the dependent variable when $\boldsymbol{Gender}$ changes. $\boldsymbol{\beta 2}$ expresses the regression coefficient value that measures a unit change in the dependent variable when $\boldsymbol{Exposure}$ changes. The variable $\boldsymbol{Exposure}$ represents the total number of months he/she has lived in the Netherlands. $\boldsymbol{X}$ is a vector of controls including age and year dummies for 1994 and 1998 (where 1991 is the reference category). $\boldsymbol{\beta 3}$ describes the coefficients of these controls. Lastly, $\boldsymbol{\epsilon}$ describes the error term.

Furthermore, this paper will repeat the abovementioned equations with the addition of an interaction term between gender and the exposure to Dutch society ($\boldsymbol{\beta 4}$). This is done because it can expand the understanding of the relationship between these variables and because the real world tends to behave this way (there tend to be many connections between variables) making the results more realistic. These equations can be expressed as the following:

$$\boldsymbol{Y_{Education} = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \beta 4 * Gender * Exposure + \epsilon} \quad (4)$$

$$\boldsymbol{Y_{Labour\ force\ participation} = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \beta 4 * Gender * Exposure + \epsilon} \quad (5)$$

$$\boldsymbol{ln(Y_{Level\ of\ income}) = \beta 0 + \beta 1 * Gender + \beta 2 * Exposure + \beta 3 * X + \beta 4 * Gender * Exposure + \epsilon} \quad (6)$$

In order to analyse the dataset, several multiple OLS regression models are used. These models can provide an unbiased estimate of the coefficients if the Conditional mean Independence Assumption (CIA) assumptions is met. However, omitted variable bias tends to be present with this method, as controlling for all relevant variables tends to be challenging and leaving these variables out could result in/could cause a correlation between the treatment variable and the error term. Hence, this method tends not to account for all unobserved differences, which is a limitation of this paper. Nevertheless, it is possible to reduce the omitted variable bias to a high extent by including relevant variables.

This paper will estimate equations 1-6 for both Creoles and Hindustanis in order to answer the hypotheses. Note that throughout this paper a significance level of 5% is used.

Section 5: Results & Discussion

In this section of the paper the main results regarding the three hypotheses will be presented and analysed. The output of the models estimated are shown in tables 2-13.

5.1 Hypothesis 1: the effect on the gender-gap regarding education level

Tables 2-4 and table 11, present the results of the regressions regarding hypothesis 1 for both Creoles and Hindustanis living in the Netherlands originating from Suriname. Tables 2-4 present the results of the linear regression between the difference in school years (representing the various education levels) and gender & exposure to Dutch society for the respective years 1998, 1994 and 1991 for both ethnic groups (Creoles and Hindustanis). Table 11 pooled the data from the aforementioned years and introduces the results of the regression with time dummies. Including these time dummies for each of the dependent variables allows the model to attribute some of the variation in the data to unobserved events that took place during each year. More specifically, they can pick up time varying variation in the outcome variable that is not the result of either gender nor of exposure to Dutch society. Additionally, note that all results that will be discussed below will refer to regressions with the control variable: age.

Table 2, column 3, presents the results of the linear regression for the years of schooling with the interaction term (gender and exposure to Dutch society) and the control variable (age) for Creoles in 1998. From these results it is clear that neither exposure to Dutch society, gender, nor the interaction effect significantly affect the number of school years completed by Creoles. Column 4 of table 2, illustrates the results of the regression for the years of schooling with the interaction term and the control variable for Hindustanis in 1998. From these results it can be seen that exposure to Dutch society increases the number of school years completed by Hindustanis. More specifically, a one unit increase of exposure, so one month, increases the number of school years completed by approximately 0.011 school years. The coefficient of the variable exposure is significant at the 5% level. However, the coefficient gender and the interaction effect between gender and exposure are not significant at the 5% and thus do not affect the number of school years completed by Hindustanis (by 1998).

Table 3, column 3 and 4, displays the results of the linear regression for the years of schooling with the interaction term and the control variable in 1994 respectively for Creoles and Hindustanis. The results indicate that exposure, gender and the interaction effect are not significant at the 5% level, thus suggesting that these variables do society do not affect the number of school years completed by Creoles and Hindustanis (by 1994).

Table 4, column 3, illustrates the results of the regression for the years of schooling with the interaction term and the control variable for Creoles in 1991. From these results it can be established that exposure, gender and the interaction effect are not significant at the 5% level, thus suggesting that these variables do not affect the number of school years completed by Creoles (by 1991). Column 4 lays out the results of the linear regression for the years of schooling with the interaction term and the control variable for Hindustanis in 1991. These results suggest that exposure to Dutch society increases the number of school years completed by Hindustanis. More precisely, an increase in one unit of exposure, so one month, increases the number of school years completed by approximately 0.042 school years. The coefficient of the variable exposure is significant at the 5% level. Furthermore, the interaction effect is statistically significant at the 5% level, suggesting that the interaction term, between gender and exposure, affects the number of schooling years of Hindustanis (by 1991). Consequently, the number of years of schooling of Hindustanis (by 1991) who are exposed to Dutch society depends on their gender. More specifically, as shown in table 5 (column 4), the estimated effect of 0.042 is for males, and the effect for females is 0.024. Hence, the exposure effect is smaller for females (by 0.018 school years). However, the coefficient of the variable female is not significant at the 5% level and gender does not affect the number of school years completed by Creoles (by 1991).

Table 11, column 3, presents the results of the linear regression for the years of schooling with the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Creoles. The results show that there is no significant of effect of gender, exposure to Dutch society and the interaction term on the years of schooling for the Creoles interviewed in the years 1998, 1994, 1991. Column 4 shows the results of the linear regression for the years of schooling with the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Hindustanis. Here, exposure significantly affects the years of schooling for Hindustanis interviewed in the years 1998, 1994 and 1991. More specifically, an increase in one unit of exposure, so one month,

increases the number of school years completed by approximately 0.015 school years. However, the coefficient of the variable female and the interaction term are not significant at the 5% and thus gender and the interaction do not affect the number of school years completed by Hindustanis. Additionally, the time dummy in 1998 is also significant, this means that when contrasted against 1991 (the reference category), the number of schooling years for Hindustanis increases by 0.695 school years in 1998.

Overall, it can be seen that gender and exposure to Dutch society do not affect the number of years of schooling completed by Creoles for any of the analysed years (1998, 1994 and 1991). This is reinforced by the pooled data results where there is also no effect found. Similarly, for the Hindustanis gender has no effect on the number of schooling years (for the people in the survey taken in the years 1998, 1994 and 1991). On the other hand, for the Hindustanis exposure to Dutch society has a significant effect (for 1998 and 1991) on the number of schooling years. This could possibly be explained by the fact that "the main motivation for Hindustanis to migrate to the Netherlands was the increased opportunities of higher education as compared to Suriname" (Saleh, n.d.). However, note that the effect does become smaller over the years (from 0.042 in 1991 to 0.011 in 1998). Nevertheless, a difference in the gender-gap of Hindustanis regarding their socio-economic position, here the education level, after residing in the Netherlands for an extended period of time cannot be determined as the coefficient of the variable gender is not significant at the 5% level for any of the three years analyzed (1991, 1994 and 1998). Thus, it can be concluded that moving to the Netherlands (so the effect of the Dutch society) had an effect on the number of school years completed by Surinamese Hindustanis (as is reinforced by the pooled data, table 11), but gender did not play a role in this. Relatedly, no reduction in the gender-gap can be found looking at the level of education for Creoles, as neither gender nor exposure to Dutch society is significant for Creoles for all the years researched in this paper. Therefore, no reduction (no effect) of de gender-gap can be concluded looking at the level of education and hypothesis 1 must be rejected.

5.2 Hypothesis 2: the effect on the gender-gap regarding labor force participation

Tables 5-7 and table 12, present the results of the regressions regarding hypothesis 2 for both Surinamese Creoles and Surinamese Hindustanis living in the Netherlands. Tables 5-7 present the results of the linear regression between the gross labour force participation and

gender & exposure to Dutch society for the respective years 1998, 1994 and 1991 for both ethnic groups (Creoles and Hindustanis). Table 12 pooled the data from the aforementioned years and introduces the results of the regression with time dummies.

Table 5, column 3, presents the results of the linear regression with the interaction term (gender and exposure to Dutch society) and the control variable (age) for Creoles in 1998. The results display that gender significantly decreases whether the Creoles are part of the labour force (1998). More specifically, a one unit increase in gender, so being a woman, decreases the odds that she (the Creole women) is part of the labour force by approximately 15.7%. Column 4 illustrates the results of the linear regression for the labour force participation with the interaction term and the control variable for Hindustanis in 1998. From these results it can be seen that gender decreases whether the Hindustanis are part of the labour force (1998). More specifically, a one unit increase in gender, so being a woman, decreases the odds that she (the Hindustani women) is part of the labour force by approximately 20.9%. However, in both column 3 and 4 of table 5 (so for both Creoles and Hindustanis), the coefficient of exposure and the interaction effect are not significant at the 5% level and thus do not affect whether he/she is part of the labour force in 1998.

Tables 6 and 7, column 3 and 4, display the results of the linear regressions for the labour force participation with the interaction term and the control variable for both Creoles and Hindustanis in 1994 and 1991. From these results it can be established that exposure, gender, and the interaction effect are not significant at the 5% level, thus suggesting that these variables do not affect whether Creoles and Hindustanis are part of the labour force in 1994 and 1991.

Table 12, column 3, illustrates the results of the linear regression for the labour force participation with the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Creoles. From these results it is clear that gender significantly reduces whether he/she (the Creoles) is part of the labour force. More specifically, a one unit increase in gender, so being a woman, decreases the odds that they she (Creole women) is part of the labour force by approximately 13.3%. The time dummy in 1998 is also significant, this means that when contrasted against 1991 (the reference category), the odds, for Creoles, of being part of the labour force decreases by 6.9% in 1998. Column 4 shows the results of the linear regression for the labour force participation with

the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Hindustanis. From these results it is clear that gender significantly reduces whether they (the Hindustanis) are part of the labour force. More specifically, a one unit increase in gender, so being a woman, decreases the odds that she (Hindustani women) is part of the labour force by approximately 27.2%.

Overall, through the pooled (for the years 1998, 1994, and 1991) regression results, it can be seen that gender, so being a woman, for both Creoles and Hindustanis affects (decreases) their odds of being part of the Dutch labour force. However, when specifically looking at the regression for each specific year, gender for both Creoles and Hindustanis affected whether they were part of the labour force, but only those interviewed in 1998 (the Dutch labour force of 1998). Furthermore, it can be noted that the effect of gender is much larger (around $1/4^{th}$ larger) for Hindustanis then it is for Creoles. This could possibly be explained by the fact that for Hindustanis the men are usually the head of the household and women tend to stay at home and raise the children. Whereas for Creoles, the women tend to be the head of the household. Nevertheless, Creole women still have lower odds of being part of the labour force in comparison to Creole men (the gender effect). This is reinforced by another study who found that “women who head households are more disadvantaged than men in a similar position” (note: that this study focusses on Caribbean households and that Suriname Creoles tend to have an afro-Caribbean origin) (Massiah, 1983). Nonetheless, a difference in the gender-gap of Hindustanis and of Creoles regarding their socio-economic position, here labour force participation, after residing in the Netherlands for an extended period of time cannot be determined as the coefficient of the variable exposure to Dutch society is not significant at the 5% level for any of the three years analyzed and gender for 1994 and 1991. Therefore, no reduction (no effect) of de gender-gap can be concluded looking at the percentage of Creoles or Hindustanis who are part of the labour force and hypothesis 2 must be rejected.

5.3 Hypothesis 3: the effect on the gender-gap with regards to income levels

Tables 8-10 and table 13 presents the results of the regressions regarding hypothesis 3 for both Creoles and Hindustanis living in the Netherlands (respectively, in the years the surveys were taken: 1991, 1994, and 1998), originating from Suriname.

Table 8, column 3, presents the results of the linear regression for the level of income with the interaction term and the control variable for Creoles in 1998. From these results it is clear that gender decreases the income of Creoles. More precisely, a one unit increase in gender, so being a woman, decreases income by approximately 18%. Column 4 illustrates the results of the linear regression for the level of income with the interaction term and the control variable for Hindustanis in 1998. From these results it is clear that gender decreases the income of Hindustanis. More specifically, a one unit increase in gender, so being a woman, decreases income by approximately 37%. The coefficient of the variable exposure and the interaction effect are both not significant at the 5% level in both column 3 and 4. Thus, table 8 demonstrates that gender has more than double the effect on Hindustanis than on Creoles (1998). This could be because in the Hindustani ethnicity men are seen as the head of the household and women tend to stay at home and raise the children. In comparison to the Creole culture where women being the head of the household is the norm.

Table 9, column 3, expresses the results of the linear regression for the level of income with the interaction term and the control variable for the Creoles in 1994. Neither gender, exposure nor the interaction effect are significant. Column 4 illustrates the results of the linear regression for the level of income with the interaction term and the control variable for Hindustanis in 1994. From these results it is clear that gender decreases the income of Hindustanis. More specifically, a one unit increase in gender, so being a woman, decreases income by approximately 61%. The coefficient of the variable exposure and the interaction effect are both not significant at the 5% level in column 4.

Table 10, column 3, expresses the results of the linear regression for the level of income with the interaction term and the control variable for the Creoles in 1991. Neither gender, exposure nor the interaction effect are significant. Column 4 illustrates the results of the linear regression for the level of income with the interaction term and the control variable for Hindustanis in 1991. From these results it is clear that gender decreases the income of Hindustanis. More specifically, a one unit increase in gender, so being a woman, decreases income by approximately 4%. The coefficient of the variable exposure and the interaction effect are both not significant at the 5% level in column 4.

Thus, table 13, column 3, presents the results of the linear regression for the level of income with the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Creoles. From these results it is clear that gender significantly reduces his/her income (the Creoles'). More specifically, a one unit increase in gender, so being a woman, decreases his/her income by approximately 20%. Column 4 shows the results of the linear regression for the level of income with the interaction term, the control variable, and time dummies (for the years 1998, 1994 and 1991) for Hindustanis. From these results it is clear that gender significantly reduces his/her income (the Creoles'). More specifically, a one unit increase in gender, so being a woman, decreases his/her (the Hindustani's) income by approximately 35%.

Overall, through the pooled (for the years 1998, 1994, and 1991) regression results it can be seen that gender, so being a woman, for both Creoles and Hindustanis affects (decreases) income. This is reinforced by all year specified regressions. All three regressions (for the years 1998, 1994, and 1991) show that gender for Hindustanis significantly affected and decreased their income. However, this was not the case for Creoles where gender did have no effect on their income in 1994 and 1991. Additionally, it should be noted, looking at the pooled data, that the effect of gender is much larger (15% larger) for Hindustanis then it is for Creoles. Similarly, to the discussion in subsection 5.2, this could possibly be accredited to the fact that for Hindustanis the men are usually the head of the household and women tend to stay at home and raise their children. Whereas in Creole culture, women tend to be the head of the household. Nonetheless, being a Creole woman still results in a significant decrease of income in comparison to being a Creole man. This could be because "women who head households are more disadvantaged than men in a similar position" (Massiah, 1983). Nevertheless, a difference in the gender-gap of Hindustanis and of Creoles regarding their socio-economic position, here income, after residing in the Netherlands for an extended period of time cannot be determined as the coefficient of the variable exposure to Dutch society is not significant at the 5% level for any of the three years analyzed. Therefore, no reduction (no effect) of de gender-gap can be concluded looking at the level income of the Creoles and Hindustanis and so hypothesis 3 must be rejected.

Section 6: Conclusion

Today, gender-gaps between various ethnic groups remain widely addressed and debated amongst many nations. In this research paper, the impact of gender and exposure to Dutch culture on the education level, labour force participation and income level have been analysed for both the Surinamese Creoles and the Surinamese Hindustanis. Multiple linear regression models were used in order to determine whether there were gender-gap differences between Creoles and Hindustanis after being exposed to Dutch culture. No significant gender-gaps, for either of these ethnic groups, were found after being exposed to Dutch society.

Nevertheless, this paper does have several limitations. Firstly, omitted variable bias can occur as it is very difficult to correct for all confounding variables. Omitted variable bias can result in biased coefficient estimates (the over or underestimation of the strength of an effect), and hence this is the main limitation with regards to the methodology. Secondly, not all survey/interview questions were asked to the family members (partners, children, and so on), and thus not all variables were available in these larger datasets. This meant that for some of the hypotheses/regressions less data was accessible, and this resulted in some cases in regressions with a very low number of observables. A lower number of observables means that the sample becomes less representative of the entire (Creoles/Hindustanis who have moved to the Netherlands) population and this can result in bias.

This paper and topic allows for possible further research. For future research, perhaps analyzing more years could be interesting. Especially the last few years would be interesting, in particular because of the introduction of gender equality policies and policies for foreigners. Furthermore, including more recent years is appropriate, as the Creoles and Hindustanis would have been exposed to Dutch culture and society for a more significant amount of time and because there would be more information available across several generations.

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Section 8: Appendixes

Table 2: Estimates of the association between gender and exposure time with years of schooling by ethnic group, with and without interaction effect (1998).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	12.511***	15.083***	12.199***	14.470***
	(26.63)	(25.80)	(15.72)	(13.17)
Female	0.053	-0.413	0.249	-0.017
	(0.24)	(-1.63)	(0.56)	(-0.02)
Exposure	0.004**	0.008***	0.005	0.011*
	(3.31)	(4.97)	(1.49)	(2.28)
Age	-0.055***	-0.160***	-0.055***	-0.160***
	(-4.78)	(-12.84)	(-4.78)	(-12.83)
Interaction effect			-0.0009	-0.002
			(-0.45)	(-0.63)
Observations	1,019	993	1,019	993

Note: the interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 3: Estimates of the association between gender and exposure time with years of schooling by ethnic group, with and without interaction effect (1994).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	12.867***	14.960***	11.781***	12.477***
	(8.84)	(11.46)	(5.06)	(4.65)
Female	0.259	-0.984	0.967	0.812
	(0.54)	(-1.92)	(0.74)	(0.46)
Exposure	0.001	0.011**	0.006	0.023
	(0.44)	(2.64)	(0.76)	(1.84)
Age	-0.068**	-0.155***	-0.068**	-0.157***
	(-2.88)	(-7.45)	(-2.85)	(-7.46)
Interaction effect			-0.003	-0.009
			(-0.62)	(-1.06)
Observations	215	299	215	299

Note: the interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 4: Estimates of the association between gender and exposure time with years of schooling by ethnic group, with and without interaction effect (1991).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	10.651***	12.936***	10.026***	8.451**
	(9.42)	(8.78)	(4.23)	(3.21)
Female	0.072	-0.408	0.476	2.683
	(0.18)	(-0.68)	(0.34)	(1.61)
Exposure	0.008*	0.016**	0.011	0.042**
	(2.30)	(3.42)	(1.29)	(3.11)
Age	-0.039	-0.158***	-0.039	-0.160***
	(-1.68)	(-6.17)	(-1.67)	(-6.26)
Interaction effect			-0.002	-0.018*
			(-0.32)	(-2.00)
Observations	205	229	205	229

Note: the interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 5: Estimates of the association between gender and exposure time with labour force participation by ethnic group, with and without interaction effect (1998).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	0.993***	1.153***	1.044***	1.184***
	(13.48)	(15.08)	(8.70)	(8.57)
Female	-0.123***	-0.189***	-0.157*	-0.209*
	(-4.38)	(-6.55)	(-2.34)	(-2.58)
Exposure	0.0003*	0.0005*	0.00006	0.0003
	(2.09)	(2.58)	(0.13)	(0.60)
Age	-0.004*	-0.008***	-0.004*	-0.008***
	(-2.18)	(-4.79)	(-2.14)	(-4.78)
Interaction effect			0.0002	0.00009
			(0.57)	(0.27)
Observations	971	967	971	967

Note: the dependent variable (labour force participation) is measured according to CCS-91 definition. Whether he/she is part of the labour force (meaning he/she has a paid job of at least 12hours/week or are willing and actively seeking a paid job of at least 12hours/week) or not. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 6: Estimates of the association between gender and exposure time with labour force participation by ethnic group, with and without interaction effect (1994).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	1.174***	1.475***	1.004***	1.469***
	(7.20)	(12.53)	(4.03)	(6.27)
Female	-0.157**	-0.244***	-0.043	-0.239
	(-2.72)	(-4.72)	(-0.30)	(-1.45)
Exposure	-0.0003	0.0007	0.0005	0.0007
	(-0.83)	(1.78)	(0.60)	(0.64)
Age	-0.003	-0.015***	-0.003	-0.015***
	(-0.90)	(-6.28)	(-0.95)	(-6.22)
Interaction effect			-0.0005	-0.00002
			(-0.87)	(-0.03)
Observations	211	290	211	290

Note: the dependent variable (labour force participation) is measured according to CCS-91 definition. Whether he/she is part of the labour force (meaning he/she has a paid job of at least 12hours/week or are willing and actively seeking a paid job of at least 12hours/week) or not. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 7: Estimates of the association between gender and exposure time with labour force participation by ethnic group, with and without interaction effect (1991).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	1.095***	1.460***	0.896**	1.420***
	(6.71)	(11.66)	(2.63)	(5.95)
Female	-0.127*	-0.359***	0.004	-0.331
	(-2.20)	(-6.12)	(0.02)	(-1.97)
Exposure	0.0002	0.0009	0.001	0.001
	(0.52)	(1.82)	(0.81)	(0.89)
Age	-0.004	-0.010**	-0.004	-0.010**
	(-1.12)	(-2.99)	(-1.14)	(-2.99)
Interaction effect			-0.0006	-0.0002
			(-0.72)	(-0.18)
Observations	197	226	197	226

Note: the dependent variable (labour force participation) is measured according to the CCS-91 definition. Whether he/she is part of the labour force (meaning he/she has a paid job of at least 12hours/week or are willing and actively seeking a paid job of at least 12hours/week) or not. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 8: Estimates of the association between gender and exposure time with income level by ethnic group, with and without interaction effect (1998).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	7.513***	7.719***	7.458***	7.816***
	(64.33)	(75.74)	(44.12)	(46.32)
Female	-0.235***	-0.389***	-0.199*	-0.455***
	(-6.45)	(-10.04)	(-2.14)	(-4.15)
Exposure	0.0003	0.0006**	0.0006	0.0002
	(1.56)	(2.77)	(0.97)	(0.37)
Age	0.013***	0.010***	0.013***	0.010***
	(5.20)	(4.17)	(5.17)	(4.18)
Interaction effect			-0.0002	0.0003
			(-0.43)	(0.66)
Observations	547	510	547	510

Note: the dependent variable (income) is measured via ln(income). Income represents his/her net monthly income. This is obtained by taking his/her net monthly income group and replacing it by the average income of that income group. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 9: Estimates of the association between gender and exposure time with income level by ethnic group, with and without interaction effect (1994).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	7.216***	7.714***	7.618***	8.434***
	(38.33)	(46.47)	(26.78)	(21.00)
Female	-0.149*	-0.303**	-0.430	-0.940*
	(-2.06)	(-3.46)	(-1.96)	(-2.57)
Exposure	0.0009	0.001*	-0.001	-0.002
	(1.90)	(2.17)	(-0.89)	(-1.39)
Age	0.013**	0.001	0.014**	0.004
	(2.85)	(0.23)	(3.02)	(0.81)
Interaction effect			0.001	0.003
			(1.45)	(1.94)
Observations	104	126	104	126

Note: the dependent variable (income) is measured via ln(income). Income represents his/her net monthly income. This is obtained by taking his/her net monthly income group and replacing it by the average income of that income group. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 10: Estimates of the association between gender and exposure time with income level by ethnic group, with and without interaction effect (1991).

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	7.446***	7.562***	7.684***	7.258***
	(39.97)	(34.51)	(22.60)	(19.08)
Female	-0.131	-0.305**	-0.279	-0.041*
	(-1.85)	(-2.91)	(-1.15)	(-0.12)
Exposure	0.002**	0.002*	0.0007	0.004
	(2.71)	(2.17)	(0.51)	(1.49)
Age	-0.00002	0.004	0.00001	0.003***
	(-0.00)	(0.76)	(0.00)	(0.48)
Interaction effect			0.0007	-0.002
			(0.66)	(-0.81)
Observations	92	109	92	109

Note: the dependent variable (income) is measured via ln(income). Income represents his/her net monthly income. This is obtained by taking his/her net monthly income group and replacing it by the average income of that income group. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 11: Estimates of the association between gender and exposure with time dummies and with years of schooling by ethnic group, with and without interaction.

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	12.249***	14.270***	11.802***	12.940***
	(25.97)	(26.54)	(15.62)	(13.48)
Female	0.065	-0.535*	0.341	0.352
	(0.36)	(-2.50)	(0.84)	(0.61)
Exposure	0.004***	0.009***	0.006	0.015***
	(3.83)	(6.38)	(1.95)	(3.72)
Year				
1994	-0.211	0.603	-0.202	0.594
	(-0.66)	(1.54)	(-0.64)	(1.52)
1998	0.222	0.708*	0.230	0.695*
	(0.97)	(2.17)	(1.00)	(2.13)
Age	-0.055***	-0.158***	-0.055***	-0.159***
	(-5.77)	(-15.95)	(-5.78)	(-15.96)
Interaction effect			-0.001	-0.004
			(-0.73)	(-1.66)
Observations	1,439	1,521	1,439	1,521

The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 12: Estimates of the association between gender and exposure with time dummies and regarding labour participation by ethnic group, with and without interaction.

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	1.085***	1.304***	1.091***	1.376***
	(16.34)	(22.71)	(10.24)	(13.45)
Female	-0.129***	-0.224***	-0.133*	-0.272***
	(-5.60)	(-9.64)	(-2.31)	(-4.21)
Exposure	0.0002	0.0006***	0.0002	0.0002
	(1.73)	(3.62)	(0.50)	(0.47)
Year				
1994	-0.047	-0.057	-0.047	-0.057
	(-1.15)	(-1.53)	(-1.15)	(-1.52)
1998	-0.069*	-0.047	-0.069*	-0.047
	(-2.13)	(-1.51)	(-2.13)	(-1.48)
Age	-0.004*	-0.010***	-0.004*	-0.010***
	(-2.53)	(-7.58)	(-2.53)	(-7.54)
Interaction effect			0.00002	0.0002
			(0.07)	(0.81)
Observations	1,379	1,483	1,379	1,483

Note: the dependent variable (labour force participation) is measured according to the CCS-91 definition. Whether he/she is part of the labour force (meaning he/she has a paid job of at least 12hours/week or are willing and actively seeking a paid job of at least 12hours/week) or not. The interaction is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.

Table 13: Estimates of the association between gender and exposure with time dummies and regarding income by ethnic group, with and without interaction.

Variables	Regression coefficient		Regression coefficient (with interaction term)	
	(1)	(2)	(3)	(4)
	Creoles	Hindustanis	Creoles	Hindustanis
Constant	7.427***	7.642***	7.438***	7.723***
	(73.75)	(95.06)	(52.17)	(57.35)
Female	-0.217***	-0.367***	-0.224**	-0.427***
	(-7.18)	(-10.95)	(-2.79)	(-4.42)
Exposure	0.0005**	0.0008***	0.0004	0.0004
	(2.77)	(3.77)	(0.87)	(0.78)
Year				
1994	0.026	0.050	0.026	0.051
	(0.47)	(1.00)	(0.47)	(1.03)
1998	0.069	0.073	0.069	0.075
	(1.61)	(1.79)	(1.61)	(1.82)
Age	0.012***	0.008***	0.012***	0.008***
	(5.77)	(3.97)	(5.76)	(4.04)
Interaction effect			0.00003	0.0003
			(0.10)	(0.68)
Observations	743	745	743	745

Note: the dependent variable (income) is measured via ln(income). Income represents his/her net monthly income. This is obtained by taking his/her net monthly income group and replacing it by the average income of that income group. The interaction effect is the effect between gender and exposure.

T statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001.