Educational Assortative Mating and Gendered Time Allocation in Sweden and the U.S.

Liana Sayer & Maria Stanfors

Department of Sociology, UMD and MPRC

Centre for Economic Demography, Lund University, Sweden

Lsayer@umd.edu & Maria.Stanfors@ekh.lu.se

Background: Since the mid-20th century, scholars have pointed to the role of comparative advantages between partners in determining household division of labor. Becker's specialization theory (1973, 1974) was among the most important early contributions. His theory accounted for the dominance of the male-breadwinner family by emphasizing differences in earnings potential for intra-household specialization and trade. Later contributions endorsed the role of comparative advantages, yet shifted attention away from the male-breadwinner family. With the growing participation of women in education and employment, more gender-neutral accounts of specialization, such as bargaining theory (Manser & Brown 1980) and social exchange theory (Blood & Wolfe 1960) emerged. These perspectives posit the division between paid and unpaid work reflects power and relative resources of husbands and wives. While educational heterogamy, according to theory, is supposed to lead to specialization among partners, educational homogamy is expected to lead to more equal division of labor in the household, particularly among parents.

The theoretical interest in the importance of comparative advantages between partners in determining household division of labor has not been matched by an empirical interest. Empirical research on the division of paid and unpaid labor in the family has mainly studied individual and partner effects, but little is known about the effect of educational assortative mating (EAM), i.e. the effect of educational differences and similarities between partners. Despite its usefulness for the topic in question, time use data has not been much explored. To our knowledge, only two studies have examined associations of relative education on housework, with one finding negative associations of wives' higher relative education on her housework (Bianchi et al. 2000) and one finding no association of relative education on husbands' or wives' housework (Presser 1994). One study has considered how spouse education affects child care and shows that husbands do more child care when wives have a college education, while husbands' own education has weaker associations with their child care (England & Srivastava 2013). Extant studies deal only with the U.S. The limited empirical investigation of EAM on household division of labor is surprising in light of more equal opportunities for men and women in education and employment and the concurrent increase in educational homogamy across Western nations (e.g. Schwartz & Mare 2005; Esteve et al. 2012, 2016). The gap urges an examination of whether there are, in contemporary society, *gender-neutral* specialization patterns emerging in which the partner with the highest education does more paid work and the other does more unpaid work?

The broad aim of this paper is to investigate EAM as a determinant of household division of labor, more specifically of men's and women's daily time use in Sweden and the U.S. and how it has changed since the 1990s. We also address the question if country differences in gender-neutral specialization are emerging with the expectation that Sweden may feature more gender-neutral specialization than the U.S. because it is a frontrunner regarding gender egalitarian division of labor.

Theoretical considerations: The common theme of theories concerning household division of labor is the importance of comparative advantages of partners in the labor market. Parsons (1959) believed the advantage of specialization to be its prevention of disruptive competition for prestige between spouses. Becker (1973, 1974) developed an economic variant of this argument, by asserting that specialization and trade generate complementarity that determines the gain from marriage. The gain to marriage is maximized by negative assortative mating for substitute traits, such as earnings power, but positive assortative mating for traits that are not substitutes in the production of commodity income (Becker 1981). By making this connection with assortative mating, Becker drew attention to the fact that partners' time allocation has to be considered within a couple context. As education determines earnings power, one could hypothesize that the paid work of the higher/lower educated partner increase/decrease from the difference in comparative advantage. This hypothesis is in essence gender-neutral, yet Becker (1981:23) claimed it to be influenced by biological differences, which led him to assign most benefit to a traditional division of labor. In a gender-equal context, the connected comparative advantages could in principle be balanced or even reversed between (young) men and women (Blossfeld & Drobnič 2001:19), implying that educational similarities and differences are expected to go with similarities and differences in paid work. The couple context and differences between partners matter is also emphasized by both bargaining (Lundberg & Pollak 1996) and relative resource (Blood & Wolfe 1960; Brines 1993, 1994; Shelton & John 1996) perspectives where the partner with most power can use that to avoid tasks they do not want to do, like housework.

It has also been argued that family solidarity, in combination with a concern for status maintenance, promotes, rather than minimizes, wives' economic role (Oppenheimer 1997). Women will do more paid work when that can enhance the family's socioeconomic status, meaning that status consistency, but not necessarily equality, should support women's paid work. Nevertheless, in a context of gender equality, this rationale will engender expectations analogous to those based on specialization theory. Both views suggest that women in a heterogamous relationship in which the educational difference is to the advantage of the man/woman will do less/more paid work compared to similarly educated women in a homogamous relationship with implications for the division of unpaid work.

In theory, the difficulty combining work and family necessitates a division of work between partners. As the level of education is a comparative advantage, one may expect a positive association between education and paid work and a negative association with unpaid work. We hypothesize that women in a heterogamous relationship in which the educational difference is to their advantage do more paid

work and less housework and women in a heterogamous relationship in which the educational difference is to the advantage of the man do less paid work and more housework, as compared to similarly educated women in a homogamous relationship. We also anticipate the association of relative education with paid work and unpaid work will differ in Sweden and the U.S. because of the institutional incentives that reward women's paid work and men's unpaid work in Sweden as mechanisms to promote gender equality (Gornick & Meyers 2003; Hook 2010).

Data and methods: We explore the specialization hypothesis and alternatives by analyzing the impact of educational heterogamy on household division of labor across contemporary Sweden and the U.S. Making use of cross-sectional time use data from the Swedish and American Time Use Surveys (SWETUS and ATUS undertaken between 1990 and 2010) on how respondents allocate their time on about 100 different activities within a 24-hour period during weekdays and weekend days, we perform multivariate analysis (OLS). We only exploit primary activities and consider how EAM affects a range of time uses rather than concentrate on one specific activity, which enables us to see whether EAM influences all or just some activities. Our data cover partnered (married and cohabiting) men and women, in prime employment years (25-44), living in two-adult households. Our main dependent variables are paid work, routine housework and childcare. Independent variables of interest are own and couple education (i.e. homogamy vs heterogamy with man higher or woman higher).

Rationale and added contribution: We contribute to the literature by (1) aligning theory on comparative advantages and specialization within partnerships with empirics on the role of educational assortative mating for household division of labor, (2) analyzing both men and women, (3) on daily time use (paid work, housework, child care), (4) in two contexts that share orientation in many ways yet where gender equality is at different stages, female labor force participation, the "deinstitutionalization of marriage" and status of cohabitation vis-à-vis marriage are at different levels and work-family issues receive different institutional support (Stanfors & Goldscheider 2017).

Results: Multivariate analyses establish educational gradients in daily time use in line with expectations for men and women in general (cf. Presser 1994), but less so for parents in Sweden. There is limited impact of EAM on time use in Sweden in 1990 and it is no longer observable in 2000 for women. Women's education is, however important in that there are EAM impacts on men's time use working through their partners' education. EAM is as expected a more important determinant of parents', especially fathers', daily time use and it is growing in importance over time for this latter group. There is no evidence of gender-neutral specialization because results for men are not mirrored by the results for women, but there is evidence in support of bargaining or relative resources where women with higher education affecting their partners' paid work and housework in a direction towards gender equality. Homogamy is, however, consistently associated with more equal time use. We plan to extend our current analysis for Sweden with analysis of 2003 and 2010 ATUS data and compare results for Sweden and the U.S. England & Srivastava (2013) find husbands' child care is

3

influenced by wives' education more strongly than his own education, whereas wives' child care is responsive only to her own education. They consider only child care - not paid work or housework where EAM should matter more, but findings for child care are similar to patterns we observe in Sweden. This indicates that change regarding men's domestic roles starts with child care, and highlights the need for research that examines associations of EAM on the division of labor in a comparative context.

Conclusion: What is the role of the couple's educational composition for household division of labor across Sweden and the U.S.? We only find an impact of educational heterogamy on men's daily time use in Sweden. Homogamy is associated with more equal division of labor. For women, own education (i.e. potential earnings) is more important for time allocation than couple education Our results, nevertheless, show that the impact of heterogamy on men's time use is driven by the woman being more educated, steering their partners towards more equal role sharing over time.

References
Becker, G. (1973). A theory of marriage: part I. *J Political Economy* 81: 813-46.
Becker, G. (1974). A theory of marriage: part II. *J Political Economy* 82: S11-26.
Becker, G. (1981). *A Treatise on the Family*. Harvard University Press.
Bianchi, S. et al. (2000). Is anyone doing the housework? U.S. trends and gender differentials in domestic labor. *Social Forces* 79: 191-228.
Blood, R.O. & Wolfe, D.M. (1960). *Husbands and wives*. Free Press.
Blossfeld, H-P. & Drobnič, S. (2001). *Careers of Couples in Contemporary Society: From Male Breadwinner to Dual-Earner Families*. Oxford University Press.
Brines, J. (1993). The Exchange Value of Housework. *Rationality and Society* 5: 302-40.
Brines, J. (1994). Economic dependency, gender, and the division of labor at home. *American J Sociology* 100: 652-88.
England, P. & Srivastava, A. (2013). Educational differences in US parents' time spent in child care: The role of culture and cross-spouse influence. *Social Science Research* 42: 971-88.
Esteve, A., Garcia-Román, J. & Permanyer, I. (2012). The gender-gap reversal in education and its effect on union formation: The end of hypergamy? *Population Development Rev* 38: 535-46.
Esteve, A. et al. (2016). The end of hypergamy: Global trends and implications. *Population Development Rev* 42: 615-25.
Hook, J. (2010). Gender inequality in the welfare state: task segregation in housework, 1965-2003. *American J Sociology* 115: 1480-523.
Lundberg, S. & Pollak, R. (1996). Bargaining and distribution in marriage. *J Economic Perspectives* 10: 139-58.
Manser, M. & Brown, M. (1980). Marriage and household decision-making: A bargaining analysis. *International Economic Rev* 21: 31-44.
Oppenheimer, V.K. (1997). Women's Employment and the Gain to Marriage: The Specialization and Trading Model, *Annual Rev of Sociology* 23: 431-53.
Parsons, T. (1959). The Social Structure of the Family. In Anshen, R.N. (Ed.) *The Family: Its Function and Destiny*. Harper & Row Publishers,
Presser, H. (1994). Employment schedules among dual-earner spouses and the division of household labor by gender. *American Sociological Rev* 59: 348-64.
Shelton, A. & John, D. (1996). The division of household labor. *Annual Rev Sociology* 22: 299-322.
Schwartz, C. & Mare, R. (2005). Trends in educational assortative marriage from 1940 to 2003. *Demography* 42: 621-46.
Stanfors, M. & Goldscheider, F. (2017). The forest and the trees: Industrialization, demographic change and the ongoing gender revolution in Sweden and the United States, 1870-2010. *Demographic Research* 36: 173-226.

We measure assortative mating in terms of wage potentials. For a low degree of assortative mating (i.e. mat-ing is almost random), our model generates a downward-sloping pattern of wives' hours by the husband's wage. By contrast, this pattern is hump-shaped for more pronounced assortative mating. Within a couple, the e¢ cient time allocation depends on the wage ratio of the two spouses. Most studies have investigated assortative mating in terms of educational attainment and found that husband and wife have become more similar with respect to education over time, see Mare (1991), Kalmijn (1991a), Kalmijn (1991b), Qian and Preston (1993), Pencavel (1998), Qian (1998), Schwartz and Mare (2005) Assortative mating (also referred to as positive assortative mating or homogamy) is a mating pattern and a form of sexual selection in which individuals with similar phenotypes mate with one another more frequently than would be expected under a random mating pattern. Some examples of similar phenotypes are body size, skin coloration, and pigmentation. The opposite of assortative is disassortative mating. Intergenerational Mobility and Assortative Mating: Effects of an Educational Reform. Helena Holmlund. November 2008. 2006). Intergenerational mobility with respect to family income thus incorporates the income of an individual's spouse, and the degree of assortative mating in a society will naturally affect economic mobility. Clearly, if the degree of assortative mating is high, intergenerational mobility will be lower, whereas if couples are formed randomly, mobility will be higher.5 As suggested in Mare (1991), I argue that the school shapes the peer group of individuals, i.e., the peer group in which people meet and form couples. Assortative mating is the tendency for people to choose mates who are more similar (positive) or dissimilar (negative) to themselves in phenotype characteristics than would be expected by chance. If these characteristics are genetically determined, positive assortative mating may increase homozygosity in the population. On the other hand, negative-assortative mating may result in balancing selection and the maintenance of genetic variation. Many assortative mating models do change allele frequencies because the proportion of individuals in the matings differs from the proportion in the population. Similar effects may also occur when flowering time is variable, and only plants that flower simultaneously pollinate each other. Jiang et al. We demonstrate that the observed changes in educational assortative mating can be explained without any change in male or female preferences. We argue that our model provides a useful computational laboratory to explore and quantify the implications of scenarios for the future. This paper presents an agent-based model of union formation and educational assortative mating based on well-established principles of individual mate search. In developing our model, we build on earlier empirical research that has studied the interplay between marriage market constraints and partner preferences in generating patterns of assortative mating [e.g., 12–14] and on earlier simulation work that has centred on human mate search [e.g., 15,16].