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# Partner choice in the Netherlands, 1813–1922: the changing importance of ascribed and achieved status

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## ABSTRACT

Partners choose each other on the basis of many characteristics. Social status is one of them. A person's social status can be ascribed, e.g. derived from the position of her or his parents, or achieved, e.g. derived from her or his own occupation. According to the status-attainment hypothesis, during the nineteenth century achieved status increased in importance and ascribed status decreased, especially in regions that experienced more modernization. In contrast, the romantic-love hypothesis predicts that modernization caused a decrease in the importance of both ascribed and achieved status. This paper tests these claims. We use data on all the marriages that took place in all the municipalities in six (of eleven) Dutch provinces between 1813 and 1922. These couple-level data are supplemented with municipal-level data on several dimensions of modernization. We find that men's occupational status did indeed become more important and the occupational status of their fathers less important in the second half of the nineteenth century, when modernization accelerated. In general, modernization is positively related to partner selection based on achieved characteristics and negatively related to partner selection based on ascribed characteristics. However, especially in larger cities, some support is also found for the romantic-love hypothesis.

## KEYWORDS

partner choice; status homogamy; modernization; status attainment; romantic love; nineteenth century; The Netherlands

## 1. Introduction

Many studies have asked what characteristics of women and men determine partner choice. They generally conclude that people have a strong preference for marrying someone with similar characteristics to themselves (Kalmijn, 1998; Schwartz, 2013; van Leeuwen & Maas, 2010). Characteristics that have been shown to be important are biological (e.g. height, physical appearance, age; Silventoinen, Kaprio, Lahelma, Viken, & Rose, 2003; Stevens, Owens, & Schaefer, 1990; van Poppel, Liefbroer, Vermunt, & Smeenk, 2001), psychological (e.g. personality, attitudes; Caspi & Herbener, 1990; Lampard, 1997), and social (e.g. group membership, lifestyle; Hendrickx, Lammers, & Ultee, 1991; Hout, 1982; Kalmijn, 1991; Uunk, Ganzeboom, & Róbert, 1996; van Tubergen & Maas, 2007). Group membership has received particular attention from sociologists, because if people marry mostly within their own group then this has consequences for

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cohesion and inequality in society. The segregation of marriages decreases cohesion in society, strengthening the barriers between social groups – and if these groups differ with respect to social status, this increases societal inequality. If high status marries high status and low status marries low status, status differences do not average out between couples, but are instead reinforced. This paper focuses on the importance of membership of a different status group to partner choice.

Previous studies show that people's tendency to marry within their own status group differs depending on the location and the period (Kalmijn, 1998; Maas & van Leeuwen, 2005). The main explanation for such differences presented in the literature is the modernization theory (Schwartz, 2013). There are several versions of this theory, two of which are specifically relevant to explaining temporal and geographical differences in marital choices. According to the first version of the theory – labeled the *romantic-love hypothesis* (Smits, Ultee, & Lammers, 1998) – several modernization processes have reduced the need and opportunities for parents and other traditional institutions, such as the Church, to control young people's marital choices (Shorter, 1975). This has led to a value change, wherein people have increasingly become convinced that their partner should be chosen on the basis of individual preferences ('love'). As a consequence, over time membership of all kinds of groups has become a less important determinant of partner choice. The second version of the theory – labeled the *status-attainment hypothesis* – is based more on economic and rational motives (Smits et al., 1998). It states that through the process of modernization, the characteristics that determine success in the labor market have changed from ascribed characteristics, with which an individual is born, to achieved characteristics, e.g. education. Since people strive for success, also through partner choice, achieved characteristics have become more important determinants of partner choice and ascribed characteristics have lost their importance. Smits et al. (1998) combine these two versions of the theory, positing that the growing importance of achieved characteristics in the labor market preceded the value change. In this case, the tendency to marry within one's own educational group (an achieved characteristic) should first increase and then decrease with modernization, whereas the tendency to marry within one's own class of origin (an ascribed characteristic) should continuously decrease.

There are many studies that investigate long-term historical changes over time in homogamy with respect to status and related characteristics, such as education and social class. Some support the status-attainment hypothesis. Educational homogamy increased in the United States (US) during the second half of the twentieth century (Schwartz & Mare, 2005), whereas there are indications that homogamy with respect to one's father's social class decreased (Kalmijn, 1991). Other studies provide evidence for both the status-attainment and the romantic-love hypotheses. Pélissier, Rébaudo, van Leeuwen, and Maas (2005) find decreasing homogamy by social origin, for example, in France during the twentieth century. However, since homogamy with respect to achieved characteristics is not included in this and other similar studies, it is not possible to distinguish between the two hypotheses. Finally, a range of studies have produced evidence that is difficult to reconcile with any of the hypotheses. In the second half of the twentieth century educational homogamy decreased in China, Japan, and Taiwan (Raymo & Xie, 2000). Uunk et al. (1996) investigated Hungary between 1930 and 1980 and found a decrease in educational homogamy, followed by an increase, while

homogamy of social origin declined over the whole period. Maas, van Leeuwen, Pélissier, and Rébaudo (2011) found constant homogamy of social origin in France throughout the nineteenth century, and van Leeuwen and Maas (2002) found the same for Sweden, with the exception of an increase at the very end of the century. Van de Putte, Oris, Neven, and Matthijs (2005) showed different trends in homogamy of social origin in different parts of Belgium during the nineteenth century. Based on these results, it is difficult to draw a general conclusion on the association between modernization and status homogamy.

Studies which directly relate status homogamy to indicators of modernization are much scarcer. The first large study of this type is probably that of Smits et al. (1998), who examine the tendency of women and men to marry within their own educational group. They compared 65 countries at approximately the same time point (all between 1970 and 1983), finding that educational homogamy first increased and then decreased with the degree of economic modernization. This supports their hypothesis that the growing importance of achieved characteristics in the labor market took place first and was then followed by a shift to more individualistic values. In other studies, temporal and country comparisons are combined, first by comparing age groups (Smits, Ultee, & Lammers, 2000) and later by comparing cohorts (Smits & Park, 2009). These studies generally show a linear decrease in educational homogamy with modernization, not the predicted reverse U-shape. Although these are exemplary studies, they can still be improved upon. The combined modernization hypotheses could be tested more rigorously if not only achieved characteristics were studied but also ascribed characteristics. Secondly, the statistical power with respect to the temporal changes could be increased by studying longer periods in more contexts.

The study of Zijdeman and Maas (2010) complements that of Smits and Park (2009) by examining both changes over time and differences between municipalities in terms of the importance of an ascribed characteristic (the father's status) and an achieved characteristic (the bridegroom's status) to partner choice, then relating these choices to indicators of modernization. They use data from the Dutch province of Zeeland for 1811 to 1915, concluding that during this period the importance of ascribed status decreased but the importance of achieved status did not increase. However, economic modernization was found to be positively related to the importance of the bridegroom's status to partner choice. This relationship was thus mainly caused by differences between municipalities rather than changes over time in modernization. Economic modernization was found to be negatively related to the importance of the father's status, indicating a shift from ascription to achievement with modernization. Although Zijdeman and Maas study a long time period, they only look at linear changes over time and linear relationships with modernization; consequently, they do not provide a direct test of the combined hypotheses of Smits et al. (1998).

The aim of the present study is to test the two modernization hypotheses and the assumption of Smits et al. (1998) that achievement in the labor market grew in importance before the decline of parental influence on marital choices. Note that Shorter (1975) dates the start of this latter development back to the eighteenth century – thus, the timing of these two historical changes might be reversed. Rather like Zijdeman and Maas (2010), we use data on all marriages in all municipalities for a region of the Netherlands. However, instead of analyzing only one

province, we study six (of the eleven) Dutch provinces between 1813 and 1922. We supplement these couple-level data with municipal-level information on modernization in the place of marriage. We improve upon the design of Smits and Park (2009) by including both ascribed (the father's status) and achieved (the bridegroom's status) characteristics, and we improve upon the design of Zijdemans and Maas by adding much more contextual variation and then allowing this variation to relate to homogamy in a non-linear way. We estimate multilevel regression models with the bride's father's status as the dependent variable. Although a sizable minority of women had an occupation in the Netherlands during this period (Schulz, Maas, & van Leeuwen, 2014), many women left the labor market soon after getting married (Pott-Buter, 1993). During the period examined herein, the proportion of women in the labor market greatly decreased, probably because more households were able to survive on only one income. The women who stayed in the labor market were a selective group, mainly from the lower classes; therefore, we believe that women's status during this period is best approximated by the status of their fathers.

## 2. Theory

### 2.1. *The romantic-love hypothesis*

According to the romantic-love hypothesis, membership of all kinds of social groups – including status groups – became less important for making marital choices as modernization progressed. The argumentation behind this hypothesis points at a number of interdependent processes. Parents are assumed to have an interest in keeping their children in their own status group. When children marry outside their parents' status group, this means that the partner (and her or his family) might not share the same views and aspirations as the parents, thus creating difficulties with the intergenerational transfer of property and values. For example, if a farmer's son marries the daughter of a clerk, she will probably not function well as a farmer's wife and will have ideas about lifestyle that deviate from the ideas of his parents. Modernization decreased the dependency of young people on their parents, because it offered young people the possibility of acquiring job skills and jobs without their help (Goode, 1964; van Leeuwen & Maas, 2005). Economic independence made it less necessary for young people to please their parents, for example by choosing a partner that they approved of. Additionally, parents became less dependent on their children because of the decline of family businesses (especially in agriculture) and the development of the welfare state. As a consequence, they could be more tolerant of the behavior (and marital behavior) of their children. This weakening of the dependency between generations would, in the first instance, decrease homogamy on ascribed status – i.e. the resemblance between the social origins of the bride and the bridegroom. However, importantly, according to the romantic-love hypothesis these economic developments went hand in hand with a value change from traditional to individualistic values (Shorter, 1975; van Leeuwen & Maas, 2002). For young people not only was it no longer necessary to attune their partner choice to the wishes of their parents, they also believed less and less that this was how it was meant to be. Instead, individual preference – i.e. romantic love – could be the main determinant of partner selection, replacing economic interests. Since

romantic love was assumed to be status-blind, homogamy on both ascribed and achieved status would decrease.

In the Netherlands, several modernization processes took place during the nineteenth century that seem especially significant in the context of the growing importance of romantic love. The factories that grew in number and size when industrialization took off offered young people job opportunities and on-the-job training that could be obtained without the influence or interference of the family. Educational expansion provided valuable skills, while individualistic values flourished in the growing cities and were strengthened through contact with people from different backgrounds, mass communication, and meeting other people while traveling. Knigge, Maas, van Leeuwen, and Mandemakers (2014) show the timing of these developments in the region and period that we study.<sup>1</sup> Industrialization – indicated by the number of steam engines per 100 inhabitants – was more or less non-existent until 1855, then grew continuously until 1890 (the last year observed). Participation in secondary education was very low in the Netherlands until approximately 1865, after which it started to increase. Urbanization was already rather high at the beginning of the nineteenth century (the average person lived in a municipality with around 2500 inhabitants), and steadily grew throughout the whole century (in 1900, the corresponding figure was 4000). The extent of mass communication – indicated by the presence of a post office in the municipality – increased slowly until 1870, and more rapidly afterwards. Finally, mass transportation – indicated by the presence of a train station – was non-existent until 1844,<sup>2</sup> grew slowly until 1865, and then boomed. All in all, modernization seems to have speeded up around 1865.<sup>3</sup> We specify the romantic-love hypothesis in the following way:

H1: The effects of the bridegroom's father's status and the bridegroom's status on the bride's father's status were stable until around 1865, and decreased thereafter.

H2: The greater the degree of modernization (i.e. industrialization, educational expansion, urbanization, mass communication, and mass transport), the smaller the effects of the bridegroom's father's status and the bridegroom's status on the bride's father's status.

Note that the hypotheses speak of 'effects' but describe selection processes. The bridegroom does not change the status of the bride's father, but he and his parents use this status as a criterion for selecting a partner. At the same time, of course, the bride and her parents use the status of the bridegroom and his father for the same purpose.

## **2.2. The status-attainment hypothesis**

Status can be attained in the labor market by choosing a high-status occupation or building a career, but it can also be attained by marrying a high-status partner. The latter was long seen as the only opportunity for women to gain status, and from this point of view partner choice was a critical factor in the prospects of women. Within the limits of what was 'appropriate' and possible, a woman and her parents would search for a partner with a high status. It is not possible for every member of a society to marry a higher-status partner however, since upward mobility for one of the partners means downward mobility for the other. Therefore, women and men with the highest status will marry each other, as will women and men with a somewhat lower status.

Homogamy is the result (Kalmijn, 1998). The degree of success that a potential husband will achieve in his future career cannot be predicted with certainty. Therefore, according to modernization theory, in traditional societies success was determined mainly by the status of a man's father. With the advent of industrialization, educational expansion, and the accompanying modernization processes, a man's own characteristics – the education he has obtained and his present occupation – became more important indicators of present and future success (Blau & Duncan, 1967; Treiman, 1970). Knigge et al. (2014) and Schulz, Maas, and van Leeuwen (2015) show that in the Netherlands the effect of the father's status on the son's status did indeed decrease during modernization, indicating that ascription became less important. However, they did not study whether or not achievement became more important for obtaining status in the labor market in the same period. We assume that people understood that in order to predict a man's future success in the labor market it was becoming more and more important to consider his own characteristics rather than those of his family of origin. Based on this assumption, we expect that the shift from ascription to achievement that took place in the labor market will also be reflected in marital choices. Therefore, we specify the status-attainment hypothesis as follows:

H3a: The effect of the bridegroom's father's status on the bride's father's status was stable until around 1865 and decreased thereafter.

H3b: The effect of the bridegroom's status on the bride's father's status was stable until around 1865 and increased thereafter.

H4a: The greater the degree of modernization (industrialization, educational expansion, urbanization, mass communication, and mass transport), the smaller the effect of the bridegroom's father's status on the bride's father's status.

H4b: The greater the degree of modernization (industrialization, educational expansion, urbanization, mass communication, and mass transport), the larger the effect of the bridegroom's status on the bride's father's status.

### **2.3. The combined hypothesis**

According to Smits et al. (1998), the shift from ascription to achievement occurred first – in the early stages of modernization – and the decreasing dependency between parents and their children and the accompanying increase in individualistic values occurred later. Only during the later stages of modernization did higher wages and social security legislation decrease the dependency between parents and their children to such an extent that romantic love became the most important determinant of partner choice. As a consequence, homogamy with respect to spouses' education (an achieved characteristic) was expected to first increase and later decrease with increasing modernization.<sup>4</sup> When comparing countries, this inverse U-shape relationship between modernization (indicated by the percentage of the labor force not in agriculture and by per capita energy consumption) and educational homogamy has been found (Smits et al., 1998). Longitudinal analyses referring to the twentieth century either do not allow the estimation of a nonlinear effect (Smits et al., 2000) or show a linear decrease in educational

homogamy with modernization (Smits & Park, 2009). Following Smits et al. (1998), we formulate the combined hypothesis as follows:

H5a: The effect of the bridegroom's father's status on the bride's father's status was stable until 1865 and decreased thereafter.

H5b: The effect of the bridegroom's status on the bride's father's status was stable until around 1865 and increased thereafter, but this increase later slowed and in time the effect began to decrease.

H6a: The greater the degree of modernization (industrialization, educational expansion, urbanization, mass communication, and mass transport), the smaller the effect of the bridegroom's father's status on the bride's father's status.

H6b: As modernization (industrialization, educational expansion, urbanization, mass communication, and mass transport) progressed, the effect of the bridegroom's status on the bride's father's status first increased and then later decreased.

### 3. Data

We analyzed partner choices using the GENLIAS database (Genlias, 2009; see also Bras, Kok, & Mandemakers, 2010).<sup>5</sup> This database contains all civil marriage records from the Dutch provinces of Drenthe, Gelderland, Groningen, Limburg, Overijssel, and Zeeland between 1813 and 1922 ( $n = 1,180,976$ ). These six provinces (out of eleven) are not representative of the Netherlands as a whole, as the provinces with the largest cities (e.g. Amsterdam and Rotterdam) are not included. This means that the variance in the independent variables at the macro level is less in our sample than in the total population. For this reason, we expect the effects of these variables to be somewhat underestimated. We can think of no reason, though, why the effects would be substantially different. The provinces that we study contain medium-sized cities and were characterized by considerable variance in modernization. The original data files include some marriages that took place before and after the selected period (1813–1922), but they are not used in this study because registration is not complete in all provinces. The marriage records contain information on the place and date of marriage, the ages, places of birth, and occupations of the bride and the bridegroom, and the occupations of the parents of the bride, the parents of the bridegroom, and the four witnesses.

The occupation of the bridegroom is recorded in 95.1% of the cases. However, the occupations of the bridegroom's father and the bride's father are frequently missing (in 48.5% and 43.0% of cases, respectively). This is very likely caused by the fact that these fathers were no longer alive when their children got married. The number of missing values decreases over time (e.g. from 58% to 35% for the brides' fathers), and this decrease is in line with the increasing longevity seen during this period, especially after 1870 –hence the greater likelihood of parents surviving until their children got married (van Poppel, Deerenberg, Wolleswinkel-van Den Bosch, & Enkamper, 2005). Similar to the findings of previous studies (Knigge et al., 2014; Zijdeman, 2009), we found that the selectivity of omission with respect to status is very small; the bridegrooms for whose fathers there is valid occupational information have a slightly lower status themselves than the bridegrooms for whose fathers there is no information (48.2 compared with 48.5 status points). An even smaller difference is visible for the brides' fathers (48.3



versus 48.4 status points). After excluding the marriages with missing data for the occupational variables, 390,457 cases remained. There are also a few missing values for the bridegroom's age and the place of marriage. After conducting listwise deletions, the analytical data set for the trend analyses contained 389,979 marriages.

The marriage data are supplemented with contextual data at the municipality level from the Historical International Standardized Community Indicators – Netherlands data set (HISCI-NL; Knigge, Schulz, & Zijdemans, 2012). Data on the characteristics of municipalities have been gathered in this database for each year since the beginning of the nineteenth century. However, not all indicators are available for the whole period covered by the marriage data. More specifically, an indicator for educational expansion is available only for 1858 onward, and no indicator for industrialization is available after 1890. All analyses involving contextual variables are therefore restricted to the period 1858 to 1890, during which we observe 102,978 marriages. Contextual information is also missing for a municipality on an incidental basis, and one village shows outliers on educational expansion.<sup>6</sup> After implementing exclusions to account for these issues, the analytical data set consisted of 100,603 cases.

#### 4. Variables

The dependent variable is *the bride's father's occupational status*. All occupational titles on the marriage certificates were coded using the Historical International Standard Classification of Occupations (HISCO; van Leeuwen, Maas, & Miles, 2002, 2004). The HISCO codes were then transformed into HISCAM status scores (Lambert, Zijdemans, van Leeuwen, Maas, & Prandy, 2013). This status scale ranges from 10.6 (domestic servant) to 99.0 (e.g. lawyer; see Table 1 for descriptive information on all variables).

The two main independent variables are *the bridegroom's occupational status* and *the bridegroom's father's occupational status*, which are both constructed in the same way as the bride's father's occupational status.

The trends are generally described using the variable *year of marriage*, although for some of the analyses we have grouped year of marriage into the variable *decade*, with values from 1813–1822 to 1913–1922.

We have controlled for the *bridegroom's age*, since older bridegrooms might have built up more resources and would thus have been able to marry higher-status brides.

We measured educational expansion using the number of *students enrolled in secondary education* per 100 inhabitants of a municipality for each year. Secondary schools in particular provided students with knowledge and skills that were valuable in the labor market and replaced parental training. These data originate from annual reviews on Dutch education (Scholen, 1862–1917). In many municipalities there were no students in secondary education during this period. The maximum number observed is 6.29, and on average there were 0.06 students in secondary education per 100 inhabitants. When we look at married couples, however, there was an average of 0.29 students in secondary education per 100 inhabitants. This is because more people lived in larger municipalities, which were more likely to have a school for secondary education.

The degree of industrialization is measured by the *number of steam engines* ever purchased per 100 inhabitants of a municipality for each year. When industrialization

**Table 1.** Descriptives of individual- and contextual-level variables.

	Complete sample		Sample with contextual information		Range
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Descriptives at the individual level</i>					
Bride's father's status	49.25	8.96	49.34	8.77	10.60–99.00
Bridegroom's father's status	49.41	9.10	49.38	8.92	10.60–99.00
Bridegroom's status	48.16	11.50	47.55	11.67	10.60–99.00
Year of marriage	1880.75	31.25	1875.40	9.56	1813–1922
Bridegroom's age	27.48	5.89	27.91	5.96	17–100
Number of steam engines per 100 inhabitants			0.14	0.21	0.00–2.45
Students in secondary education per 100 inhabitants			0.29	0.61	0.00–6.29
Presence of a post office			0.38		0/1
Presence of a train station			0.38		0/1
Population size/1000			10.58	13.42	0.21–56.41
<i>Descriptives at the contextual level</i>					
Number of steam engines per 100 inhabitants			0.10	0.20	0.00–2.45
Students in secondary education per 100 inhabitants			0.06	0.31	0.00–6.29
Presence of a post office			0.13		0/1
Presence of a train station			0.18		0/1
Population size/1,000			3.23	4.08	0.21–56.41

Note:  $n_{ind} = 389,979$  (1813–1922);  $n_{ind\_sample\_with\_contextual\_information} = 100,603$  (1858–1890);  $n_{context} = 14,000$ .

took off, steam engines were the prime (non-human) source of energy and thus are a valuable indicator of the degree of mechanization of production. These data are taken from the *Registers of the Dutch Department for Steam Engineering* (Lintsen and Nieuwkoop, 1989–1991). The number of steam engines ranged from 0.00 to 2.45 per 100 inhabitants, although many municipalities had no steam engines at all.

The development of mass communication is measured by the *presence of a post office* in the municipality. Post offices delivered newspapers, letters, telegrams, and fashion brochures. As such, they were a source of information on the views and lifestyles of people from other regions. The information on post offices is taken from the annual reviews of the Dutch service for mail and telegraphy (Posterijen, 1880–1916). In 13% of all contexts (i.e. a municipality in a certain year) there was at least one post office (but 38% of the couples had access to a post office in their municipality when they got marriage).

Mass transport is measured by the *presence of a train station* in a municipality. Trains enabled people to travel more quickly than before, since they no longer had to depend on traveling by foot, bicycle, or boat. This enormously increased the size of the region in which people were able to meet each other and maintain a relationship. This variable is constructed using the years in which train stations were opened in the Netherlands (taken from <http://www.stationsweb.nl/>). The number of train stations rose from 12 to 130 in the period of our study (Knigge et al., 2014). In 18% of all contexts a train station was present.

Finally, the data on the population size of a certain municipality in a certain year were retrieved from the Historical Ecological Database and the Historical Database for Dutch Municipalities (Beekink, Boonstra, Engelen, & Knippenberg, 2003). We divided the population size by 1000; the average population size across all contexts is 3230.

## 5. Method

Our hypotheses consider the effects of contextual characteristics – i.e. the characteristics of the municipalities in a certain year – on the effects of individual-level variables. We therefore use multilevel linear regression analysis. In all models we allow the intercept (i.e. the bride's father's average occupational status) to vary between municipalities and contexts (random intercepts). Also, the effects ('slopes') of the bridegroom's status and the bridegroom's father's status can vary between municipalities and contexts (random effects).

The trend hypotheses were tested by including interactions between the year of marriage and the effects of the bridegroom's status and the bridegroom's father's status. We first estimated a model in which these effects could vary freely between decades. In a second step we used splines (Friedman, 1991); in other words, we estimated one interaction between the year of marriage and the effect of the bridegroom's status for the period until 1865 and another interaction between these two variables for the period after 1865. The same procedure was used for the interactions between the year of marriage and the effect the bridegroom's father's status. The interaction terms for the first period were expected to be zero.

It is often argued that changes in mobility patterns – including homogamy – are driven by changes in the size of the farming class (e.g. Xie & Killewald, 2013). Both occupational inheritance from fathers to their sons and homogamy were relatively common among farmers, and the size of this class decreased during modernization. We explored the possibility that any of the observed changes in the effects of the bridegroom's status and the bridegroom's father's status might be due to this decrease by estimating separate models for marriages that did not involve anyone from the agricultural classes and marriages that involved at least one such man (i.e. the bridegroom, the bridegroom's father, and/or the bride's father).

The hypotheses about the effects of modernization were tested by including cross-level interactions between the contextual variables and the effects of the bridegroom's status and the bridegroom's father's status. To test whether or not the effect of the bridegroom's status first increased and later decreased with modernization, we also included interactions with the square of the contextual variables. All the continuous variables in the models are centered around their mean.

## 6. Results

We start by establishing the average strength of the effects of the bridegroom's status and the bridegroom's father's status, and the extent to which these effects vary between contexts. Model 1 is the so-called empty model (Table 2), which shows that the brides' fathers' average status was 48.6. However, this average varies significantly between municipalities (municipal-level variance is 3.71) and contexts (variance is 0.79). The individual-level variance between the brides' fathers within contexts is much larger (74.83). Of the total variance 4.7% is at the municipal level (the intra-class correlation) and 1.0% at the contextual level.

The second model shows the amount of homogamy by social origin. The effect of the bridegroom's father's status on the bride's father's status is 0.40. This means that, on average, a bridegroom whose father scored 10 points higher on the status scale

**Table 2.** Results of the multilevel linear regression models – regressing the bride's father's status on characteristics of the bridegroom,  $n = 389,979$  (1813–1922).

	Model 1		Model 2		Model 3	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Intercept	48.562	.000	48.904	.000	49.024	.000
Bridegroom's father's status			0.399	.000	0.270	.000
Bridegroom's status					0.181	.000
Bridegroom's age			0.052	.000	0.029	.000
Year of marriage			−0.005	.000	−0.013	.000
Individual-level variance	74.828	.000	57.030	.000	51.900	.000
Municipal-level variance	3.712	.000	1.157	.000	0.781	.000
Contextual-level variance	0.785	.000	0.177	.000	0.116	.000
Mun. var. slope status, bridegroom's father			0.006	.000	0.004	.000
Cont. var. slope status, bridegroom's father			0.069	.000	0.047	.000
Mun. var. slope status, bridegroom					0.005	.000
Cont. var. slope status, bridegroom					0.022	.000

All continuous independent variables are centered around the mean

(compared to another bridegroom) married a bride whose father scored 4 points higher. This effect differs significantly and substantially between municipalities and contexts. The variance of the effect between municipalities is 0.006, and between contexts (years within municipalities) the variance is substantially larger at 0.069. From this variance we can calculate the 95% confidence interval ( $0.399 \pm 1.96 \cdot \sqrt{0.069}$ ), indicating that, according to the model, when we look at temporal change within municipalities 95% of the effect of the bridegroom's father's status lies between  $-0.12$  and  $0.91$ . This means that in some contexts bridegrooms do not seem to have benefited at all from their father's status, while in other contexts each status point higher in the father's position enabled them to marry almost one status point up. With respect to differences between municipalities, the model predicts that 95% of the effect of the bridegroom's father's status lies between  $0.25$  and  $0.55$ .

When we add the bridegroom's status to the model (Model 3), it appears that part of the effect of the bridegroom's father's status is actually an effect of the bridegroom's status; the effect of the bridegroom's father's status drops from  $0.40$  to  $0.27$ , while the effect of the bridegroom's status is  $0.18$ . On average, the bridegroom's status is less important for predicting the bride's father's status than the bridegroom's father's status. Also, the effect of the bridegroom's status varies significantly between municipalities, but especially between contexts; 95% of the effects are between  $-0.11$  and  $0.47$ .

As expected, older bridegrooms married higher-status brides, but the effect is small (10 years' age difference resulted in only  $0.29$  points difference in status). Over time, the brides' fathers' average status slowly decreased. Together these four variables explain 31% of the individual-level variance, 79% of the municipal-level variance, and 85% of the contextual-level variance. The fact that bridegrooms in certain municipalities in certain years married higher-status brides than in other contexts can, thus, largely be explained by the characteristics of the bridegrooms. This indicates that there were differences in composition between contexts with respect to occupations, but it is also (probably mainly) a result of the fact that in many municipalities we observe only a few marriages per year.

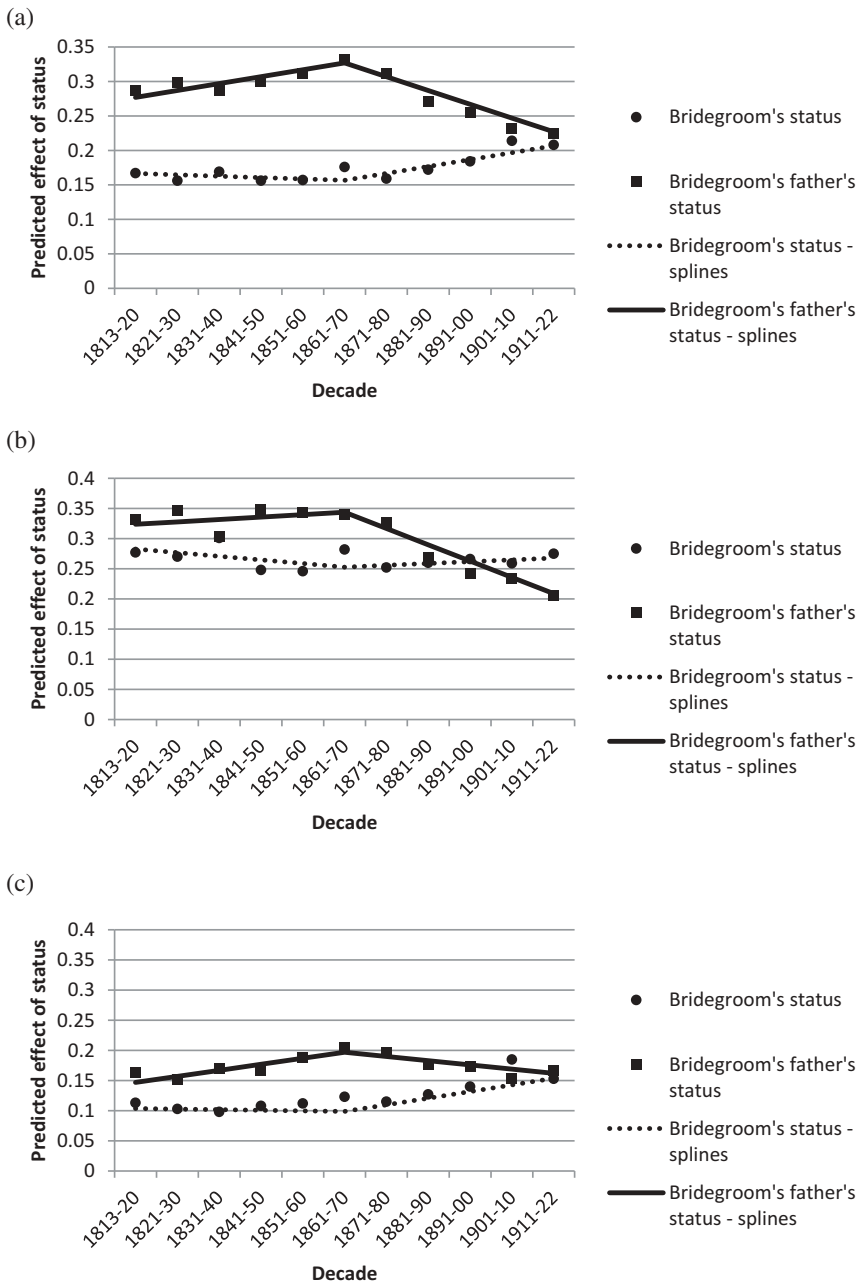
We proceed by testing the hypotheses about the trends in the effects of the bridegroom's status and the bridegroom's father's status (H1, H3, and H5). We estimated two

models: one with the separate effects of these variables for each decade and one with splines for the periods prior to and after 1865. The results are shown in [Figure 1\(a\)](#) (for the complete model see [Appendix A](#)). The splines fit the patterns of change in the effects very well. Until 1865, the effect of the bridegroom's father's status increases by 0.010 per decade and the effect of the bridegroom's status does not change significantly. After 1865, the effect of the bridegroom's father's status decreases by 0.020 per decade and the effect of the bridegroom's status increases by 0.010.

The decrease in the effect of the bridegroom's father's status combined with the increase in the effect of the bridegroom's status after 1865 supports the status-attainment hypothesis (H3). The trends indicate that modernization coincided with a shift from ascription to achievement when making marital choices. The romantic-love hypothesis (H1) is not supported, because it states that the effects of the bridegroom's status and the bridegroom's father's status both decreased after 1865. According to the combined hypothesis (H5), after 1865 the effect of the bridegroom's status should first increase and later decrease. Such an inverse U-shape is not visible in [Figure 1](#). It should be noted that the increase in the effect of the bridegroom's father's status before 1865 is not consistent with any of the hypotheses, which all predict stability in the period before modernization really took off.

In [Figures 1\(b\)](#) and [1\(c\)](#), the trends in the effects of the bridegroom's status and the bridegroom's father's status are shown for marriages outside the agricultural sector and marriages that involve at least one person from within the sector (the bridegroom, the bridegroom's father, and/or the bride's father). The changes in the effects after 1865 are slightly different for both groups; whereas the bridegroom's father's status became less important for partner choice in both groups, the bridegroom's status only became more important within the agricultural sector. Outside the agricultural sector, the effect of the bridegroom's status was more important over the whole period than within the agricultural sector. The effect of the bridegroom's father's status also decreased faster outside the agricultural sector. As a result, the bridegroom's status was clearly more important for partner choice outside the agricultural sector at the end of the observed period, but this was not the case within the agricultural sector – or at least, not yet. The unexpected increase in the effect of the bridegroom's father's status that took place before 1865 is observed only in the agricultural sector. Our conclusion with respect to the hypotheses remains the same: a shift from ascription to achievement took place after 1865. However, outside the agricultural sector this shift was mainly driven by a decline in the importance of the bridegroom's father's status, whereas within the agricultural sector ascription declined but achievement increased as well. All in all, the status-attainment hypothesis is supported.

Before adding the contextual variables to the model, we first estimate the trend model on the restricted period (1858–1890). Since the decades observed surround the turning point in the effects of the bridegroom's status and the bridegroom's father's status (compare [Figure 1](#)), we do not observe significant changes in the effects during this period (Model 1 in [Table 3](#)). There are, however, large differences between municipalities in the degree of modernization that potentially affect homogamy. Model 2 relates the modernization indicators linearly to the effects of the bridegroom's status and the bridegroom's father's status, and Model 3 models the curve-linear relationships between modernization



**Figure 1.** Changes in the effects of the bridegroom’s father’s status and the bridegroom’s status (1813–1922) for: (a) the total population ( $n = 389,979$ ); (b) outside the agricultural sector (bridegroom, bridegroom’s father, and bride’s father are not members;  $n = 182,885$ ); (c) within the agricultural sector (bridegroom, bridegroom’s father, and/or bride’s father is a member;  $n = 207,094$ ).

Note: For the models, see Appendices A and B.

**Table 3.** Results of multilevel linear regression models: regressing status of bride's father on characteristics of the bridegroom and indicators of modernization, N = 100,603 (1858–1890).

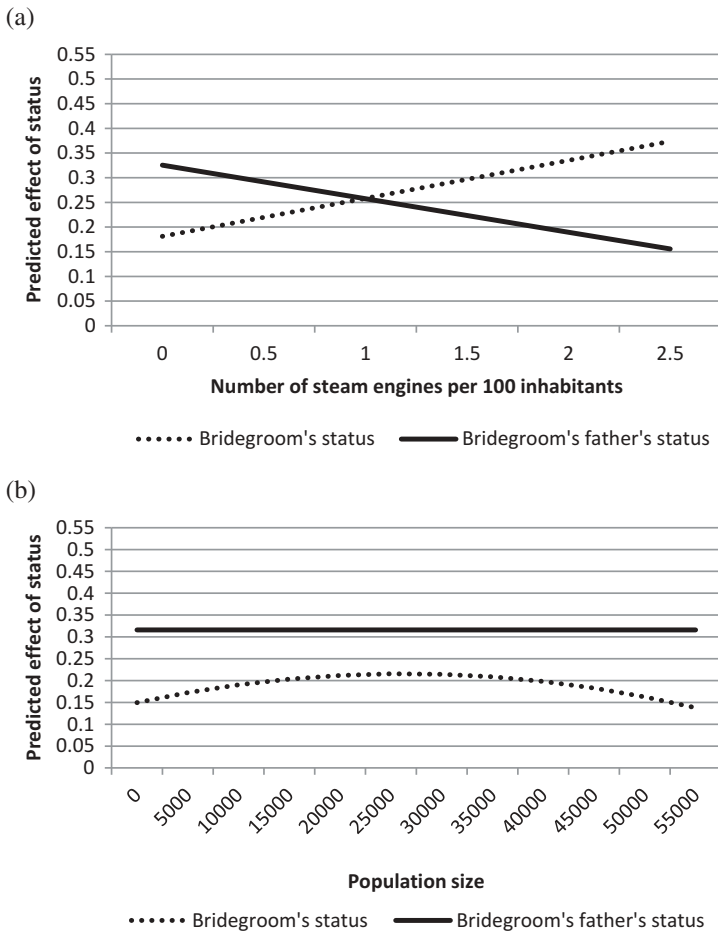
	Model 1		Model 2		Model 3		Model 4	
	B	p	B	p	B	p	B	P
Intercept	49.381	0.000	49.300	0.000	49.304	0.000	49.389	0.000
Status bridegroom's father (1858-1862)	0.312	0.000	0.316	0.000	0.325	0.000	0.316	0.000
* 1863-1872	0.023	0.142	0.030	0.059	0.028	0.077	0.029	0.061
* 1873-1882	0.003	0.838	0.019	0.235	0.016	0.328	0.019	0.249
* 1883-1890	-0.028	0.072	-0.008	0.664	-0.013	0.465	-0.008	0.625
* number of steam engines pp*100			-0.069	0.031	-0.013	0.811	-0.068	0.032
* number of steam engines pp*100 <sup>2</sup>					-0.066	0.216		
* students in secondary education pp*100			-0.016	0.264	-0.037	0.142	-0.017	0.252
* students in secondary education pp*100 <sup>2</sup>					0.007	0.348		
* presence of a post office			-0.027	0.145	-0.029	0.152	-0.026	0.172
* presence of a train station			-0.010	0.533	-0.009	0.559	-0.009	0.551
* population size/1,000			0.002	0.194	0.002	0.198	0.002	0.240
* population size/1,000 <sup>2</sup>					-0.000	0.596		
Status bridegroom (1858-1862)	0.161	0.000	0.171	0.000	0.193	0.000	0.192	0.000
* 1863-1872	0.016	0.116	0.010	0.321	0.010	0.312	0.010	0.313
* 1873-1882	0.002	0.801	-0.014	0.190	-0.013	0.219	-0.013	0.212
* 1883-1890	0.007	0.486	-0.017	0.144	-0.015	0.199	-0.015	0.188
* number of steam engines pp*100			0.076	0.001	0.079	0.036	0.077	0.001
* number of steam engines pp*100 <sup>2</sup>					-0.001	0.982		
* students in secondary education pp*100			0.010	0.356	0.019	0.310	0.011	0.286
* students in secondary education pp*100 <sup>2</sup>					-0.003	0.564		
* presence of a post office			0.088	0.000	0.077	0.000	0.078	0.000
* presence of a train station			-0.006	0.610	-0.008	0.464	-0.008	0.466
* population size/1,000			0.001	0.393	0.003	0.067	0.003	0.041
* population size/1,000 <sup>2</sup>					-0.000	0.037	-0.000 <sup>1</sup>	0.030
Bridegroom's age	0.032	0.000	0.032	0.000	0.032	0.000	0.032	0.000
Year of marriage (ref. = 1858-1862):								
1863-1872	0.030	0.688	0.018	0.815	0.042	0.598	0.019	0.804
1873-1882	-0.133	0.067	-0.164	0.048	-0.117	0.170	-0.160	0.054
1883-1890	-0.393	0.000	-0.437	0.000	-0.391	0.000	-0.427	0.000
Number of steam engines pp*100			-0.055	0.775	-0.449	0.149	-0.046	0.812
Number of steam engines pp*100 <sup>2</sup>					0.519	0.062		
Students in secondary education pp*100			0.029	0.736	-0.188	0.189	0.032	0.703
Students in secondary education pp*100 <sup>2</sup>					0.094	0.042		
Presence of a post office			0.355	0.002	0.332	0.006	0.311	0.009
Presence of a train station			0.032	0.703	0.045	0.594	0.021	0.806
Population size/1,000			-0.005	0.573	0.013	0.328	0.005	0.671
Population size/1,000 <sup>2</sup>					-0.000	0.303	-0.000	0.345
Individual-level variance	46.462	0.000	46.470	0.000	46.468	0.000	46.472	0.000
Municipal-level variance	0.762	0.000	0.722	0.000	0.742	0.000	0.726	0.000
Context-level variance	0.022	0.453	0.022	0.453	0.017	0.561	0.020	0.488
Mun. var. slope status bridegroom's father	0.007	0.000	0.008	0.000	0.008	0.000	0.008	0.000
Cont. var. slope status bridegroom's father	0.055	0.000	0.055	0.000	0.055	0.000	0.055	0.000
Mun. var. slope status bridegroom	0.008	0.000	0.006	0.000	0.006	0.000	0.006	0.000
Cont. var. slope status bridegroom	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000

All continuous independent variables are centered around the mean.

<sup>1</sup> -0.000095

and these effects. Model 4 is a final model that estimates the curve-linear effects only if they are significantly different from zero in the complete model.

As expected, the effect of the bridegroom's father's status decreases with industrialization, as indicated by the number of steam engines ( $B = -0.068$ ; see Model 4 in Table 3). The decrease with industrialization is best modeled as linear (see also Figure 2). In the municipalities with no steam engines, the estimated effect of the bridegroom's father's status is 0.33.



**Figure 2.** Changes in the effect of the bridegroom's status and the bridegroom's father's status on the bride's father's status with (a) industrialization; (b) population size (Table 3, Model 4).

The average couple got married in a municipality with on average 0.14 steam engines per 100 inhabitants. For them, the estimated effect of the bridegroom's father's status is slightly lower at 0.32.<sup>7</sup> The highest number of steam engines observed is 2.45. In such a municipality, the estimated effect of the bridegroom's father's status drops to 0.16. Whereas the bridegroom's father's status loses importance with industrialization, the bridegroom's status gains importance ( $B = 0.077$ ). Its effect rises from 0.18 in municipalities without steam engines to 0.19 for the average couple and 0.37 in the most industrialized context. These two patterns together are precisely as predicted by the status-attainment hypothesis: with industrialization, ascribed status became less important and achieved status more important (H4). At a degree of industrialization of about 1.00 steam engines per 100 inhabitants, the bridegroom's status becomes more important than the bridegroom's father's status for marrying a bride of a certain status.

None of the other modernization indicators are associated with the effect of the bridegroom's father's status. Educational expansion and the presence of a train station are not related to the effect of the bridegroom's status either, but the presence of a post



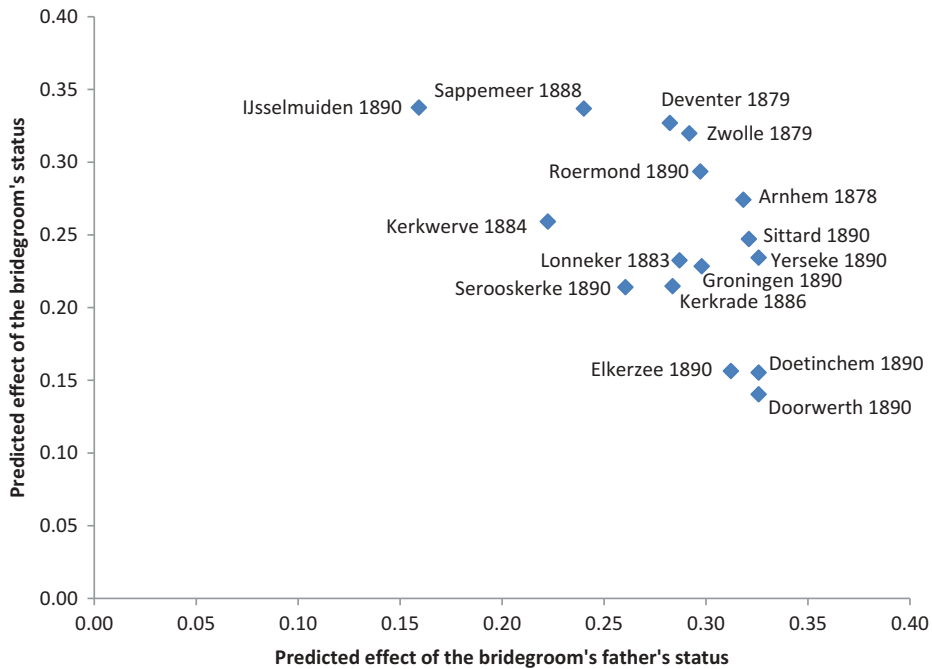
office and the population size of the municipality are. In municipalities with a post office, the effect of the bridegroom's status is 0.08 larger than in municipalities without a post office. Achievement gains importance with modernization, which supports part of the status-attainment hypothesis (H4b). Note however that the combined hypothesis cannot be tested using this dichotomous indicator of modernization.

The effect of the bridegroom's status is curve-linearly related to the population size of the municipality; it first increases and then decreases. In the smallest municipalities (210 inhabitants), the predicted effect is 0.16. The effect increases until the population size reaches 26,369 inhabitants, at which point it peaks at 0.22. In the largest municipality (56,410 inhabitants), the predicted effect of the bridegroom's status on the bride's father's status is only 0.14. This curve-linear relationship supports the combined hypothesis: with modernization, the effect of the bridegroom's status first increases and then decreases.

Figure 2 clearly shows how, according to our model, the individual indicators of modernization are related to the effects of the bridegroom's status and the bridegroom's father's status on the bride's father's status. However, it ignores the fact that different aspects of modernization often go hand in hand; the greater the degree of industrialization in a certain municipality, the higher the likelihood that there was also a post office and a school, and that it was a city rather than a small village. In Figure 3 we therefore show how the different aspects of modernization work together in predicting the importance of the bridegroom's father's status and the bridegroom's status in partner choice. We selected a small village (Doorwerth in 1890) with no modernization whatsoever (at least in the way we measure it), and a slightly larger municipality with only a post office (Yerseke in 1890), and continued in this way until we reached the city of Deventer in 1879 (with 3.4 students and 0.65 steam engines per 100 inhabitants, a post office, a train station, and over 19,000 inhabitants). We also included less obvious combinations, such as Doetinchem in 1890, a municipality with only 3600 inhabitants but 6 students per 100 inhabitants, and without a post office or a train station.

Figure 3 shows a negative relationship between the predicted importance of the bridegroom's father's status and the bridegroom's status in partner choice. In times and places where the effect of the bridegroom's status is weak, the effect of the bridegroom's father's status is strong. This is the case with Doorwerth and Elkerzee in 1890. Both were very small villages without signs of modernization, except that in Elkerzee there was 1 steam engine (for a population of about 500). At the other end of the spectrum the effect of bridegroom's status is strong and that of bridegroom's father's status relatively weak. This is the case in IJsselmuiden in 1890, which was a small place at the time with only 2200 inhabitants. Although it had no post office, train station, or secondary school, it is the most industrialized context in our data with 2.45 steam engines per 100 inhabitants. Sappemeer in 1888 shows a very similar predicted effect of the bridegroom's status and – to a lesser extent – the bridegroom's father's status. In all other respects, however, it differs from IJsselmuiden; its population was more than double that of IJsselmuiden's, and it had a train station, a post office, and 1 steam engine per 100 inhabitants, while 1 youngster per 100 inhabitants attended secondary school. Different patterns of modernization thus caused rather similar patterns of partner choice.

The cities of Deventer and Zwolle in 1879 show strong homogamy with respect to both the bridegroom's status and the bridegroom's father's status. Both had a population of around 20,000, which is close to the population size for which the model predicts



**Figure 3.** Examples of how different contexts result in variations in the effects of the bridegroom's status and the bridegroom's father's status (Table 3, Model 4).

the strongest effect of the bridegroom's status. With 3.4 and 2.0 students per 100 inhabitants, respectively, they also score comparatively high on educational expansion. Both cities had a post office and a train station, but had only a moderate degree of industrialization.

Finally, the difference between Groningen on the one hand and Deventer and Zwolle on the other nicely illustrates the curve-linear effect of the population size. Groningen was a much larger city, with around 55,000 inhabitants at that time. This population size exceeds the level at which the effect of the bridegroom's status is predicted to be the largest (see Figure 2), while Deventer and Zwolle are much closer to this upper value. Therefore, Groningen can be found in the middle of Figure 3 whereas the smaller cities of Deventer and Zwolle are at the top, where the predicted effect of the bridegroom's status is strongest.

## 7. Discussion and conclusion

We started out by asking how modernization affected the likelihood of women and men of similar status marrying each other. The *romantic-love hypothesis* and the *status-attainment hypothesis* predict partly different effects. According to the status-attainment hypothesis, status would remain an important determinant of partner choice, but with modernization and over time ascribed status would be replaced with achieved status. According to the romantic-love hypothesis, both ascribed and achieved status would lose importance with modernization and over time. Since the two hypotheses rely on

different processes occurring during modernization, they might both be true. In that case, the expected changes in partner choice would depend on which process occurred first. According to Smits et al. (1998), who formulated this combined hypothesis, the shift from ascription to achievement took place first, causing the importance of achieved characteristics to first increase and then later decrease, whereas the importance of ascribed characteristics would continuously decrease with modernization and over time.

We find strong support for the status-attainment hypothesis. From 1865 onward – the period when modernization processes accelerated – the bridegroom's status became a more important predictor of marrying a high-status spouse and the bridegroom's father's status became less important. The changes are substantial; whereas in the mid-nineteenth century the bridegroom's father's status was twice as important as the bridegroom's status, at the beginning of the twentieth century they were equally important. The increase in the importance of the bridegroom's status is only observed 'within' the agricultural sector. However, this is defined as at least one of the men involved (the bridegroom's father, the bride's father, and/or the bridegroom) working in this sector. It might well be that the increasing importance of the bridegroom's status was caused by an increasing number of farmer's sons pursuing a career outside agriculture. Studying the relationship between intergenerational mobility and partner choice is, however, beyond the scope of this study.

When we relate partner choices to indicators of modernization there is further support for the status-attainment hypothesis, as increasing industrialization coincided with a shift from ascription to achievement. However, there are also indications of support for the romantic-love hypothesis; in the larger cities, the importance of the bridegroom's status lessened. The pattern is similar to that described in the combined hypothesis: first an increase and then a decrease in the effect of achieved status with modernization. In other words, at lower degrees of modernization what we see chiefly is a shift from ascription to achievement, but at higher degrees the growing importance of individualistic values rendered all status characteristics less important for partner choice. At a certain point the latter development becomes stronger than the former, and the effect of the bridegroom's status starts to decrease. Although we observe the expected curve-linear development of the effect of the bridegroom's status, contrary to the hypothesis we do not observe a continuous decrease in the importance of the bridegroom's father's status with increasing population size.

The determinants of partner choice did not vary with educational expansion and access to mass transport. We expected that traveling around and working away from the place in which one's family lived would foster individualistic values and a shift from ascription to achievement. There are several potential explanations for not finding these effects. First, perhaps too few people used the train to travel to work and to visit other places. Second, travel also increased the scope for finding a partner from the same status group. Especially for smaller groups (e.g. the elite), the number of potential partners in one's own municipality might have been small, but the railway network would have increased the possibility of marrying homogamously. The absence of an effect of educational expansion might have to do with this process being in a relatively early phase. Few children attended secondary schools, even in 1922. Knigge et al. (2014) did not find that educational expansion had an effect on intergenerational mobility either.

Since we only have dichotomous indicators of mass communication and mass transport, we are unable to investigate exactly how these aspects of modernization related to partner choice. Here we touch upon a relative weakness of our data; although we study trends over a very long period, we can relate partner choice directly to modernization only for a shorter period – namely, the first few decades of modernization. This shorter period does not allow us to test whether or not time trends can be explained by changes in modernization, and although we operationalize several aspects of modernization, some measures are not detailed enough to allow a strong test of our hypotheses. As a consequence, we are left with a puzzling finding. Before 1865, when modernization was restricted to a few aspects (e.g. there was some urbanization) and occurred slowly (e.g. developments in mass transport), we observe the increasing importance of the bridegroom's father's status. This trend toward the increasing importance of ascription reversed when modernization began. Similar developments have also been shown for intergenerational mobility in several other European countries (e.g. Knigge et al., 2014; Maas & van Leeuwen, 2016) and for partner choice in Belgium (van Leeuwen et al., this issue). There thus seem to be two tasks for future research – first, to extend the analyses further back in time in order to explain this unexpected turn, and second, to extend the analyses forward in time to connect the period we have studied to the period studied by Smits et al. (1998). Perhaps our period shows little support for the romantic-love hypothesis because it covers only early modernization. If so, an extension of the period should reveal more curve-linear relationships between modernization and the effects of the bridegroom's status and the bridegroom's father's status.

For now, although we studied the second half of the nineteenth century instead of the second half of the twentieth century, and although we compared municipalities within a country over time instead of comparing countries at approximately the same time point, we reach conclusions that are at least partly similar to those of Smits et al. (1998). Both a shift from ascription to achievement and a general weakening of status-based marriage choices occurred during modernization. For the former we find strong support, but for the latter only an indication. To the extent that both processes took place within the period we observed, the shift from ascription to achievement occurred in the context of lower degrees of modernization compared to the breakthrough in romantic love, resulting in a linear decrease in the importance of ascribed characteristics and a curve-linear, inverse U-shape relationship between achieved characteristics and modernization.

## Notes

1. Many authors describe modernization processes in the Netherlands, but since we use the same indicators as Knigge et al. (2014) we rely here on their description. More general information on the Netherlands can be found in van der Bie and Dehing (1999) and Knippenberg and de Pater (2002). For more specific studies, on the economy, see Wintle (2000) and van Zanden and van Riel (2004); on demography, see Ekamper et al. (2003), Kok (2014), van Poppel (1992), and van Poppel et al. (2001); and on education, see Boekholt and de Booy (1987) and Mandemakers (1996).
2. The first train in the Netherlands came into operation in 1839, but its railroad was outside the region we are studying.

3. Note that it is difficult to pinpoint the start of such a complex system of societal changes. In another article, using different sources on modernization processes, we suggest that modernization started somewhat later (around 1875; see Maas and van Leeuwen 2016).
4. Smits et al. (1998) also argue that a curve-linear relationship (inverse U-shaped) can be expected because modernization is related to income inequality in such a way. Income inequality in turn increases the importance of status considerations in partner choice because there is more at stake in an unequal society. This reasoning is less useful to us, however, since it does not distinguish between the importance of ascribed and achieved status.
5. The GENLIAS data originate from the Regionaal Historisch Centrum Limburg (released 7 June 2006), the Historisch Centrum Overijssel (released 7 April 2005), the Gelders Archief (released 1 November 2006), the Zeeuws Archief (released 28 June 2004), the Groninger Archieven (released 16 March 2007), and the Drents Archief (released August 2010).
6. All values above 6.29 (ranging from 12.08 to 13.65) refer to 25 marriages in Rolde in the period 1879 to 1885. When we include these cases, the effect of the bridegroom's status varies curve-linearly (inverse U-shaped) with educational expansion.
7. This is the main effect of the bridegroom's father's status in the model, which refers to a municipality with average educational expansion, industrialization, and population size (calculated at the level of married couples), without a post office, without a train station, and in the first period observed (1858–1862).

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## Disclosure statement

No potential conflict of interest was reported by the authors.

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## Appendix A

**Table A1.** Results of multilevel linear regression models: regression status of bride's father on characteristics of the bridegroom and time trends in effect of father's status and bridegroom's status, N = 389,979 (1813–1922).

	B	p	B	p
Intercept	49.728	0.000	49.720	0.000
Status bridegroom's father (1813-1822)	0.287	0.000		
* 1823-1832	0.011	0.448		
* 1833-1842	0.000	0.998		
* 1843-1852	0.013	0.400		
* 1853-1862	0.025	0.094		
* 1863-1872	0.045	0.002		
* 1873-1882	0.025	0.081		
* 1883-1892	-0.016	0.235		
* 1893-1902	-0.032	0.017		
* 1903-1912	-0.056	0.000		
* 1913-1922	-0.063	0.000		
Status bridegroom's father 1813			0.275	0.000
* year/10 (1813-1865)			0.010	0.000
* year/10 (1866-1922)			-0.020	0.000
Status bridegroom (1813-1822)	0.167	0.000		
* 1823-1832	-0.011	0.304		
* 1833-1842	0.002	0.810		
* 1843-1852	-0.011	0.296		
* 1853-1862	-0.010	0.320		
* 1863-1872	0.009	0.373		
* 1873-1882	-0.008	0.423		
* 1883-1892	0.005	0.632		
* 1893-1902	0.017	0.067		
* 1903-1912	0.047	0.000		
* 1913-1922	0.041	0.000		
Status bridegroom 1813			0.167	0.000
* year/10 (1813-1865)			-0.002	0.183
* year/10 (1866-1922)			0.010	0.000
Bridegroom's age	0.029	0.000	0.029	0.000
Year of marriage (ref. = 1813-1822):				
1823-1832	-0.154	0.052		
1833-1842	-0.175	0.023		
1843-1852	-0.392	0.000		
1853-1862	-0.369	0.000		
1863-1872	-0.355	0.000		
1873-1882	-0.547	0.000		
1883-1892	-0.817	0.000		
1893-1902	-0.993	0.000		
1903-1912	-1.141	0.000		
1913-1922	-1.194	0.000		
Year/10 (1813-1865)			-0.076	0.000
Year/10 (1866-1922)			-0.159	0.000
Individual-level variance	51.891	0.000	51.891	0.000
Municipal-level variance	0.785	0.000	0.786	0.000
Contextual-level variance	0.120	0.000	0.121	0.000
Mun. var. slope status bridegroom's father	0.004	0.000	0.004	0.000
Cont. var. slope status bridegroom's father	0.047	0.000	0.047	0.000
Mun. var. slope status bridegroom	0.005	0.000	0.005	0.000
Cont. var. slope status bridegroom	0.021	0.000	0.021	0.000

All continuous independent variables are centered around the mean.

## Appendix B: Separate analyses for bridegrooms outside and inside the agricultural sector.

**Table B1.** Results of multilevel linear regression models: regression status of bride's father on characteristics of the bridegroom and time trends in effect of father's status and bridegroom's status, outside the agricultural sector, N = 182,885 (1813–1922).

	B	p	B	p
Intercept	50.486	0.000	50.578	0.000
Status bridegroom's father (1813-1822)	0.332	0.000		
* 1823-1832	0.015	0.522		
* 1833-1842	-0.028	0.214		
* 1843-1852	0.016	0.489		
* 1853-1862	0.011	0.641		
* 1863-1872	0.008	0.720		
* 1873-1882	-0.005	0.818		
* 1883-1892	-0.063	0.003		
* 1893-1902	-0.090	0.000		
* 1903-1912	-0.099	0.000		
* 1913-1922	-0.127	0.000		
Status bridegroom's father 1813			0.323	0.000
* year/10 (1813-1865)			0.004	0.215
* year/10 (1866-1922)			-0.027	0.000
Status bridegroom (1813-1822)	0.277	0.000		
* 1823-1832	-0.007	0.747		
* 1833-1842	0.024	0.227		
* 1843-1852	-0.029	0.151		
* 1853-1862	-0.031	0.125		
* 1863-18172	0.005	0.782		
* 1873-1882	-0.025	0.192		
* 1883-1892	-0.017	0.370		
* 1893-1902	-0.011	0.533		
* 1903-1912	-0.018	0.322		
* 1913-1922	-0.002	0.890		
Status bridegroom 1813			0.284	0.000
* year/10 (1813-1865)			-0.006	0.049
* year/10 (1866-1922)			0.003	0.184
Bridegroom's age	0.043	0.000	0.043	0.000
Year of marriage (ref. = 1813-1822):				
1823-1832	-0.280	0.060		
1833-1842	-0.286	0.043		
1843-1852	-0.581	0.000		
1853-1862	-0.612	0.000		
1863-1872	-0.739	0.000		
1873-1882	-0.897	0.000		
1883-1892	-1.314	0.000		
1893-1902	-1.359	0.000		
1903-1912	-1.240	0.000		
1913-1922	-1.301	0.000		
Year/10 (1813-1865)			-0.178	0.000
Year/10 (1866-1922)			-0.106	0.000
Individual-level variance	67.466	0.000	67.472	0.000
Municipal-level variance	1.997	0.000	2.012	0.000
Contextual-level variance	0.000		0.004	0.899
Mun. var. slope status bridegroom's father	0.003	0.000	0.003	0.000
Cont. var. slope status bridegroom's father	0.047	0.000	0.047	0.000
Mun. var. slope status bridegroom	0.008	0.000	0.008	0.000
Cont. var. slope status bridegroom	0.037	0.000	0.037	0.000

### Notes:

- All continuous independent variables are centered around the mean.
- 'Outside the agricultural sector' is defined as neither bridegroom, bridegroom's father, nor bride's father are in HISCO major group 6.
- In the first model the parameter for contextual-level variance of the intercept is redundant (significance cannot be computed).

**Table B2.** Results of multilevel linear regression models: regression status of bride's father on characteristics of the bridegroom and time trends in effect of father's status and bridegroom's status, inside the agricultural sector, N = 207,094 (1813–1922).

	B	p	B	p
Intercept	49.416	0.000	49.252	0.000
Status bridegroom's father (1813-1822)	0.164	0.000		
* 1823-1832	-0.013	0.433		
* 1833-1842	0.006	0.695		
* 1843-1852	0.002	0.896		
* 1853-1862	0.025	0.137		
* 1863-1872	0.041	0.015		
* 1873-1882	0.033	0.042		
* 1883-1892	0.012	0.448		
* 1893-1902	0.009	0.537		
* 1903-1912	-0.011	0.437		
* 1913-1922	0.003	0.824		
Status bridegroom's father 1813			0.145	0.000
* year/10 (1813-1865)			0.010	0.000
* year/10 (1866-1922)			-0.007	0.000
Status bridegroom (1813-1822)	0.113	0.000		
* 1823-1832	-0.010	0.332		
* 1833-1842	-0.015	0.157		
* 1843-1852	-0.005	0.667		
* 1853-1862	-0.001	0.919		
* 1863-1872	0.010	0.366		
* 1873-1882	0.002	0.849		
* 1883-1892	0.014	0.152		
* 1893-1902	0.027	0.007		
* 1903-1912	0.072	0.000		
* 1913-1922	0.040	0.000		
Status bridegroom 1813			0.104	0.000
* year/10 (1813-1865)			0.001	0.419
* year/10 (1866-1922)			0.011	0.000
Bridegroom's age	0.026	0.000	0.026	0.000
Year of marriage (ref. = 1813-1822):				
1823-1832	-0.173	0.045		
1833-1842	-0.245	0.004		
1843-1852	-0.329	0.000		
1853-1862	-0.207	0.017		
1863-1872	-0.152	0.079		
1873-1882	-0.284	0.001		
1883-1892	-0.341	0.000		
1893-1902	-0.603	0.000		
1903-1912	-0.913	0.000		
1913-1922	-1.008	0.000		
Year/10 (1813-1865)			-0.007	0.616
Year/10 (1866-1922)			-0.160	0.000
Individual-level variance	33.338	0.000	33.339	0.000
Municipal-level variance	1.472	0.000	1.466	0.000
Context-level variance	0.640	0.000	0.646	0.000
Mun. var. slope status bridegroom's father	0.016	0.000	0.016	0.000
Cont. var. slope status bridegroom's father	0.035	0.000	0.035	0.000
Mun. var. slope status bridegroom	0.005	0.000	0.005	0.000
Cont. var. slope status bridegroom	0.021	0.000	0.021	0.000

## Notes:

- All continuous independent variables are centered around the mean.
- 'Inside the agricultural sector' is defined as neither bridegroom, bridegroom's father, nor bride's father are in HISCO major group 6.