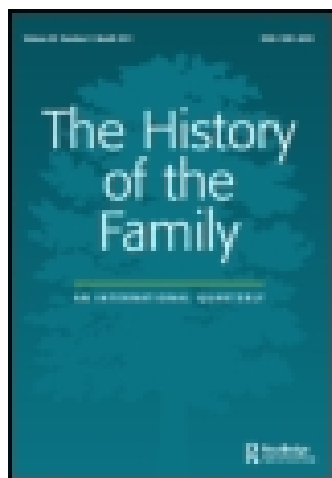


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The History of the Family

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rhof20>

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Published online: 19 Sep 2014.

To cite this article: Wiebke Schulz, Ineke Maas & Marco H.D. van Leeuwen (2014): When women disappear from the labour market: occupational status of Dutch women at marriage in a modernizing society, 1865-1922, *The History of the Family*, DOI: [10.1080/1081602X.2014.955516](https://doi.org/10.1080/1081602X.2014.955516)

To link to this article: <http://dx.doi.org/10.1080/1081602X.2014.955516>

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When women disappear from the labour market: occupational status of Dutch women at marriage in a modernizing society, 1865–1922

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(Received 20 June 2014; accepted 13 August 2014)

Between 1865 and 1922 the labour force participation of women at marriage dropped considerably in the Netherlands. At the same time, girls' educational participation increased and egalitarian gender values started to spread. We expect these developments to have affected the occupational status of those women who stayed in the labour market. Using a large dataset of Dutch marriages and municipal-level information on female labour force participation, educational participation, and an indicator of gender values, we show that women's status dropped until around 1885 and then started to rise. The retreat of women from the labour market coincided with a decline in the status of the women who remained, whereas, especially after 1900, the increasing educational participation of girls and the dissemination of egalitarian gender values counteracted this trend by causing women's status to rise.

Keywords: female labour force participation; modernization; the Netherlands

1. Introduction

How the social position of an individual is determined is one of the core issues of social inequality research. Differences between social groups might create social cleavages; variations between periods serve to mark more open from more closed epochs; differences between men and women might relate to gender inequalities. Men's status attainment has been the topic of innumerable studies (Blau & Duncan, 1967; Ganzeboom, Treiman, & Ultee, 1991). Long-term changes in men's status attainment have been addressed in light of modernization processes (Ganzeboom, Luijkx, & Treiman, 1989; Van Leeuwen & Maas, 2010; Zijdeman, 2009). The main focus has been on industrialization, understood as the increasing use of mechanical equipment and mechanized energy (Davis, 1955). But other modernization processes, such as the spread of modern transport and mass communication, were also expected to have created higher status jobs and weakened the transfer of status from father to son (Kaelble, 1985; Mitch, Brown, & van Leeuwen, 2004). However, the modernization processes most commonly studied were shown to be less relevant for women. Schulz (2013) has shown that in the Netherlands indicators of modernization were generally correlated with higher status in men's occupational careers, but that women profited only from the presence of very large companies in their municipality. These large companies offered opportunities in higher status administrative jobs that emerged due to the increase in bureaucratization. This difference in the effect of modernization on status of men and women can maybe be explained by the fact that

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women tended to work in a much smaller set of occupations, on average of lower social status, and, most importantly, mostly outside the craft and industrial sectors.

During the past two centuries, however, other important developments took place in Western societies that probably had a special impact on women's status attainment. Women increasingly withdrew from the labour market after marriage, possibly as a consequence of the increasing prosperity that allowed some families to survive on only one income (that of the male) (Janssens, 1997). Girls increasingly participated in education, allowing women to gain better status positions in society (Kerr, Dunlop, Harbison, & Myers, [1973] 1960; Mitch et al., 2004; Schulz, 2013; Treiman, 1970). And, in part due to the early suffragette movement, notions of equal treatment of men and women gained ground (Bleijenbergh & Bussenmaker, 2012).

We do not know how these developments affected the occupational status of women. Studies on the working lives of nineteenth-century women were either restricted to the question of whether women were in the labour market or not (see Pott-Buter, 1993 for an international comparison; Van Nederveen Meerkerk & Schmidt, 2012; Van Poppel, van Dalen, & Walhout, 2009), or focused on a specific context, i.e. one region, one city, or one occupation. Examples of such studies are the in-depth descriptions of the life courses of women in the Belgian town of Verviers (Alter, 1988), an examination of the survival strategies of eighteenth- and nineteenth-century female middle-class proprietors in London (Kay, 2004), and Moreels's (2008) study of the career development of mothers in Antwerp. Burnette and Stanfors (2012) provide an in-depth account of the occupations and incomes of women working in the Swedish tobacco industry at the end of the nineteenth century, and Bras (1999) has studied young women in domestic service. Pinchbeck (1969) and Clark (1995) relate industrialization to the working situation of British women in agriculture, in the textiles, and in the smaller domestic industries. Such studies provide excellent context-specific information on female labour force participation and status attainment, but their results are difficult to generalize to women as a whole.

In this study we therefore ask the following research questions. (1) How did the occupational status of Dutch women at marriage change in the period 1865–1922? We will not only describe the development in the average occupational status of women, but also provide a descriptive account of the changes in the distribution of women across different sectors over time. The explanatory questions read as follows. (2) To what extent can regional and temporal variations in the occupational status of women at marriage be explained by (a) the decrease in women's labour force participation rates, (b) the increase in schooling of girls, and (c) the wider dissemination of egalitarian gender values?

We will not focus on specific occupational groups and localities, but relate general societal changes to the occupational status of all marrying women. We use a database of marriage certificates that covers all marriages in six (of the 11) provinces in the Netherlands in the nineteenth and early twentieth centuries (GenLias, 2009). During the nineteenth century the percentage of women in the Netherlands who never married was low. Our study thus covers almost the whole female adult population at one specific moment in their life.

Although we study the effect of general societal changes on the occupational status of almost the complete female population, we by no means assume that these societal changes occurred in a straightforward linear way or in all parts of the Netherlands at the same time. We will measure indicators of the three modernization processes at the level of municipalities – allowing regional differences in modernization – and yearly – allowing acceleration, slowing down, and even temporary reversal of modernization. The

information on characteristics of the communities women lived in will be linked to the occupational status of individual women employing a multilevel design. By necessity the information we use in this study is of a more general nature and in some respects less informative than the source material in the studies mentioned above. However, this disadvantage is compensated for by the possibility it allows of answering questions about how societal changes affected women's lives.

2. Theory and hypotheses

2.1 Female labour force participation

In the Netherlands, and in other Western countries as well, an increasing proportion of women withdrew from the labour market in the nineteenth and twentieth centuries (Figure 1). In the period between 1860 and 1870 around 45% of women reported having an occupation at marriage. This figure decreased steadily to around 20% in 1920. According to the male breadwinner model this withdrawal was part of a three-stage historical development (Horrell & Humphries, 1995). In pre-modern societies an extensive integration of female manpower into the household economy is assumed because of economic necessity. In industrial societies an increase in welfare allowed many households to survive on the income of just one breadwinner, most often a man. This led to the withdrawal of many women from paid work. It was only during the later stages of modernization, in the second half of the twentieth century, that women were re-integrated into paid work (for a discussion and critique of this model see Pfau-Effinger, 2004). Although economic forces were probably driving the withdrawal of women from the labour market during industrialization, this withdrawal was accompanied by strong norms that such behaviour was appropriate.

We will formulate two contrasting hypotheses on the effect of the withdrawal of women from the labour market. Hypothesis 1a focuses on the impact of the spread of the male breadwinner and housewife model on the status of women. We arrive at a different prediction when additionally the resources of the women that remain on the labour market are taken into account (hypothesis 1b).

The male breadwinner model for men was mirrored by the housewife model for married women and women with children. Van Poppel et al. (2009) describe the development of this role model for women in the nineteenth and twentieth centuries. They

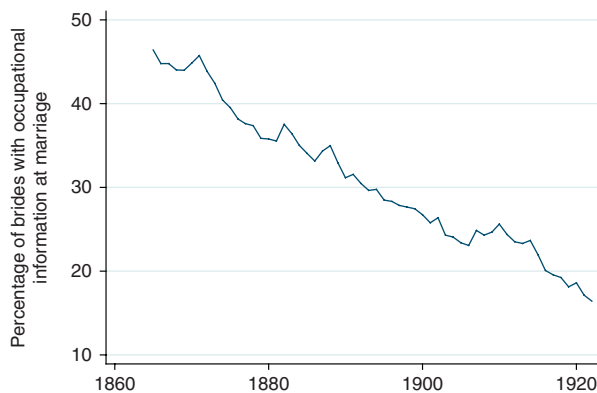


Figure 1. Percentage of women active on the labour market at marriage, 1865–1922. Source: GenLias (2009).

argue that, initially, upon getting married Dutch urban middle-class women demonstrated their financial independence by ceasing to engage in paid work. These women served as role models for less well-to-do women. Over time societal appreciation of women specializing in household labour became stronger and stronger, eventually resulting in norms concerning the appropriateness of this as a way for women to shape their life. Notwithstanding these norms, higher-status women, i.e. women employed in teaching or administrative occupations – because they more often married higher-status men – could more easily afford to withdraw from the labour market than lower-status women, i.e. women working in domestic service occupations. This leads to our first hypothesis on the relationship between decreasing female labour force participation and the status of those women who remained on the labour market. Because female labour force participation decreased over time, we formulate the hypothesis accordingly. Hypothesis 1a: the lower the female labour force participation, the lower the status of those women who remain on the labour market.

However, the withdrawal from the labour market of higher-status women might have opened up opportunities for women with fewer resources to gain higher-status positions. Due to the decline in the number of female competitors especially for higher-status jobs, women who previously would have lost out would now be able to gain such a job themselves. According to both theory and empirical studies (e.g. Schulz, 2013; Zijdeman, 2010), labour force experience, educational attainment, and social background were (and still are) the most important determinants of the labour-market success of both men and women.

Individuals with more experience are expected to be more productive, and employers reward experience by assigning more experienced individuals to higher-status positions. In addition, experience signals to the employer that training costs can be lower than those for workers with less experience (Becker, 1975; Mincer & Polachek, 1974). Women from a higher-social background could profit from the financial resources and social network of their parents, enabling them to follow secondary education (Breen & Jonsson, 2005). Higher-status mothers might have functioned as a role model for their daughters, and they could provide information on job openings in sectors in which women more commonly worked (Beller, 2009; Flap & Völker, 2003; Korupp, 2000). In the period under study, social networks were important means of finding a job. Autobiographical material from nineteenth- and early twentieth-century England suggests that more than 50% of autobiographers used their family or network of acquaintances to find a job (Miles, 1993). In the absence of individual-level information on the educational attainment of women, our study uses social background to indicate not only parental resources but also girls' educational attainment. It should be noted that, at the time, a growing but still very small percentage of girls attended secondary education (Boekholt & de Booy, 1987) and the vast majority came from higher social backgrounds.

As stated before, we expect, in particular, higher-status women to have left the labour market, leaving lower-status women behind. However, some of these lower-status women might have profited from the opening up of higher-status positions. If we compare a woman with a certain level of resources in a context with high female labour force participation with a woman with the same level of resources in a context with low female labour force participation, it can be expected that in the latter situation she will be able to reach a higher occupational status than in the first situation. This leads to hypothesis 1b: the lower the female labour force participation, the higher the status of those women who remain on the labour market, if we take differences in women's resources into account.

2.2 Girl's educational participation

The period in which adult women left the labour market also saw a slow trend towards the increasing participation of girls in secondary education (Figure 2). The figure shows the number of girls taking part in secondary education per 100 inhabitants of a municipality.¹ Although educational expansion affected only a small part of the Dutch population during the nineteenth century and the first few decades of the twentieth century, between 1900 and 1920 the number of females in secondary education rose by 400 per cent, reaching one girl per 200 inhabitants at the end of this period (according to Boekholt & de Booy, 1987 this is five per cent of all girls of school age). We do not have an explanation for the exceptionally high rate of school participation during the First World War – in which the Netherlands remained neutral – but the general rise in educational opportunities has been well described. From 1860 onwards, specialist artisan schools, commercial schools, domestic service schooling, and many other types of educational and vocational schools emerged (Boekholt & de Booy, 1987, 182). In more and more municipalities, boys, but also girls, could benefit from these new educational opportunities. From 1876 onwards, in the highest form of secondary education – the *gymnasium* – boys and girls learnt together (Boekholt & de Booy, 1987). In addition, in the second half of the nineteenth century girls' schools emerged. These were general secondary schools and cooking and household schools, which prepared girls for jobs in domestic service. Other schools qualified young women to become a secretary or a teacher, and women could study at art academies and colleges offering courses in social welfare.

The expansion of the educational system not only qualified women for higher-status jobs, it also created new job opportunities for women. Until the 1860s the Dutch educational system was characterized by a strict gender division in teaching. Whereas men taught throughout the school system, women taught only pre-school children and female pupils. After 1860 female teachers became eligible to teach at the growing number of mixed secondary schools (Van Essen, 1999). We expect both developments to have affected the occupational status of women at marriage. Whereas increasing numbers of female (and male) students could have an immediate effect on the job opportunities for women, the effect on women's status through increasing educational resources will not show up until after approximately a decade: the time between leaving school and marriage.

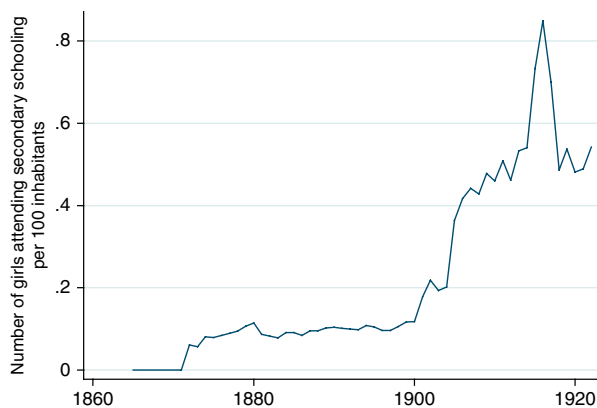


Figure 2. Number of girls in secondary education per 100 inhabitants. Source: *Verslagen voor het hoger, middelbaar en lager onderwijs*, 1865 to 1922.

This gives rise to hypothesis 2a: the higher the school participation rates of girls, the higher the status of women on the labour market 10 years later.

This effect might, however, be spurious and caused in part by social background. Social background influences both schooling and job opportunities for girls. It is likely that it is primarily those from higher social backgrounds who can take advantage of educational opportunities and take their qualifications to the job market. Therefore, in hypothesis 2b, we expect that the effect noted in hypothesis 2a will be reduced when we control for parental social status.

According to classical modernization theory (Treiman, 1970) educational expansion changed the way the labour market operated. Educational expansion occurred, at least in part, as a response to the new demands for specialist and longer training. For an increasing number of jobs formal qualifications were required along with skills that could not be acquired and developed within the family household. For parents it became more difficult to train their own children for work on the job market. In hypothesis 2c we therefore expect: the higher the school participation rates of girls, the smaller the effect of parental status on women's status.

2.3 *Egalitarian gender values*

According to Treiman (1970), industrialization, educational expansion, and other modernization processes were accompanied by the wider dissemination of universalistic values. Such values stress that all individuals are equally worthy and should be judged in terms of their efforts, skills, and talents, rather than in terms of ascriptive characteristics such as gender. The dissemination of universalistic values is therefore expected to have decreased the importance of gender in selection by employers. They are expected to have aimed at recruiting the best-qualified worker, with the sex of that worker being irrelevant. For some occupations women were better qualified than men, for example because of their fine motoric skills. The rise of universalistic values should increasingly have resulted in better opportunities for women to work in these occupations. In fact, differences in job opportunities for men and women are still profound. Nevertheless, the end of the nineteenth and beginning of the twentieth centuries was the time when women slowly got more opportunities to participate in schooling and to work in higher status occupations. The ratio of female to male students illustrates this gradual development as this number rose to 30% in the early 1920s (Figure 3). One important example of such changes in the Netherlands was Aletta Jacobs. She was the first female medical doctor in the Netherlands, having graduated in 1878. We expect that with the rise of universalistic and, especially, gender egalitarian values, women would have become more inclined to choose and were more often allowed access to occupations that were previously the preserve of men, and those occupations were often of a higher status. Hypothesis 3a therefore reads: the more egalitarian the gender values, the higher the status of women on the labour market.

Also for the expectation formulated in hypothesis 3a, it might be true that the effect is in part confounded by social background. More highly educated men and women from higher social backgrounds are more likely to embrace universalistic values (Inglehart & Baker, 2000), and women from these families also have better chances on the labour market. When we take into account the differences in individual resources, especially social background, we expect universalistic values to have a smaller influence. Hypothesis 3b therefore reads: the effect noted in (3a) will be reduced when we control for parental social status.

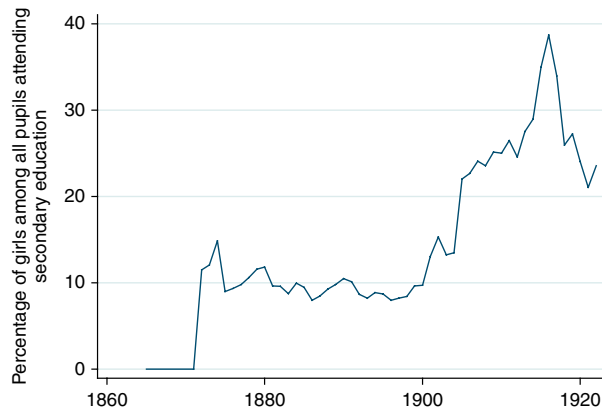


Figure 3. Percentage of girls among all pupils in secondary education. Source: *Verslagen voor het hoger, middelbaar en lager onderwijs*, 1865 to 1922.

Above, we argued that daughters took advantage of the resources of their parents. Because gender became less relevant due to the dissemination of universalistic values, we expect parents increasingly to have helped their daughters – and not only their sons – in finding a good position on the labour market. Thus, daughters were able to make more use of parental resources for their occupational attainment. Note that this expectation goes against the general idea that universalistic values are negatively related to the effect of parental status on children’s status (Treiman, 1970). This gives rise to hypothesis 3c: the more gender egalitarian a period or region, the stronger the effect of parental status on the status of women on the labour market.

It is impossible to directly measure the distribution of values in a population in the pre-survey period. In the absence of indicators such as the Gender Inequality Index (cf. Dilli, 2012) that are only available on the national level and for contemporary societies, we have to rely on an indirect measure. We try to capture the dissemination of egalitarian gender values by the school attendance of girls relative to boys in a municipality in a certain year. The increased schooling of girls relative to boys can be seen as a consequence of the spread of beliefs that individuals should be judged on their merits rather than on their gender. A clear increase in the ratio of girls to boys among schoolchildren is visible between 1900 and 1922, although the First World War saw a correction (Figure 3).

3. Data, method, and measures

3.1 Data

The data we use, the GenLias dataset, is an excellent source for studying women’s status at marriage over a long period of time.² It includes all nineteenth- and early twentieth-century civil marriage certificates for the Dutch provinces of Groningen, Drenthe, Overijssel, Gelderland, Limburg, and Zeeland (six of the 11 provinces comprising the Netherlands). The 911,602 marriage certificates covering the period 1812 to 1922 contain information on the occupations of those getting married and those of their parents (insofar as they had an occupation), their age, and the municipality in which they married (in the Netherlands couples usually married in the municipality in which the bride resided).

This makes it possible to tie individual observations to characteristics of the community in which the individual lived. Previous analyses have shown that the six provinces are fairly representative of the Netherlands with respect to modernization (Maas & van Leeuwen, 2013). The six provinces are slightly more agrarian but show rates of change in the proportion of men in industrial occupations which were identical to those for the Netherlands as a whole. At least with respect to the presence of women working in the agrarian and industrial sectors, the dataset is therefore probably representative for the Dutch female labour force at the point of marriage. However, differences may exist with respect to women working in for example domestic service. For our analyses we selected all marriages in the period 1865 to 1922 of women aged between 15 and 40. This selection leaves us with 513,800 marriages, for 150,605 of which we have data on the occupation of both bride and groom.

Marriage registers are advantageous not only because of the large number of cases they provide and the excellent variation over time and space, but also because they are believed to provide relatively complete information on women's employment. One problem in studying the occupational status of women concerns the under-reporting of their occupations, especially in censuses (Higgs, 1987; Humphries & Sarasúa, 2012). Census officials often had instructions concerning whether women's occupations should be recorded or not, and those instructions differed between censuses. Furthermore, census officials had their own ideas about what was to be considered a proper occupation. In both cases, artificial regional differences and time trends may have been the result. One advantage of the marriage records we use is that no additional 'filter' – in the sense of a census official – was present. Women stated their occupation to a civil servant who filled out a form that contained a separate space for the bride's occupation. Although civil servants may have had their opinions about female employment, they did not receive any special instructions, and the official documents assumed they would simply write down the information provided by the bride. Marriage certificates therefore clearly diminish the problem of female occupations being under-reported (see also the introduction to this issue: van Leeuwen & Zijdeman, 2014). The problem, however, does not completely disappear, since women themselves may be less inclined to report their activities as 'work' when strong norms exist that women should stay out of the labour market.

It is also true, however, that whereas censuses provide information on women of different ages and in different phases of the life course, marriage records provide information that is valid only at the time of the marriage and for the period immediately prior to the marriage, but not necessarily for the period after the marriage. Indeed, many women stopped working after marriage (Schulz & Maas, 2012). If these limitations are kept in mind when evaluating the results of the analyses marriage certificates are a very suitable source to study the determinants of women's status at marriage over a long period of time.

3.2 Method

We employ a multilevel design, where labour force participation, female participation in secondary education, and egalitarian gender values are measured at the level of municipalities and may vary yearly. Individual observations of women's status are nested in contexts that are a combination of municipality and year, for instance Groningen in 1880 or Maastricht in 1900. In total the observations are nested within 9921 contexts. Since female labour force participation, girls' school attendance, and gender values varied

a lot between municipalities in the same year, studying not only trends over time but also regional variations greatly enhances the likelihood of correctly estimating the relationship of these variables to our dependent variable.

Although many women mention an occupation at marriage, there is also a considerable group of women for which such information is lacking. We formulated hypotheses on how women's status is affected by this selectivity. Besides being theoretically interesting, however, selective participation in the labour market might bias the results of our models. We deal with this problem by employing selection models (Heckman, 1979). Selection models allow us to study the status attainment of brides while avoiding biased findings that could emerge due to the differences between brides who stated an occupation at marriage and those who did not. Stata, a software package, did not succeed in achieving convergence while estimating the computationally very demanding multilevel Heckman models and Heckman models that use maximum likelihood estimation (i.e. models that estimate robust standard errors to account for the clustering of observations in contexts). Therefore, we will present the results of a Heckman procedure that does not take the multilevel structure of the data into account. Before presenting the results of the Heckman selection models, we estimate an OLS regression in order to investigate how robust our findings are when not analysed in a multilevel fashion.

The Heckman procedure consists of two parts. One part is a model that predicts selection into employment. The other part is the analysis of the occupational status of those women who were active on the labour market. The second part is estimated including a correction for possible selection effects that could occur because the estimation is based only on women who were active on the labour market. The Heckman procedure requires that at least one independent variable be included in the selection equation that is not included in the explanation of women's occupational status, i.e. one variable is required that affects the selection but not the outcome. We include the status of the groom in the selection equation. The groom, his resources, and his social contacts are unlikely to have influenced women's status before marriage. The decision on whether to remain active on the labour market was likely to have been one of the first decisions the couple took together.

3.3 Measures

3.3.1 Dependent variable

Occupational status of the bride: Our dependent variable is the occupational status of women measured at their marriage. All the occupational titles in the data have been classified using the Historical International Standard Classification of Occupations (HISCO) (Van Leeuwen, Maas, & Miles, 2002, 2004). HISCO scores were automatically transformed into HISCAM, the recently developed historical status scale (Lambert, Zijdeman, van Leeuwen, Maas, & Prandy, 2013). The estimation techniques used to develop HISCAM are the same as those used for contemporary CAMSIS scales (Prandy, 1999). These scales are designed with the assumption that patterns of social interaction (marriage for instance) between people from different occupational strata are representative of the overall structure of occupational stratification. The HISCAM scale models an estimate of the occupational stratification structure based on 1.5 million marriage records from six different countries (Britain, Canada, France, Germany, the Netherlands and Sweden) from 1800 to 1938. The scale ranges from 10.6 to 99, with higher values indicating higher occupational status. Servants, for example are assigned a

HISCAM score of 10.6. Teachers in primary education receive a score of 70.4 and midwives are assigned a middle position, with a score of 51.3.

3.3.2 *Independent variables at the individual level*

Experience/10: We approximate occupational experience using the age of the bride. This is relatively unproblematic because in the period under study there was not much variation in the length of school careers. Over 95% of all girls completed only primary education (Boekholt & de Booy, 1987). Afterwards they either helped their mother or they entered the labour market directly. Not only girls with a paid job but also girls who helped their mother in the household, on a farm, or in a shop gained experience that was useful in the labour market. Household work, for example, prepared the young women for a job as a servant. Women who married at a later age worked more years and thus had more experience than women who married early. The labour force experience of the bride is calculated by subtracting 15 years from their age at marriage. For ease of interpretation we divide experience by 10. Age at marriage decreased in the period under study from around 28 to 25 years.

Occupational status of bride's father: As with the bride's occupation, the occupation of her father was coded into HISCO and then assigned a HISCAM score. In order to retain those cases for which no occupational information for the father is available, we assign those the mean status. In addition, a dummy variable indicating cases for which occupational information was lacking is included.

Occupational status of bride's mother: The HISCAM status of the bride's mother is included as a continuous variable as well. Mothers for whom we have no occupational information were assigned the mean. Note that the group of mothers and fathers for whom there is no occupational information is diverse. Fathers for whom we have no occupational information were most likely no longer alive at the time their daughter married; mothers were most likely not active on the labour market.³

Occupational status of bridegroom: This variable is measured in the same way as the occupational status of the bride and her parents. It is used only in the selection equation. Information on bridegroom's status is only rarely missing. Those cases are excluded from the analyses.

3.3.3 *Contextual characteristics*

Female labour force participation (FLP): We measured female labour force participation by taking the percentage of women who reported an occupation at marriage. Because of the small number of observations in contexts per year, we aggregated the percentage of women with an occupation at marriage to the larger economic geographical unit (Beekink, Boonstra, Engelen, & Knippenberg, 2003).

Female school participation (FSP): To capture female educational participation, we used a municipal-level measure of the number of girls enrolled in secondary education per 100 inhabitants. Even before the first mandatory schooling law was introduced in 1901, participation in basic schooling was high in the Netherlands. Therefore rates in secondary education are a better indicator for educational expansion than participation in basic schooling. We consulted the annual reviews *Verslagen voor het hoger, middelbaar en lager onderwijs (1865–1928)* on Dutch education for the period from 1860 to 1930 to obtain information on educational expansion.⁴ Female school participation is measured with a 10-year time lag, because on average approximately 10 years elapsed between leaving school and marriage.

Table 1. Descriptives of all variables.

Variable	Min	Max	Mean/%	Std. dev.
<i>Individual level (N=150,605)</i>				
Year/10	0	5.7	2.695	1.696
Status bride	10.6	99	23.382	16.663
Status groom	10.6	99	45.049	10.086
Status father ^a	10.6	99	47.581	5.802
Status mother ^a	10.6	90	41.974	4.527
Experience/10	0	2.5	1.040	0.483
Status father missing			0.394	
Status mother missing			0.772	
<i>Context level (N=9,921)</i>				
Female school participation (per 100 inh.)	0	1.886	0.023	0.125
Female pupils/all pupils (%)	0	100	1.121	6.670
Female labour force participation (%)	0	91.719	35.075	16.673

^aNote that the variance in parental status is low because fathers and mothers without an occupation are given the mean status of all fathers and all mothers respectively.

Percentage of girls among all pupils in secondary education: As described above, we measure egalitarian gender values by the ratio of girls to boys in secondary education. This variable is constructed by dividing the number of female pupils by the total number of pupils, using the same sources as for female school participation.

Year/10: We included the year of marriage in all of our models. The variable ‘year’ starts in 1865 and is divided by 10. Table 1 shows descriptive information on all variables.

4. Results

4.1 Description of changes in status and the occupational distribution of women

Figure 4 presents the change in average status of women at marriage over time. The status of women decreased in the period 1865 to 1880, from around 25 to 21. Only after 1885 did women’s status increase again. By 1903 the mean status passed the level of 1865. In the period between 1880 and 1922 women’s average status increased by more than 10 points, and so by 1922 women’s status at marriage was around 32.

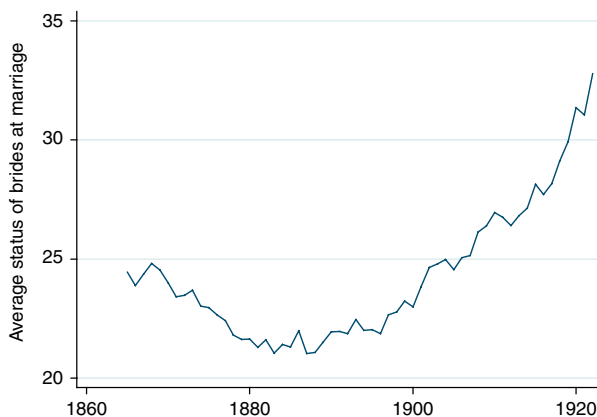


Figure 4. Average status of women at marriage, 1865 to 1922. Source: GenLias (2009).

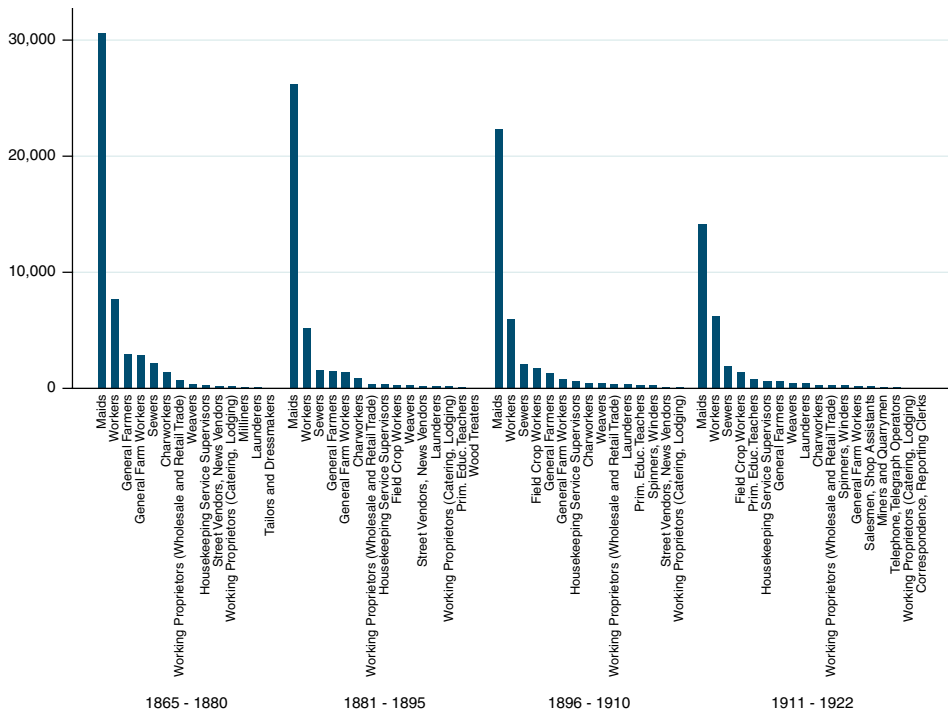


Figure 5. Occupational distribution of women at marriage, 1865–1922 (all three-digit HISCO groups in which 50 or more women worked). Source: GenLias (2009).

In Figure 5 we show the occupational distribution of women in four separate periods in order to investigate which occupations drove the changes in status. The figure presents a selection of those occupational groups of women (HISCO three-digit groups) in which at least 50 women worked in a certain time period. Throughout the research period the vast majority of women worked as maids or as unspecified workers in the farming and textile industry. The number of women working as maids decreased steadily between 1865 and 1922. In the first period (1865–1880) an average of 32,000 women gave their occupation as maid; between 1911 and 1922 that figure dropped to around 15,000. As discussed earlier, the expansion of the teaching sector opened up opportunities for women to work in higher-status occupations. This development is shown in Figure 5. A few years after secondary education was opened up to girls, more than 50 women were employed in the primary education sector. This number steadily increased. In the last period (1911–1922) primary education teacher was the fifth largest occupational group among marrying women.

Up to 1910 there were only 15 different occupations in which at least 50 women worked. In the period 1911 to 1922 this number increased to 18. This rise was caused not by growing female labour force participation, since it was relatively low at that time. Over time, more women worked in occupations with a somewhat higher status (at least compared to maids and unspecified workers), such as the primary education teachers mentioned earlier, telephone and telegraph operators, and correspondence and reporting clerks. This type of administrative work was offered mainly in larger companies, which offered the best opportunities for women to take on higher-status jobs (Schulz, 2013).

These descriptive findings lend support to the idea that women increasingly worked in higher-status occupations. This is in line with hypotheses 2a – on the effect of girls' school participation – and 3a – on the effect of the spread of egalitarian gender values – but it is not in line with hypothesis 1a, which predicted a decrease in status as a result of decreasing female labour force participation.

4.2 Test of the hypotheses

Table 2 presents the results of the multilevel models, OLS regressions, and Heckman selection models. We started by estimating a null model (not in Table 2), which shows that the total contextual variance is 54, the individual variance 210, and the intra-class correlation 0.79 ($210.578 + 54.136$). Twenty per cent of the variance in women's status can be attributed to the context.

The first model in Table 2 includes the three variables of interest at the contextual level: female labour force participation (FLP), female school participation (FSP), and the proportion of girls among all children in secondary education. All three macro-societal developments are positively related to women's status. With a one per cent increase in female labour force participation the status of brides increased by 0.176. The 30 per cent decrease in female labour force participation between 1865 and 1922 thus translates into a decrease in average status of five points. With every additional female pupil per 100 inhabitants, women's status increased by 9.012 status points. Female secondary school participation increased by 0.4 points between 1865 and 1922. According to the model, this increase coincided with an increase in status of 3.6 points. A one-point increase in the percentage of female pupils among all pupils in secondary education – our indicator of egalitarian gender values – increased women's status by 0.111 points. The number of female pupils among all pupils increased by 15 percentage points during the period we studied. According to the model, this led to an increase of 1.6 points in women's status at marriage. Model 1 thus provides support for hypotheses 1a, 2a, and 3a: places with lower female labour force participation coincide with places in which the status of women is lower. The higher the rate of school participation among girls and the more gender egalitarian a context, the higher the status of women in these contexts.

According to hypotheses 1b, 2b, and 3b the effects of female labour force participation, female school participation, and gender egalitarianism become smaller when we hold the individual resources of women constant. Model 2 includes the occupational status of the father and mother of the bride and her labour market experience. The status of the mother and the father appears to be equally important. With every additional status point for the mother and father, women's status increased by around one-third of a status point. The dummy variables that indicate whether occupational information for the parents was missing show that, on average, women for whom we have no information on their father's occupation (most likely because he was deceased at the time of the marriage) have a status that is *c.* 0.3 points lower than the corresponding figure for women with a father with an average occupational status. This effect is about 10 times stronger for women whose mothers' occupational status is not known to us (most likely because they were not on the labour market). Their status is 3.4 points lower than that of women with a mother with an average occupational status. Women's own labour force experience has a rather strong effect on their status: for each additional 10 years women's status increased by 5.2 status points. Most women married between the ages of 18 and 40, which translates into a difference of around 10 status points between women who marry very early and women who marry very late.

Table 2. Multilevel models, OLS regression, and Heckman selection model of occupational status of women at marriage.

	Multilevel models						OLS				Heckman selection model			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 5		Selection part	
	B	P	B	P	B	P	B	P	B	P	B	P	B	P
Constant	11.740	0.000	-19.861	0.000	9.331	0.000	8.604	0.000	-5.550	0.000	2.579	0.000	0.000	0.000
FLP (%) ^a	0.176	0.000	0.178	0.000	0.178	0.000	0.200	0.000	0.320	0.000	0.020	0.000	0.000	0.000
FSP (per 100 inh.) ^b	9.012	0.000	8.133	0.000	6.917	0.000	2.918	0.000	2.329	0.000	0.132	0.000	0.000	0.000
Fem. pupils/all	0.111	0.000	0.090	0.000	0.106	0.000	0.066	0.000	0.029	0.000	-0.001	0.000	0.000	0.000
Year/10	1.307	0.000	1.754	0.000	1.742	0.000	2.271	0.000	1.811	0.000	-0.027	0.000	0.000	0.000
Experience/10			5.195	0.000	5.198	0.000	5.214	0.000	5.334	0.000	0.062	0.000	0.000	0.000
Status mother			0.332	0.000	0.361	0.000	0.507	0.000	0.229	0.000	-0.036	0.000	0.000	0.000
Status father			0.291	0.000	0.296	0.000	0.335	0.000	0.093	0.000	-0.017	0.000	0.000	0.000
Status mother missing			-3.375	0.000	-3.346	0.008	-4.441	0.000	-7.577	0.000	-0.374	0.000	0.000	0.000
Status father missing			-0.330	0.000	-0.217	0.000	0.212	0.016	1.650	0.000	0.158	0.000	0.000	0.000
Status groom														
FSP*status mother					0.040	0.818	0.081	0.670	0.042	0.818				
FSP*status father					0.320	0.000	0.433	0.000	0.408	0.000				
Fem. pupils/all*status mother					0.007	0.000	0.001	0.647	-0.001	0.526				
Fem. pupils/all*status father					0.007	0.000	0.007	0.000	0.007	0.000				
Lambda									11.86	0.000				
Individual variance	208.624	0.783	197.774	0.742	197.452	0.740								
Context variance	49.409	1.014	43.792	0.907	43.592	0.903								
Individual N	150,605		150,605		150,605				150,605					513,800
Context N	9,921		9,921		9,921									
R ²														
														0.108

Note: The variables in the interaction terms are mean-centred.

^aFLP: female labour force participation; in the selection model FLP is measured with a 10-year time lag.

^bFSP: female participation in secondary education, measured with a 10-year time lag.

When we include the individual resources of women in the model, the effect of female labour force participation remains the same and thus hypothesis 1b is not supported. Women do not seem to have profited from less competition for higher-status jobs. At first sight, hypotheses 2b and 3b seem to find some support. The effects of female school participation and the proportion of female pupils among all pupils were reduced after including women's labour force experience and the status of the father and the mother. The effect of female school participation was 9 (model 1) and 8.1 (model 2), and the effect of our indicator of egalitarian gender norms was 0.11 in model 1 and 0.09 in model 2. A formal test on whether the coefficients of two variables differ between models 1 and 2 indicates that there are no significant differences. Thus, individual resources do not systematically confound the effects of female labour force participation, egalitarian gender norms, and female school participation.

Including the three contextual indicators and the individual characteristics of the women in the model reduces the variance from 210 to 197 at the individual level and from 54 to 43 at the contextual level.

Model 3 includes interactions between the occupational status of the mother and father of the bride on the one hand and female school participation and our indicator of egalitarian gender values on the other. We expected the effects of parental status to decrease with female school participation (H2c) and to increase with egalitarian gender norms (H3c). We find that the more girls attended secondary education, the stronger the effect of the father's status. For the observed increase of about 0.4 on the school participation variable between 1865 and 1922, the effect of father's status increases by 0.13: from approximately 0.24 to 0.37. The interaction of mother's status with a girl's school attendance is not significant. Hypothesis 2c is thus not supported. On the contrary, we find that women benefited more from the resources of their fathers in places with higher school participation rates of girls.

Hypotheses 3c is supported as we find that in places in which girls form a higher percentage of all secondary school pupils the positive effect of the status of both father and mother is stronger. With every additional one-point increase in the percentage of girls among all secondary school pupils, the effect of the mother's status, as well as that of the father, increases by 0.007. As described in [Figure 3](#), the percentage of girls in secondary education increased by about 15 points. This translates into an increase of the effect of a father's and a mother's status of 0.10. Thus, in places that were more gender egalitarian, women could take better advantage of their social background.

Model 4 presents the results of an OLS regression. We estimated this model to investigate to what extent our results change if we do not take the multilevel structure into account. The effects of female labour force participation and the percentage of girls among all secondary school pupils differ little between the multilevel and OLS models. The effect of the number of girls who attended secondary education changed more drastically from almost seven in the multilevel model to three in the OLS model. This effect is underestimated in the OLS model, where we do not take the dependency into account between women who live in the same municipality in the same period. The effects of individual resources (father's and mother's status) are, on the other hand, overestimated in the OLS model. The effect of missing information on a father's status turns from negative to positive, but it remains very small. Only the positive interaction between the percentage of girls among all secondary school pupils and mother's status became insignificant in the OLS model. All in all, the substantial results remain rather robust, but it is clear that we should not interpret the absolute size of the effects from the OLS and Heckman selection models.

Model 5 presents the Heckman selection model, which includes a model for whether women provided an occupation on the marriage certificate and a model for women's status at marriage, taking selection into account. The selection part of the model includes individual and contextual characteristics that are expected to influence women's decisions concerning their labour market participation. Women were more likely to report an occupation at marriage if they married at a later age and if they came from a low-status background. Also, the higher the status of the bridegroom the less likely the bride was to be on the labour market at marriage. The latter is in line with the theoretical reasoning behind hypothesis 1a, which states that especially women with substantial resources would withdraw from the labour market. When women observe many working women at the time they enter the labour market, they are more likely to have an occupation at marriage, as well as when they live in a municipality with relatively high female participation in secondary education. More equal gender norms are negatively related to the likelihood of women to be in the labour force at marriage. Over time, female labour force participation decreased, even if we take labour force participation 10 years earlier into account.

An indicator for whether a selection model should be employed, i.e. whether the results would otherwise be biased, is the lambda coefficient. Lambda summarizes the effects of all unmeasured characteristics related to employment. The lambda coefficient is significant and has a rather large effect, indicating that without taking into account the selection of women into the labour market our results would have been biased. Including this measure in the estimation of women's status corrects the estimates of all other variables for the selection bias. The positive significant coefficient for lambda indicates that women active on the labour market have, compared to those who are not, unmeasured characteristics which are positively related to occupational status. Note that these characteristics are not resources of the parents and partner, since they are included as measured characteristics in the model. More likely they are personal attitudes towards women's labour force participation and characteristics of the local labour market, such as whether attractive, higher-status jobs are available.

The positive effect of female labour force participation on women's status becomes much stronger when we take selection into account. Thus, although measured resources (e.g. groom's status) led women who could have obtained a relatively high status to leave the labour market, among women with equal amounts of resources those women whose prospects in a job with high status were better were more likely to stay in the labour market. This thus obscured the selection effect that we theorized in hypothesis 1a.

The effects of female school participation and egalitarian gender norms become smaller when selection is taken into account. This can be explained by the presumably positive correlations between these characteristics and the unobserved characteristics that make women more likely to achieve a high status. For example, it is likely that municipalities in which relatively many high-status jobs are available for women also show higher female secondary school participation, both in an absolute and a relative sense.

Although selection into the labour market thus plays a complex role, all in all our main hypotheses are supported in all models. The decrease in female labour force participation went hand in hand with a decrease in the status of those women who remained on the labour market (H1a). The increasing participation of women in secondary education (H2a) and the greater adherence to egalitarian gender values (H3a) counteracted this development and led to an increase in women's status. The change in values also increased the positive effect of father's status on bride's status, as expected in hypothesis 3c. But father's status also became more important when more girls went to secondary school, which goes against hypothesis 2c.

5. Conclusion and discussion

In this article we studied the status of women at marriage in light of three important and partly counteracting societal processes. While women increasingly withdrew from the labour market, educational expansion and the spread of universalistic values opened up new possibilities for women to realize their occupational hopes and dreams. We used marriage certificates from six (of the 11) provinces in the Netherlands in the nineteenth and early twentieth centuries to study long-term changes in status of women at marriage. Societal changes were measured at the municipal level and their effects were estimated using multilevel models. To deal with the possible selectivity of the group of women who were active on the labour market, we employed Heckman selection models.

Our first aim was to describe changes in the average occupational status of women at marriage. We showed that women's status initially decreased between 1865 and 1885, but then increased considerably, reaching a much higher level in 1922 than in 1865. Further, descriptions of the occupations in which women worked showed that women became much less likely to work as maids and unspecified workers. Instead they became clerks, telephone operators, and primary education teachers. Over time, women worked in a larger number of different occupations. The increase in women's status was especially noticeable around 1885, coinciding more or less with an acceleration in the number of girls participating in secondary schooling and the spread of gender egalitarian values.

We proceeded with a more formal test to see whether these contextual changes were related to women's status at marriage. Using the male breadwinner and housewife models, we formulated the hypothesis that in places with lower female labour force participation rates women would tend to have a lower status because women with more resources would find it easier to withdraw from the labour market. From modernization theory we derived the expectation that in places with higher schooling rates for girls and more widespread egalitarian gender values women's status would be higher. These three main hypotheses were all supported. The results were robust when taking selection processes and the confounding effects of parental resources into account.

We further expected the withdrawal of higher-status women from the labour market to create better opportunities for women who remain on the labour market. However, we did not find any support for this expectation. After taking into account the selection of women who stayed on the labour market in terms of measured resources and unmeasured characteristics, the effect of female labour force participation was still positive, and even larger than it would have been without taking selection into account. We see three possible explanations for this finding. The first, and most likely, is that there was a general upgrade in the resources of those women who remained on the labour market, which qualified them for the positions of the women who left. These could be parental resources, which were increasingly used to help girls, and, of course, education. Secondly, it is possible that occupations vacated by women were assumed by men. One example may have been male teachers that began to teach female students in the beginning of the twentieth century. Teaching girls was for a long time a monopoly for female teachers. Eventually in 1925 a legal marriage bar was introduced, reducing the number of female teachers even further (Van Essen, 1999). And thirdly, occupations vacated by women might have become obsolete. One career path of working women had been to engage in small retail trade and shop keeping (Kay, 2004). The emergence of department stores may have decreased the opportunities for women to work in this sector. To what extent these three explanations applied requires further investigation.

Educational expansion and the dissemination of egalitarian gender values increased the likelihood of women moving into higher-status occupations. This supports modernization theory. From the same theory we also derived the expectation that parental status would become less important in places with higher school participation rates for girls. Our findings suggest the contrary. Women benefited more from the resources of their father in places with higher school participation rates for girls. The same was true in places with more egalitarian gender values (i.e. school participation among girls relative to that among boys). Previous research has shown that in this period men's status at marriage became less dependent on that of the father, especially in more modern contexts (Knigge, Maas, van Leeuwen, & Mandemakers, 2014). The discrepancy between the results for men and women probably originates from the fact that gender differences, too, are 'ascribed' and thus expected to become smaller with modernization. One cause of smaller gender differences might be parents dividing their resources more equally between sons and daughters, weakening the parental effect on sons and strengthening the parental effect on girls. The faster increase of female educational participation compared to male participation suggests that this was the case (Boekholt & de Booy, 1987).

Our analyses have shown that selection into the labour market played a complex role in explaining the status of women at marriage. We have argued that regional differences in the prospects that the labour market had to offer probably played a role in the decision of women to stay on the labour market. Regional variation in job opportunities for women could be included in future analyses to shed more light on this issue. Moreover, zooming in on personal and occupational networks might help us to understand both the decision to be active on the labour market and the occupational status that women achieved. The strong effect of female labour force participation on women's participation 10 years later indicates that role models might be part of the explanation. Women with a well-informed network of female workers were probably more likely to adopt the role model of these women and to have better jobs. Data on the labour force status of women in the household or extended family might help us to study network effects on women's employment.

In sum, we have shown that women benefited from the general modernization processes such as educational expansion and the spread of universalistic values that took place in the first few decades of the twentieth century. They obtained a higher status and they profited more from the resources of their parents. However, these modernization effects were obscured by the disappearance from the labour market of higher-status women.

Acknowledgements

We wish to thank the audiences at the 10th Swedish Economic History Meeting, University of Lund, the Interuniversity Research Group on Social Inequality and the Life Course (ISOL) meeting at Utrecht University, 2 October 2013, and the audience of the DIW Berlin Cluster Seminar, 4 December 2013.

Funding

This paper was written under the European Research Council, Advanced Investigator's Grant, no. 230279: Towards Open Societies? Trends, variations and driving forces of intergenerational social mobility in Europe over the past three centuries. See also www.towardsopensocieties.org.

Notes

1. Percentages of girls of school age are difficult to obtain since the age distribution of girls is not known for each year and each municipality.

2. The GenLias data come from the Regionaal Historisch Centrum Limburg (release 7 June 2006), Historisch Centrum Overijssel (release 7 April 2005), Gelders Archief (release 1 November 2006), Zeeuws Archief (release 28 June 2004), Groninger Archieven (release 16 March 2007), and Drents Archief (release August 2010).
3. We also ran the analyses with a categorical measure of father's and mother's status. Those fathers and mothers without occupational information comprised one category. The results were very similar, but we prefer using the continuous scale because this enables us to use the standardized HISCAM scale and decreases the number of interaction terms.
4. The following school types are included: *Gymnasium*, *Burger Avondschool*, *Hogere Burgerschool*, *Middelbare Meisjesschool*, *Teken- en ambachtsscholen*, *Vakscholen*, *Kookscholen*, *Kunstscholen*, *Hogere Burgerschool-Lyceum*.

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