Is Gender Inequality Greater at Lower or Higher Educational Levels? Common Patterns in the Netherlands, Sweden, and the United States

Abstract

We compare how gender inequality varies by educational level in the Netherlands, Sweden, and the United States, representing three different welfare regimes: the conservative, the social democratic, and the liberal. With few exceptions, gender inequality in labor force participation, work hours, occupational segregation, and housework are less severe as education goes up in all three countries, with the root cause being the high employment levels of well-educated women. Despite a common pattern across nations, we note that the educational gradient on gender equality in employment is weaker in Sweden. De-familialization policies in Sweden no doubt increase gender equality at the bottom by pulling less-educated women into the work force. One form of gender
equality, wages, however, does not increase with education. In the United States, educational differences in the gender gap in wages are trivial; in Sweden and the Netherlands, the gender wage gap is greatest for the highly educated because of higher returns to education for men than women in these nations.

Introduction

One view of the interaction of gender and class is that working class women have always had to work for pay, and this has made working class and poor families more gender egalitarian, if less stable. But women’s employment in the United States has increased most rapidly among the best educated women (Chinhui and Murphy 1997), despite the fact that they are more likely than less-educated women to have higher earning spouses. In both the United States and Europe today, women with more education are more likely to be employed (England, Garcia-Beaulieu and Ross 2004; Rubery, Smith and Fagan 1999). As we will show for the three nations, this is also the case when one focuses only on cohabiting or married women with children younger than 18 years of age. This is of interest because married, well-educated mothers typically have well-educated and thus high-earning spouses, and we might expect their partners’ high earnings to lower their employment. But, as we will show, while motherhood affects their employment, well-educated women are more likely to be employed than their less educated counterparts.

We explore how gender inequality varies by education level (and, thus, roughly by socioeconomic level) for the three nations with very different policies and situations as regards women’s employment, family, and social welfare—the Netherlands, Sweden, and the United States. In each nation, we compare the employment rates and paid work hours of women of different educational levels, as well as how their employment rates and hours worked compared with men of their education level. Our broad hypothesis is that education increases women’s employment, and the higher employment levels of well-educated women lead to greater gender equalities in wages, occupations, and housework. We focus on employment, hours worked, and wages because these three factors are the proximate determinants of women’s earned income, which can be seen as an indicator of their resources in the labor market, and may also affect their power at home. We also examine occupational segregation, both because occupation is a determinant of earnings and because it can be seen as a form of gender inequality in its own right, even if women and men work similar hours and have similar wages. Finally, to further tap gender inequality in the household, we
include hours spent on housework for women and men. Hence, in this paper, we take a comprehensive look at gender equality by focusing not only on differences in the labor market but also in the home. Although earlier research has focused on one or two of these indicators, we know of no study where multiple indicators have been used to study overall gender inequality in different educational groups. In addition, we study these differences through the lenses of three different welfare regime contexts.

Specifically, we start by comparing women’s levels and gender differentials in employment, hours worked per week for pay, wage rates, occupation, and housework. In the concluding multivariate analyses, we take spouse and family characteristics into account when we estimate equations that (a) predict labor force participation of women and men as a function of education, spousal earnings, and number of children and (b) predict the hours spent in housework as a function of education, number of children, and spouse’s paid work hours. We limit all our analyses (except those pertaining to occupational segregation by gender) to cohabiting or married men and women, and limit our descriptive analyses to cohabiting or married individuals 25–54 years of age with at least one child younger than eighteen years of age (our regression analyses add number of children as a variable). Given that better educated women have their first child later (Hoem and Kreyenfeld 2006; Liefbroer and Corijn 1999; Rindfuss, Morgan and Offutt 1996), we want to make sure that the educational differences in employment that we show are not driven entirely by the higher rate of childlessness among young better educated women. Rather we are interested in educational differences in employment—and its consequences—when people have children. By limiting our descriptive analyses to parents and controlling for children in regressions, we ensure that we are showing educational differences among partnered parents, not from the greater delay in child bearing by more educated women.

Why study how gender equality varies by education among partnered parents in three welfare regimes? We suggest two compelling reasons, both more easily understood when one remembers the strong tendency of marital homogamy; women tend to be partnered with men of a similar educational level. First, when women’s employment and earnings (relative to men’s) are higher, it provides them and their children with economic security in the event that they break up with their male partner (Orloff 1993), and means that they lose less from a breakup. Thus, a greater gender gap in employment and earnings among those with less education would imply that women with less education lose proportionately more upon divorce or breakup. Welfare regimes that facilitate the employment and income of less-educated women (relative to men at the same educational level)
thereby reduce the economic impact of divorce or breakup on women. This is important since divorce rates are higher among the less educated (Hoem 1996; Martin 2006). Second, even when relationships are enduring, it hurts women to have lower earnings relative to their partners if relative earnings affect power relations within the couple, as proposed by sociological exchange theories or economists’ bargaining theories from game theory (Bittman et al. 2003; England and Kilbourne 1990; Evertsson and Nermo 2004; Hobson 1990; Lundberg and Pollak 1996). According to these theories, the family is seen as a unit consisting of two or more agents with preferences that sometimes differ (Lundberg and Pollak 1996). The greater one’s resources vis-à-vis the spouse’s, the more one is likely to win out in negotiations when the spouses’ preferences conflict. For example, research indicates that earnings help partners negotiate away parts of the routine housework (e.g. Bittman et al. 2003; Evertsson and Nermo 2004). Thus, if, at least in some welfare regimes, there is more gender inequality in employment and earnings at lower educational levels, this suggests a greater power disparity within couples where both have less education than where both have more education. One of our main research questions, then, is whether the social democratic welfare regime will eliminate differences in gender inequality between different educational groups (while differences remain in the liberal and conservative regimes). The alternative hypothesis is that gender inequality is greater among the less educated in each of the three nations.

The paper proceeds as follows. First, we briefly discuss theories making predictions about how education relates to women’s employment. We then describe the different gender regimes in place in the three nations we compare, with special attention to social welfare policies. We describe our data sources, variables, and methods. Then we compare how education groups vary in the difference between gender-specific averages on each of our outcome indicators (labor force participation, earnings, occupation, and housework). We also discuss regressions predicting labor force participation and housework from education and family variables. We close with a discussion of the theoretical implications of these patterns for the intersection of class and gender, and for policies related to women’s employment.

Background and Past Research

The Effects of Opportunity Cost and Income on Women’s Employment

How would we expect employment to vary with women’s education? Economic theory offers two competing principles—opportunity
cost (price) and income effects. Women with more education have higher earning power. Thus, the opportunity cost of nonemployment—the amount of money they would give up if they stayed home—is higher for them. Economists call this a “price of time” effect; those who can earn more have to give up more to stay out of employment. Because of this, we expect higher employment among the well educated. However, the income effect says that women whose husbands have higher incomes may be able to afford to stay home with children. Given marital homogamy, the tendency to marry persons of similar education and earning power, these two effects operate at cross purposes. The highly educated woman typically has the higher earning husband, so her own education encourages her employment, while his earnings discourage it. Among women with lower education, their own low earning power discourages employment, while the typically low income of their husband encourages it. It is an empirical question which effect predominates. In a more sociological vein, higher education may also encourage women’s employment by providing access to interesting identity-enhancing work, and by promoting egalitarian gender ideologies. For the United States, Cohen and Bianchi (1999) show that, over recent decades, the positive effect of women’s own education on their employment has increased steadily, while the negative effect of husband’s income on women’s employment has weakened. In a similar vein, Henz and Sundström (2001) find that Swedish mothers’ own earnings have a larger impact on their employment than do husbands’ earnings, and that the latter effect has decreased over time. Although these two studies point in the same direction, differences between countries have been found; Brynin and Schupp (2000) find that the higher the education of the man, the less likely his spouse is to be employed in Germany (but not in Britain), controlling for the woman’s own education. On the other hand, they find that in Britain (but not in Germany), the higher her education, the more likely she is to be employed, controlling for her spouse’s education.

Examples of Three Welfare Regimes: the Netherlands, Sweden, and the United States

Our three cases, the Netherlands, Sweden, and United States, often figure in the theoretical welfare state literature as exemplars of distinct welfare state models. Esping-Andersen’s (1990) The Three Worlds of Welfare Capitalism deploys the neo-Marxist concept of de-commodification. He sees social welfare policies that provide income maintenance as insurance against unemployment, disability, and retirement as ways to “de-commodify” what would otherwise
be a problematic dependence on capitalist employers (Esping-Andersen 1990). In his classification, the United States is the paradigmatic case of a liberal market model with high dependency on the market and little guarantee of a minimum income. Sweden is the prime example of a social democratic regime with less dependency of individuals on the market system because of the availability of substantial income and services from the state. The third type in his typology is the corporatist political economies; the Netherlands is often a prime example (as is Germany). Here, social benefits depend almost entirely on having paid taxes through payroll deductions (hence, in order to reap the benefits, one has to work for pay) and as a result, de-commodification, at least for men, is lower than in the social-democratic regime but higher than in the liberal regime.

In more recent work, as a response to feminist critique (e.g. O’Connor 1993; Orloff 1993; Sainsbury 1994), Esping-Andersen discusses welfare regimes in terms of de-familialization strategies (Esping-Andersen 1999). Lister (1994) was the first to use the term de-familialization and define it as “... the degree to which individuals can uphold a socially acceptable standard of living independently of family relationships, either through paid work or social security provision” (Lister 1994, 37). Hence, de-familialization decreases a woman’s economic dependency on her spouse by facilitating her paid employment mainly through state- or market-provided provision of care for children and elders. By adding this conception to the categorization schema, the welfare state typology recognizes the lives and living conditions of women in different welfare regimes. 1

Most scholars agree that state provision of child care—as part of a de-familialization strategy—encourages gender equality through encouraging female employment (Gornick and Meyers 2003; Pettit and Hook 2005; Uunk, Kalmijn and Muffels 2005). When women earn little more than the cost of child care, they have little incentive to be employed. Women with low education are most likely to have potential earnings low enough to make work not pay when child care is a private responsibility, as in the United States. Also, in countries such as the Netherlands, a shortage of full-time licensed child care institutions and cultural norms prioritizing the parental care of children make it more likely that mothers of all social strata will take considerable time out of the labor market. Although the impact of child care on women’s employment may be obvious, what is less clear is the impact of parental leave policies on gender equality. One view is that parental leaves made available to women and men will be used mostly by women, and thus lessen women’s employment continuity and thereby their earnings (Bergmann 2006).
A second position sees parental leaves, at least if they are short, to encourage women’s employment in the long run because parental leave policies generally include requirements that employers hold the person’s job until after the leave is completed, thus salvaging seniority rights (Gornick and Meyers 2003; Rønsen and Sundström 2002). Although women’s overall employment is higher in countries providing parents the right to paid leave with job security, there appears to be a wage penalty associated with this right (Mandel and Semyonov 2005; Ruhm 1998). De-familialization and the role of the welfare state as an employer in social democratic regimes may work to the advantage of women with little education. By offering women jobs in education and care and by relieving women of the all-day care of elders and children in the family, the welfare state as an employer stimulates women’s gainful employment. Also, by offering decent wages for low-skilled work and a work environment that is more understanding and allowing of absences for family reasons, social democratic regimes may particularly stimulate employment among less-educated women (Mandel and Shalev, forthcoming). As mentioned earlier, this is important as less-educated women often fare the worst after a divorce. However, a negative consequence for gender equality of a large public sector is that it encourages women to cluster in female-typed jobs with few career prospects, thus increasing gender segregation in the labor market (e.g. Padavic and Reskin 2002).

Our three cases provide strong contrasts in policy. Through the 1970s, the Netherlands had a strong male breadwinner model (Lewis 1992) with no publicly funded child care services and low labor market participation by women. It was only in the late 1980s that the male breadwinner logic started to lose ground in explicit policy discussions as policy-makers favored restructuring the welfare state; child care began to be seen as encouraging the competitiveness of the economy through bringing more women into the labor force and reducing income maintenance payments. However, rather than abolishing the male breadwinner model, the Netherlands has modernized it, creating a ‘one-and-a-half-earner’ model that restructures women’s time while leaving men’s untouched (cf. Lewis and Giullari 2006; Morgan 2006). High childcare costs combined with generous tax deductions for breadwinners with dependents encourages mothers to withdraw from employment or to work short part-time (Visser 2003; Beaujot and Liu 2002). Almost 60 percent of all women in the adult labor force work part-time and the proportion is even higher among mothers (OECD 2006). Most child care places are part-time and almost no children are in child care for four or five days a week (Morgan 2006). Hence, with its remaining high
preferences for the maternal care of pre-school children, the Netherlands employs a primary caregiver/secondary earner strategy, expecting women to be caregivers first and foremost, and earners only secondarily and part-time (Misra, Budig and Moller 2007; cf. Fraser 1994).

In Sweden, women’s employment has gained strong support since the 1960s. Important policy changes were the introduction (in 1971) of split taxation, the parental leave insurance replacing maternity leave (in 1974), and the expansion of the public sector which not only created jobs for women in care and education, but also resulted in widespread high quality, heavily subsidized public child care. As a consequence, 66 percent of children of age 0–3 are in licensed child care in Sweden compared with 29 percent in the Netherlands and 38 percent in the United States (OECD 2006). All in all, the societal changes that took place in Sweden contributed to a strong increase in women’s, and in particular mothers’, employment. Due to the policies encouraging both women and men to be earners and care providers (Hobson, Duvander and Halldén 2006), Sweden is sometimes described as having an earner-carer strategy (Misra, Budig and Moller 2007; Sainsbury 1999).

In the United States, on the other hand, policies have hardly changed since the 1970s, except to make welfare for single mothers more difficult to receive, culminating in welfare reforms in 1996. The American system heavily favors private solutions to the work–family conflict; child care is expensive and, apart from some tax subsidies cushioning parents from the full cost of it, public funds to defray child care costs are available only to the very poorest (Morgan 2006). As of the 1993 Family and Medical Leave Act (FLMA), parents have the right to twelve weeks of unpaid leave. However, only employers with more than fifty employees are required to provide this leave. The American strategy has been to aim for a universal-breadwinner model or a primary earner model in which women, like men, belong in paid work, but women are expected to do caregiving alongside paid work. Few family/work policies are available to lessen the tension between family and work; the main policy initiative to help women’s success in employment and earnings has been equal employment policies that make sex discrimination by employers illegal (Misra, Budig and Moller 2007; O’Connor 1999; Sainsbury 1999).

In light of these regime differences, a comparison of the degree of gender equality among cohabiting-married women and men with different educational levels is challenging and worthwhile. According to the opportunity costs argument, we would expect to find a common pattern in all three nations considered; better
educated women and mothers are more likely to be employed and thus to accumulate more experience, to work more hours in paid labor and, because wage rates go up with experience, to have higher hourly wages. If higher earning women do less housework, then we would expect this for well-educated women as well. As a consequence, gender inequality of all sorts should be greater in lower social strata where women with less education are concentrated. However, the three countries chosen exemplify very different welfare state regimes in which the degree to which mothers—the focus of our study—are de-familialized differ. It is an empirical question if we will find the same pattern in all three countries or if, for example, the social democratic regime, through provision of child care which makes less-educated women’s work pay, does a better job of neutralizing gender inequality among those with less education than the other regimes. Although earlier research shows that the high prevalence of part-time jobs in the Netherlands has made possible the increase in mothers’ labor force participation, we do not expect this to necessarily translate into higher overall gender equality. When women’s work is organized as part-time—and in particular short part-time work—the degree of de-familialization is moderate at most. Hence, we might expect to find greater differences in gender inequality by educational level in the Netherlands than in the United States where the full-time work of women is more common.

Data and Methods

We use data from three nations, the Netherlands, Sweden, and the United States. We examine data on several indicators relevant to gender inequality: labor force participation, hours worked for pay among the employed, hourly wage, housework (excluding child care), and occupational segregation.

The Dutch data come from the 2000 wave of the Organisatie voor Strategisch Arbeidsmarktonderzoek Labor Supply Panel (hereafter OSA), collected by the Institute for Labor Studies in the Netherlands. Every two years since 1985, interviews were conducted with a probability sample of the working population between sixteen and sixty-four years old. (For more information, see http://www.tilburguniversity.nl/osa/datasets/.) We take all our variables for the Netherlands from this data set.

The Swedish data we use on labor force participation, hours worked, earnings, and occupation come from the Swedish Survey of Living Conditions (ULF). Since 1975, Statistics Sweden has conducted face-to-face interviews with a random sample of the
population on topics such as employment, education, housing conditions, health, social relations and more. To achieve a sufficiently large N to support our comparisons, we pool the cross-sections from 2000 and 2001.

The information on housework hours for Sweden comes from the Swedish Level of Living Survey (LNU) in 2000. Starting in 1968, respondents from a probability sample of Swedish households were interviewed about their living conditions in several areas (with re-interviews in 1974, 1981, 1991, and 2000). In the year 2000, the sample is based on 1/1000 of the Swedish population between eighteen and seventy-five years of age. (For more information, see http://www.sofi.su.se/LNU2000/english.htm.)

For the United States, our data on labor market participation, hours, and pay come from the 2000 US Census 5% Public Use Microdata Sample (PUMS), as provided by the IPUMS project (Integrated Public Use Microdata Series, Ruggles et al. 2004). (See http://www.ipums.org for description.)

For information on US household work, we use the American Time Use Survey (ATUS). The ATUS sample is drawn from households that have completed their final month of interviews for the Current Population Survey. One individual from each selected household is chosen to participate in the ATUS. (See http://www.bls.gov/tus/ for more information.)

Our data on occupation for the United States come from the March 2000 Current Population Survey (CPS). The March CPS is conducted annually by the Bureau of the Census for the Bureau of Labor Statistics. (For more information, see http://www.census.gov/cps/.)

**Occupational Gender Segregation Index**

We examine the degree of occupational gender segregation in our three education groups of interest for all women and men (not only cohabiting/married couples with children). We use the most conventional indicator of segregation, $D$, the index of dissimilarity. In one of the more intuitive ways the formula can be expressed, its numerator is the proportion of women that would have to change occupation in order to constitute the same proportion of each occupation that they constitute of the employed population as a whole; in this way it “adjusts out” the effect of what percent of women are in the labor force. The denominator of $D$ is the maximum number of such integrative “trades” possible starting from complete segregation (Massey and Denton 1988). The denominator is maximized when the labor force is half women. $D$ is implicitly weighted; that is, larger occupations affect it more than smaller occupations, which is
appropriate if we want to know how segregated the experience of the average man or woman is.

In all the graphs presented in this paper, we restrict the samples to individuals who are aged 25–54, married or cohabitating and have at least one child less than eighteen years of age in the household. As explained above, the reason for doing this is that we want to examine the relationships between education and women’s labor force participation (and things that flow from it) without having the relationships driven entirely by the later marriage and child bearing (and therefore higher rates of childlessness in early adulthood) of women with more education. We include all adults in our calculations of occupational sex segregation by education since our sample sizes for the Netherlands and Sweden are too small to sustain the analysis delimited by age and family status. Our regression analyses are limited to cohabiting or married individuals, but in them we include persons with no children and enter dummy variables for number of children.

**Variables**

*Education.* Those who completed less than high school (called gymnasium in the Netherlands and Sweden) are in the low education category. Those who completed high school only, or attended some college but did not get a college degree, are in the medium category. Those with a completed college or university degree are the highest education group. This is a standard way of measuring education for US data, and corresponds with the Dutch Standard Education Classification (Standard Onderwijs Indeling) and the Swedish equivalent (Svensk utbildningsnomenklatur) SUN of 1979 and 1986. Table 1 shows the percentage of women and men in each education group in our three nations. It is worth noting that Americans, both women and men, are, on average, the most educated, and the Dutch, both women and men, the least educated of the three nations. Swedes have an intermediate level of education.

*Labor force participation.* For the Netherlands, the variable indicating the current labor force status is based on information reported at the time of the interview. For Sweden, and the United States, this variable is based on information regarding activities the week before the interview. In all cases, “in the labor force” includes people actively employed part- or full-time in civilian jobs, those employed by the armed forces, the unemployed who are actively seeking employment, and those who hold a job but are temporarily not at work. The latter category includes those on vacation or sick leave, and also includes those on parental leave from their current job.
Weekly hours worked (for the employed). The hours worked per week for the Netherlands, and Sweden, is based on ordinary work hours in main occupation for the employed, self-employed, and farmers. For the United States, work hours is the usual hours that respondents report they worked in 1999 in all jobs (for the employed, self-employed, and farmers). For most workers with consistent schedules in one job, these definitions converge.

Hourly wage. For the Netherlands, hourly wage refers to the before-tax hourly wage of employed individuals. For Sweden, hourly wage is based on information from the respondent regarding monthly before tax earnings and average weekly work hours. For both the Netherlands and Sweden, we use data on purchasing power parity (PPP) to convert monthly wages to US dollars. (See www.oecd.org/std/ppp for more information regarding PPP.) Hourly earnings for the United States is calculated from before tax annual earnings divided by the product of usual hours per week and weeks worked in 1999. For all three countries, we exclude those not employed from analyses of wages. Self-employed persons and farmers are also excluded from wage analyses as we lack information on these groups for Sweden. Moreover, these groups can adjust their own wage in ways that are not optimal for analyses like these.

Housework. For the Netherlands, household work hours are based on respondents’ report of the amount of time they ordinarily spend per week on each of the following specific types of household work: (a) cleaning, cooking, doing the dishes; (b) washing, ironing, and care of clothing, and (c) other household work that is done daily. Household work hours for Sweden are based on data from LNU and are based on respondents’ reports of how much time they

Table 1. Percentage of Cohabiting/Married Women and Men 25–54 Years of Age with Children Less than Eighteen Years of Age in Each Education Group by Nation.

<table>
<thead>
<tr>
<th>Education</th>
<th>Women NL</th>
<th>Women SWE</th>
<th>Women US</th>
<th>Men NL</th>
<th>Men SWE</th>
<th>Men US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>44</td>
<td>13</td>
<td>11</td>
<td>39</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>High school</td>
<td>38</td>
<td>68</td>
<td>60</td>
<td>36</td>
<td>65</td>
<td>57</td>
</tr>
<tr>
<td>College or more</td>
<td>18</td>
<td>19</td>
<td>29</td>
<td>25</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>N</td>
<td>618</td>
<td>1,426</td>
<td>1,096,025</td>
<td>692</td>
<td>1,329</td>
<td>1,081,278</td>
</tr>
</tbody>
</table>
ordinarily spend per week (a) shopping for groceries, cooking, doing the dishes, (b) doing laundry, ironing, and other care of clothing, and (c) cleaning. While the Netherlands and Swedish household work data are reports by respondents of how much they ordinarily spend in specific tasks (sometimes called “stylized questions,”) for the United States, the housework hours are based on time-diary data where respondents are asked to report the amount of time they spent on each of a number of specific tasks on one day in the last week. Studies have shown that relationships between variables are similar from the two types of data sources (Marini and Shelton 1993), although time budgets tend to result in lower reported hours of housework. The US measures include time spent on (a) interior cleaning, (b) laundry, (c) sewing, repairing, and maintaining textiles, (d) storing interior household items including food, (e) food preparation, presentation, and clean up, and (f) shopping.

Results

In order to get an understanding of how and to what extent gender inequality differs by education groups in our three country contexts, we use indicators such as labor force participation, hours worked in paid labor, hourly wage, and time spent in unpaid household work. In the following, we first show how absolute levels of these variables vary by education, separately for men and women within each nation. We then show how women’s position relative to men’s varies by education and nation. Our focus is on the latter, how the degree of gender inequality varies between the three education groups and whether any education gradient on gender inequality varies by nation.

How does education affect men and women’s labor force participation in our three country contexts? Figure 1 shows a similar pattern for all three nations. Women with a university or college degree are more likely to be in the labor force than women with a high school degree, and these women, in turn, are more likely to be in the labor force than those who did not complete high school (gymnasium). A positive relationship also exists for men; however, the differences between education groups are much more pronounced for women than for men. In the United States, the largest contrast for women is between the lowest education group and all other women.

In figure 2, the ratio of women’s to men’s labor force participation is presented for each education group. A higher ratio means more gender equality. For all three nations, we see a monotonic
relationship such that in successively higher education groups women’s participation is closer to that of men. The one exception is that, in the United States, the ratio of women’s to men’s participation is the same for those with medium and high education (women are employed about three-quarters as much as men). Women’s labor force participation is higher in Sweden than in the other nations both absolutely and relative to men’s (women’s is over
80 percent of men’s for all education groups and over 90 percent of men’s for the highest education group). Despite various national differences, a commonality is that women’s labor force participation goes up with education in all three nations, both absolutely and relative to men’s.

Next, we turn to work hours among the employed and compare median weekly hours worked for pay by education group, nation, and sex. In figure 3, the step-wise pattern emerges for women in the Netherlands and Sweden. In these countries, highly educated employed women work more hours each week than medium and low-educated women do. For the United States, there is no difference in work hours among women in the three educational groups; they all have a median of 40 hours per week. Dutch women work many fewer hours than Swedish and American women; part-time employment predominates. When it comes to men, there are few differences in median work hours among the employed. In the Netherlands, highly educated men even work slightly fewer hours than medium and low-educated men do, whereas in the United States, highly educated men work 5 hours more.

In figure 4, the ratio of employed women’s to men’s median work hours is compared for our three education groups and nations. For the Netherlands and Sweden, we again see the step-wise pattern as the ratio of women’s to men’s work hours is higher among the highly educated than among the medium and low educated. But in the United States, the female/male ratio is smaller among the highly
educated than among the other two categories because all men and women have a median of 40 hours except the most educated men, who work 45 hours. High-level jobs often demand long hours for success, and given the extreme inequality of the US income distribution, despite the fact that the men at the top do not need the extra income as much as others in the economy, their incentive to extend hours beyond 40 h so as to be among the top paid is very high. In sum, gender equality in hours worked among the employed is greater at higher education levels in the Netherlands and Sweden, but this is not true in the United States.

Figure 5 examines median hourly wage rates in the current job for women and men by education and nation. In all three nations, wages go up with education for both sexes, with the biggest step being from medium to high education. Wage returns to education—i.e. wage inequality between education groups—is greatest in the United States.

The ratio of women’s to men’s median hourly wage is shown in figure 6. The United States shows slightly higher gender equality at higher education levels, but, while this is the direction, the ratios of women’s to men’s wages between the US education groups vary little (from 0.64 to 0.68). Although the differences in the gap by education are quite small, past research shows them to be consistently in this direction for decades. Specifically, Evertsson et al. (2007) found a smaller gender wage gap among the most educated group of Americans for every year from 1965 to 2001.
Turning to Sweden and the Netherlands, figure 6 shows that individuals at the highest education levels have the smallest ratio of women’s to men’s wages. That is, in these two nations the gender wage gap is actually worst among the most highly educated. There
are no difference in the gender wage gap between low and medium educated in Sweden but in the Netherlands, the low educated in fact have the smallest gender wage gap in our sample. Past research on Sweden (Albrecht, Björklund and Vroman 2003) and the Netherlands (Albrecht, van Vuren and Vroman 2004) has found a larger gender gap in wages among those at the highest educational level; these findings reflect higher returns to education for men than women in these nations.

Although wages are related to the occupations that women and men have, they may or may not closely reflect the degree to which women and men can be found in the same occupations. In table 2, we examine how occupational sex segregation, measured by $D$, the index of dissimilarity, varies with the level of education. In all three nations, occupational segregation is lowest among the most highly educated, and with one small exception (the contrast between the least and middle educated groups in the United States) the relationship is monotonic. Consequently, when it comes to occupational segregation, our findings suggest that gender inequality is lower among the more highly educated. The results also indicate that overall occupational segregation is lower in the United States than in the Netherlands or Sweden.

Does the greater gender equality at higher education levels in labor force participation affect how housework is divided? In the final graphs, we study gender equality in the home; median hours spent on housework each week are shown for women and men in figure 7. The expected pattern is clear for women; less-educated women in all three nations spend more time in housework than highly educated women. For the Netherlands, there is no difference in hours spent in housework between the low and medium educated women, but the difference between medium and highly educated women is as expected.

What do we expect for men? Hours spent in housework might decrease by educational level, given that it is in part a function of hours spent in paid work. However, earlier research suggests that,

Table 2. Occupational Sex Segregation by Level of Education for three Nations (using the ISCO88 occupation code). D statistic.

<table>
<thead>
<tr>
<th>Education</th>
<th>NL</th>
<th>SWE</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>0.76</td>
<td>0.71</td>
<td>0.52</td>
</tr>
<tr>
<td>High school</td>
<td>0.68</td>
<td>0.60</td>
<td>0.55</td>
</tr>
<tr>
<td>College or more</td>
<td>0.51</td>
<td>0.48</td>
<td>0.42</td>
</tr>
</tbody>
</table>
ceteris paribus, highly educated men spend more time in housework than men with low levels of education (e.g. Coverman 1985; Gershuny and Sullivan 2003), possibly reflecting their more gender egalitarian attitudes (Knudsen and Waerness 2001). In Sweden, the latter hypothesis appears to be supported as low-educated men are the ones who spend the least time in housework. In the United States, however, men’s housework to some extent follows the logic based on paid work hours as time spent in housework decreases by educational level. For Dutch men, there is no difference in time spent in housework, as all men, independent of education, average five hours per week in housework. In all three nations, women’s household work is much higher and varies much more by education than men’s. As with labor force participation, by comparison to education differences among women, the housework differences by education among men are very small.

Does more education promote gender equality in housework? Figure 8 shows that, in the main, this is true. Here, opposite to other graphs, a lower ratio indicates more gender equality (since women do more housework than men). While the ratio of women’s to men’s housework does not always move down as we move to successive education levels, it either stays the same or goes down. For Sweden and the United States, the biggest gender difference can be found comparing the least educated to both other groups. Swedish and
American women in the lowest education group do about four times the housework that men in their education group do; in contrast, the ratio is about 3 for the higher education groups in the United States and 2–2.5 in Sweden. In the Netherlands, gender inequality in housework is more or less invariant by education; in all groups, women spend at least four times the time men spend in housework. This undoubtedly reflects the fact that a majority of Dutch women work part-time.

So far, we have looked at gender differences in a descriptive way, comparing education groups in the Netherlands, Sweden, and the United States. Although single findings are not always clear-cut, results by and large indicate that gender equality is higher among the highly educated than among the low educated. However, do these findings still hold if we use a multivariate approach, controlling for spouses’ characteristics and number of children?

Table 3 shows odds ratios from our logistic regressions predicting labor force participation separately by nation and sex. The odds ratios show the ratio of the odds of labor force participation in one group to the odds of labor force participation in another group (i.e. the reference category), holding all other variables constant. For continuous variables, odds ratios reveal the change in the odds of labor force participation for a one unit change in the independent variable. Positive relationships are indicated by odds ratios over 1, negative relationships by odds ratios between 0 and 1, and 1.00 indicates no effect. It is initially worth noting that the number of cases for each
Table 3. Logistic Regression Predicting Labor Force Participation for Cohabiting/Married Individuals 25–54 Years of Age. (Odds Ratios).

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th></th>
<th></th>
<th>Men</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NL</td>
<td>SWE</td>
<td>US</td>
<td>NL</td>
<td>SWE</td>
<td>US</td>
</tr>
<tr>
<td>No children (ref.)</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>1 child</td>
<td>0.954</td>
<td>1.177</td>
<td>0.813***</td>
<td>2.715</td>
<td>1.655</td>
<td>1.309***</td>
</tr>
<tr>
<td>2 children</td>
<td>0.669*</td>
<td>0.873</td>
<td>0.651***</td>
<td>5.533**</td>
<td>1.944**</td>
<td>1.468***</td>
</tr>
<tr>
<td>3+ children</td>
<td>0.390***</td>
<td>0.505***</td>
<td>0.445***</td>
<td>3.078</td>
<td>1.518</td>
<td>1.339***</td>
</tr>
<tr>
<td>Spouse’s earnings</td>
<td>0.991**</td>
<td>1.022***</td>
<td>1.004***</td>
<td>0.967*</td>
<td>1.038***</td>
<td>1.020***</td>
</tr>
<tr>
<td>Low education</td>
<td>0.441***</td>
<td>0.492***</td>
<td>0.397***</td>
<td>0.526</td>
<td>0.836</td>
<td>0.412***</td>
</tr>
<tr>
<td>Medium educ. (ref.)</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>High education</td>
<td>2.617***</td>
<td>1.259</td>
<td>1.359***</td>
<td>10.458</td>
<td>6.633***</td>
<td>1.722***</td>
</tr>
<tr>
<td>Pseudo-$R^2$</td>
<td>0.06</td>
<td>0.064</td>
<td>0.069</td>
<td>0.101</td>
<td>0.060</td>
<td>0.082</td>
</tr>
<tr>
<td>N</td>
<td>718</td>
<td>2,211</td>
<td>1,949,693</td>
<td>562</td>
<td>1,949</td>
<td>1,750,236</td>
</tr>
</tbody>
</table>

*p < 0.10; two-tailed test.

**p < 0.05; two-tailed test.

***p < 0.01; two-tailed test.
country differs considerably. The US number of cases is largest (based on a 5 percent sample of the Census). Mainly due to the large sample size for the United States, all estimates are significant at the 0.01 level.

Our interest is in the net effects of education on employment after controlling for spouse’s earnings and the number of children. For all three nations, coefficients indicate that men and women in successively higher education groups are more likely to be in the labor force, although, for Dutch men and Swedes of both sexes, not all the comparisons are statistically significant, probably reflecting the smaller sample size.

The models show that children deter women’s labor force participation to some extent in all three nations. In the United States, even one child has a deterrent effect, with more children deterring even more. In contrast, it is not until women have two children in the Netherlands and three children in Sweden that there is a restraining effect. Recall, however, that women on parental leave in Sweden and the Netherlands are counted as in the labor force when they are on leave from their current job. In Sweden, women have the right to more than four hundred days of parental leave with 80 percent of their pay. In the Netherlands, each parent has the right to six months unpaid parental leave on a part-time basis. In contrast, in the United States, women only have the right to short unpaid leaves of twelve weeks (and many women are in firms too small to be covered by the law); thus more US women quit their job when they have a child and many Dutch and Swedish women out on leave show up in these regressions as in the labor force. This might be the reason why the odds of being in the labor force decreases more clearly monotonically with the number of children in the United States than in Sweden, for instance. For men, the pattern is less consistent, although, in all three countries, men with two children are more likely to be in the labor force than men with no children. This reflects gendered specialization in which men respond to the income needs of children by taking on more employment while women take on more care responsibilities.

Due to the household income effects, we might expect that women with high earning spouses would be more likely to stay at home, especially holding constant their own education (women’s education and husbands’ earnings suppress each others’ effects due to marital homogamy, as discussed above). But our results show that this is largely a thing of the past everywhere but in the Netherlands. For both the United States and Sweden, male partners’ higher earnings do not keep women at home (or, to put the same thing another way, men’s low earnings do not pull women into paid work). Also,
Swedish and American men are slightly more likely to participate if their wives have higher earnings whereas Dutch men are less likely to take part in paid labor the higher the wage of their wife.

Table 4 shows results from an OLS regression predicting household work hours. The estimates show the expected change in household hours for a unit increase in the independent variable (i.e. for categorical variables a change from 0, the reference category, to the category coded 1), holding all other variables constant. The independent variables are the same as in the above model with the exception that spouse’s paid work hours are used instead of spouse’s earnings. We do not control for the respondent’s own work hours because we want to include effects of education reducing housework that flow through its effects on employment. We predict that having a partner with more paid work hours will increase the respondent’s housework because the more hours the spouse (or cohabiting partner) spends in paid labor, the less time he/she has available for housework and consequently, the more time the respondent may have to spend in housework. Partners’ work hours have the predicted significant positive effect for American and Dutch, but not Swedish, women and men. The biggest effect on housework time is the number of children in the household; these effects are much larger for women than men.

Our main interest is in educational differences in time spent in housework. As education goes up, women do less housework. (The comparisons are generally significant; see table 4.) This may reflect the fact that more of the highly educated are employed (recall that own paid work hours are not controlled so as not to partial out this effect). For men, the educational differences are mostly nonsignificant (table 4). The exception is that Swedish men in the least educated group do less housework than the other two groups, despite their lower labor force participation (figure 1). Overall, the findings for women and men, taken together, then, support the idea that women’s housework burden is less relative to men’s as education goes up, consistent with what we saw in figure 8 without controls.

Summary and Conclusion

Is gender inequality—in society and families—more severe as one descends the socioeconomic hierarchy, when the latter is indexed by education? We have shown that this is true on most indicators for three nations, despite their strong differences in social welfare policies and related labor market policies. At the root of the greater gender inequality at lower socioeconomic levels is the fact that less-educated women participate less in the labor force. For
Table 4. OLS Regression of Household Work Hours for Cohabiting/Married Individuals 25–54 Years of Age (Child Care Excluded). (Unstandardized Coefficients).

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th></th>
<th></th>
<th>Men</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NL</td>
<td>SWE</td>
<td>US</td>
<td>NL</td>
<td>SWE</td>
<td>US</td>
</tr>
<tr>
<td>Intercept</td>
<td>17.457***</td>
<td>10.981***</td>
<td>16.494***</td>
<td>3.396***</td>
<td>5.944***</td>
<td>4.810***</td>
</tr>
<tr>
<td>No children</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>1 child</td>
<td>2.713**</td>
<td>4.076***</td>
<td>1.988***</td>
<td>0.727</td>
<td>1.019***</td>
<td>1.631***</td>
</tr>
<tr>
<td>2 children</td>
<td>3.359***</td>
<td>6.003***</td>
<td>3.370***</td>
<td>1.778***</td>
<td>1.591***</td>
<td>1.572***</td>
</tr>
<tr>
<td>3+ children</td>
<td>7.774***</td>
<td>12.226***</td>
<td>4.208***</td>
<td>2.167***</td>
<td>2.230***</td>
<td>0.972**</td>
</tr>
<tr>
<td>Spouse's work hrs</td>
<td>0.059**</td>
<td>0.030</td>
<td>0.045***</td>
<td>0.144***</td>
<td>0.003</td>
<td>0.050***</td>
</tr>
<tr>
<td>Low education</td>
<td>−0.171</td>
<td>5.153***</td>
<td>10.099***</td>
<td>−0.311</td>
<td>−1.229***</td>
<td>0.392</td>
</tr>
<tr>
<td>Medium educ.</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>High education</td>
<td>−3.662***</td>
<td>−1.456*</td>
<td>−1.674***</td>
<td>−0.824</td>
<td>0.181</td>
<td>−0.339</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.092</td>
<td>0.187</td>
<td>0.042</td>
<td>0.075</td>
<td>0.035</td>
<td>0.01</td>
</tr>
<tr>
<td>N</td>
<td>784</td>
<td>1,123</td>
<td>11,049</td>
<td>739</td>
<td>1,074</td>
<td>4,375</td>
</tr>
</tbody>
</table>

* $p < 0.10$; two-tailed tests.
** $p < 0.05$; two-tailed tests.
*** $p < 0.01$; two-tailed tests.
example, in the Netherlands, among those in the lowest education category (less than high school or gymnasium), 60 percent are in the labor force, while the figure for college graduates is 82 percent. In the United States, the comparable figures are 50 and 74 percent, and in Sweden 78 and 94 percent. Given the correlation between partners’ education, women with less education live in families that are more likely to need the income that could be provided from their employment, so we might expect them to be in the labor force more. But, contrary to this expectation, less-educated women work less for pay than more educated women. Women’s labor force participation is closer to that of men’s as education goes up. In both the United States and the Netherlands, women in the least educated group are in the labor force about 60 percent as much as men; this figure rises to about 80 percent for the most educated group. For Sweden, the comparable figures are the smaller differential of between 83 and 95 percent. Among those employed, in both the Netherlands and Sweden (but not the United States), women’s hours worked per week are closer to men’s as education goes up. All three nations also show less occupational segregation at higher education levels.

At every education level, women do more housework than men. However, when we compare within women, reflecting their higher employment rates, more educated women do less housework, absolutely, and relative to men, than do less educated women. This pattern is present in all three nations, but is least strong in the Netherlands where so many women work short part-time hours.

Only one of our indicators—hourly wage—fails to show greater gender equality as we go up the education ladder. Women earn more per hour as education goes up, but, unlike with labor force participation, there is a strong education gradient for men too. We would expect groups of women that are employed more regularly to accumulate more seniority and thereby have higher wage rates relative to men. There is a slight but trivial pattern in that direction in the United States, but the other two countries show, on the contrary, that women have the least wage parity with men in the highest education group.

In concluding, we speculate about the causes of these patterns. First, why does gender equality in labor force participation go up with education? The key to this is simply the strong positive effect of women’s education on their labor force participation, an effect much stronger for women than men. But why are less educated women less likely to work for pay, given that less educated women have lower earning spouses or partners and thus need income more? Most likely, this is because women with more education can get better paying and more meaningful and interesting jobs than other women, and because education inculcates more gender-egalitarian
ideologies. These social and market realities probably explain
the educational gradient on gender equality in being employed, employment hours and, as a result of these differences, on housework, that we found in most cases.

Thus, our results show a similar educational gradient on gender equality across the nations, suggesting that social welfare regimes, in the main, do not override these patterns. However, the deviation of Sweden from some of the patterns common to the other two nations deserves comment. As feminist critics of traditional welfare state models have pointed out, socialization of the costs of child care, as a de-familialization strategy, may be more critical to gender equality than employment-based insurance against loss of income. If the state does not provide subsidized child care, women with low earning power may have little of their paycheck left after child care expenses; in this situation, they gain little from employment. Where the state provides child care, thus socializing its cost, nations not only increase the incentive for women’s employment, but increase it the most for those with low education, since these are the women for whom child care costs would be the highest proportion of earnings. Thus subsidizing child care should reduce the extent to which gender inequality is greater at the bottom of the socioeconomic hierarchy (Rubery, Smith and Fagan 1999). Consistent with this, Sweden, with its strong parental leave and child care provisions, stands out as having the least steep education gradient on gender equality of labor force participation. Sweden also has a more equal distribution of wages than most nations, perhaps owing in part to the increase in workers’ bargaining power engendered by the “de-commodification” programs emphasized by Esping-Andersen. This overall equality pulls up women relative to men as well (e.g. Blau and Kahn 1996), resulting in considerably greater overall gender equality in wages in Sweden than in the United States, for instance. Although the prevalence of part-time jobs facilitates Dutch mothers’ employment and increases gender equality in labor force participation, it does not translate into higher gender inequality in all areas. Women in the Netherlands spend four times the amount of time that men spend on housework each week and there are only small differences between women at different educational levels in this respect.

Whether we look at society at large, or within couples, our overall findings suggest that class or socioeconomic position (as indexed by education) interacts with gender, such that men and women are less unequal at the top in many respects. As a consequence, men and women’s lives are more similar at the top and women are more assimilated into traditionally male activities and privileges—whether the indicator is employment, occupation, or
freedom from housework. It is almost as if higher social class—with its privileges and incentives—neutralizes some, though of course not all, of women’s gender disadvantages. But hourly wages are the exception; the sex gap in hourly wages is no lower at high education levels. Despite the fact that hourly wages do not follow the pattern of more gender equality at higher education levels, annual incomes do, since they are driven so strongly by whether or not women are employed (figures available from authors on request). Thus, among couples where both share high education, her contribution to family income is likely to be higher than what obtains in couples where both share less education, even though her relative wage rate is probably no higher in this situation. The higher annual earnings (relative to male partners) of women at higher educational levels means that these women lose less in the event their relationship breaks up, and it may mean that their bargaining power in relationships is higher than for women with less education.8 Exploring how class differences in gender inequality in employment, relative earnings, and wages affect power in couples’ relationships is an important agenda for future research. As singlehood has increased in recent decades, future research should also explore how education affects gender inequality in the lives of uncoupled men and women.

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1. Today, there are a number of more or less similar welfare regime categorizations, taking gender and social citizenship into account (e.g. Korpi 2000; Misra, Budig and Moller 2007; Sainsbury 1999).

2. Dutch parents contribute nearly 44 percent of the total costs of the public child care (den Dulk 2001).

3. When split taxation is used, women are not taxed at the marginal rates of their husbands’ incomes. Rather, each individual’s tax rate depends upon his or her own earnings.

4. Data from the OSA wave of 2000 showed a striking deviation in the age distribution of the random sample from the real distribution of the age categories in the population. OSA provided a weight to adjust for this, based on the age classification of the Dutch Labor Force Survey (Enquête Beroeps Bevolking) for those between fifteen and sixty-four years old. In these age classifications, students and military service are not taken into consideration. After weighting, the sample is representative by age of the population.

5. Sometimes, as a shorthand, we refer to those in the labor force as “employed,” despite the inclusion of those who are unemployed and actively seeking work in the “labor force” category. The vast majority of the labor force is employed.

6. When studying work hours and wages, as we do here, it is important not to let those with extremely long work hours, or very high earnings, distort the central tendency. In figures 3, 5, and 7, we therefore use the median as a central tendency indicator.

7. In some cases, Dutch women have the right to parental leave with 70 or 80 percent of their pay. This paid parental leave occurs mostly in jobs that are related directly or indirectly to the government (Liefbroer and Puy 2005).

8. Sociologists studying how relative earnings affect bargaining power in couples generally operationalize the variable as women’s annual earnings as a ratio of men’s plus women’s. Here an individual’s earnings are a function of both weeks and hours worked for pay and the wage rate. Economists believe that what is relevant to bargaining power is relative hourly wage rates, on the assumption that one can expand one’s hours at will at the current hourly wage rate. Comparisons of the predictive power of these two specifications are absent in the literature, as far as we know.

REFERENCES


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