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A matter of culture and cost? A comparison of the employment decisions made by mothers with a lower, intermediate and higher level of education in the Netherlands

Mariëlle Cloïn
The Netherlands Institute for Social Research, the Netherlands

Saskia Keuzenkamp
The Netherlands Institute for Social Research and VU University Amsterdam, the Netherlands

Janneke Plantenga
Utrecht University, the Netherlands

Abstract
This article is focused on financial-economic and socio-cultural factors in explaining differences in labour participation and working hours of Dutch mothers with diverging educational levels. The data used are taken from a survey held among approximately 1700 women in the Netherlands from two-parent households with children up to 12 years old. The models for participation and working hours are simultaneously estimated for different levels of education. It is found that socio-cultural factors have slightly more impact on the employment decisions of lower educated mothers compared to their higher educated counterparts, although the differences are only minor. Despite the level of education, socio-cultural factors appear to be more important in mothers' employment decisions than financial-economic factors. In addition, both factors are better predictors for mothers' decisions to participate than for their number of working hours; demographic variables are found to be the most important predictor for mothers' working hours.

Keywords
attitudes, employment, financial incentives, low educated mothers, preferences, social norms

Corresponding author:
Mariëlle Cloïn, The Netherlands Institute for Social Research / SCP, Parnassusplein 5, P.O. Box 16164, 2500 BD The Hague, The Netherlands.
Email: m.cloin@scp.nl

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Introduction

As in the rest of Europe, mothers in the Netherlands are increasingly involved in paid employment. What is unique for the Netherlands, however, is that a large proportion of women are working part-time. In 2006, three-quarters of all women were employed for at least one hour per week work on a part-time basis (Portegijs and Keuzenkamp, 2008). For mothers in two-parent households with young children this figure is as high as 88 per cent. In the Netherlands part-time work is supported institutionally as well as culturally, as is shown, for instance, by the right to adjust working hours and the equal treatment of part-timers in the employment and social protection system (Plantenga, 2002). Also, the prevailing norm in the Netherlands is that a mother ideally works two or three days per week (Meijer et al., 1998; Portegijs and Keuzenkamp, 2008).

Despite the high national rate of employment, the labour market involvement of mothers' labour shows a large degree of variation. As in most western countries, the most marked differences exist between lower and higher educated women (OECD, 2008). In 2006, approximately half of all women with a lower degree of education were active on the labour market. For women with secondary education this rate was 75 per cent, while it was as high as 85 per cent for women with a higher level of education. In addition, the number of working hours goes up with the educational level (Statistics Netherlands, 2008).

Given the specific labour market conditions in the Netherlands, i.e. an overall low unemployment rate and ample opportunities to realise diverse working time preferences, it is interesting to examine why lower educated mothers lag behind their higher educated counterparts. Considering their financial situation, one might expect many lower educated mothers to work in order to maintain a certain standard of living. They are, however, underrepresented in the labour market. Economists will suggest that, due to the low-wage jobs and the costs of childcare, labour participation is financially less appealing for them. Sociologists will point out that traditional norms, attitudes and (lifestyle) preferences may hold lower educated women back as well. This article aims to contribute to the understanding of why lower educated mothers are less likely to work, and once in employment, why they work fewer hours than their higher educated counterparts.

Theoretical framework

The literature on women's employment suggests that there are many factors at play here. At the macro level, the institutionalist approach focuses on cross-country variations in policies and institutions (Jaumotte, 2003; Pettit and Hook, 2005). For instance, Uunk et al. (2005) show that the reduction in working hours after first childbirth is the lowest in countries with a generous public childcare system, after controlling for gender roles and the economic necessity for women to work. As women within countries face more or less the same institutional context, this approach is less useful for the analysis on choices made by women in a single country (Van der Lippe and Van Dijk, 2002). From the micro-economic perspective the focus lies on women's (potential) earnings on the labour market and other financial-economic factors such as spouse income, the tax system and, in the case of mothers, the costs of childcare. Following the theory of labour supply, these studies examine the effects of changes in relative prices on women's decisions between spending time on the labour market earning money and non-market time (i.e. leisure and

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care tasks at home). A central finding from empirical studies is that, as theory would predict, the decision to participate is more sensitive to higher wages than the decision on working hours (Blau and Kahn, 2007; Van Soest and Das, 2001). At the same time, it appears that the responsiveness of women's labour supply to their own and their husbands' wages has decreased over the past decades (Blau and Kahn, 2007). The effects found for non-labour income and childcare costs are less univocal, although childcare costs seem to have a larger impact on working hours than on participation (Blau and Currie, 2004; Blau and Kahn, 2007). Usually, empirical labour supply studies do not account for socio-cultural factors. Studies that do include social norms (Hazan and Maoz, 2002; Van der Lippe and Siegers, 1994) and/or personal preferences (Crompton and Lyonette, 2005; Risman et al., 1999; Stahli et al., 2009) find that these factors help explain women's employment decisions.

In sociology, there is a stronger emphasis on the effects of social norms and gender roles on women's labour market involvement. Women with modern 'egalitarian' attitudes are generally found to work more (hours) than women with traditional attitudes (Bolzendahl and Myers, 2004; Van Wel and Knijn, 2006). The same holds true for the working-mother role model during childhood (Berrington et al., 2008; Myers and Booth, 2002). The most obvious differences in social norms and attitudes exist between working and non-working women. The differences seem much less pronounced among women with varying (part-time) working hours (Kan, 2007; McRae, 2003). In preference theory (Hakim, 1998, 2000, 2002) the emphasis lies on women's personal preferences rather than on general attitudes or social norms. According to this theory, preferences are the main explanatory factor of mothers' employment. However, critics object that women are not freed from economic and macro-cultural constraints (Ginn et al., 1996) or are at least curtailed by 'the boundaries of structural constraints' (Debacker, 2008: 572; Kan, 2007). Due to data limitations, little empirical work has been done on women's personal preferences so far. As an exception, Marks and Houston (2002) found that items with a personal phrasing (for me, in my life) are indeed strong predictors for women's employment outcomes.

An explicit focus on lower educated women in studies is not very common. Some scholars addressing this particular group find that especially lower educated women are sensitive to financial incentives (Anderson and Levine, 1999; Van Soest and Das, 2001), whereas others are not (Blau and Kahn, 2007). Lower educated women are generally found to have traditional views on gender roles (Myers and Booth, 2002), which have a negative effect on their employment (Bolzendahl and Myers, 2004). Some scholars emphasize that education is a strong predictor both for women's attitudes and for their employment (Crompton and Lyonette, 2005; Debacker, 2008; Van Wel and Knijn, 2006).

Although most scholars agree that women's employment has both an economic and a social dimension, many studies focus primarily on one dimension. One reason for this may be that the relationship between financial-economic and socio-cultural variables is often perceived of as reciprocal, working both ways (see for instance Berrington et al., 2008; Kan, 2007). On the one hand norms, attitudes and preferences may influence women's financial-economic outcomes: women can be socialized in a particular social context and opt for a particular lifestyle. As a consequence, they may (willingly) have lower income limits, being dependent on their partner for household income, and place a strong priority on family life. On the other hand, scholars will believe that attitudes and preferences may be adapted or rationalized to the economic circumstances that women

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find themselves in. Given these complex interactions, this article aspires to concentrate on the differences in impact of both financial-economic and socio-cultural factors on mothers with different educational backgrounds. Both factors are therefore considered as potential predictors that may be complementary and can operate simultaneously.

Hypotheses

Considering financial-economic and socio-cultural factors, what expectations can be formulated in terms of their impact on the employment decisions of mothers? The theory of labour supply implies that decisions are more or less sensitive to financial incentives depending on preferences. The focus, however, is on financial-economic factors. Preference theory does not rule out the influence of economic factors, but states that mainly women who do not exclusively prioritize on family life or an occupational career are responsive to financial incentives. Such incentives may thus have a limited influence on mothers with strong preferences for staying at home with their child(ren) (Hakim, 2000, 2002). In terms of economic theory, women with such preferences have high reservation wages, which makes them less likely to participate in the labour market. Following the same line of reasoning, financial economic factors may also play a limited role when traditional norms are prevalent. When the dominant norm is against mothers' involvement in paid work it is harder to deviate from such a norm, both because of one's own belief and the belief in these norms held in the social context (Van der Lippe and Siegers, 1994). Since lower educated women are more likely to have traditional social norms and attitudes because of their socialization and the social context they find themselves in, and are less likely to seek a career, it might be expected that *socio-cultural factors outweigh financial-economic factors in lower educated mothers' decisions to participate in the labour market, compared to their higher educated counterparts* (hypothesis 1).

Even though among employed women traditional attitudes may be negatively associated with working hours, there is reason to assume that socio-cultural factors have a less restrictive impact here: the vast majority of working women can be expected to be adaptive, meaning that they will not reject the idea of labour participation altogether. In addition, the responsiveness to financial incentives can be expected to be more substantive. Consequently, it can be expected that the financial-economic circumstances of lower educated mothers are relatively important in explaining their (modest) working hours. It might thus be expected that *financial-economic factors outweigh socio-cultural factors in lower educated mothers' decisions on working hours, compared to their higher educated counterparts* (hypothesis 2).

Research methodology, methods and data

Data and operationalization

The data used were collected in a survey held in 2004 among Dutch women with at least one child aged 12 years or younger (henceforth referred to as GKO '04). The sample was drawn from a panel of respondents that were recruited in several ways, namely by email, via the internet and through telephone recruitment. From the original sample of

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2500, approximately 2000 mothers participated (a response rate of 80%). The sample is representative of mothers with young children within the Dutch population. The lone mothers (127 cases) were excluded because of the insufficient sample size for the analysis on differences between the educational groups. After excluding incomplete questionnaires the final sample consists of 1708 married or cohabiting mothers.

It is important to keep in mind that the data do not represent the employment decisions of women, or even mothers, in general. This article is limited to mothers with young children and the same holds for the generalizability of the results. For instance, it is likely that highly career-oriented women of childbearing age (who often do not have children) (Hakim, 2000) are underrepresented. A possible data limitation might also be that self-reported income data instead of register-based income statistics are used. However, the advantage of the GKO '04 survey is that it contains information on both financial-economic and socio-cultural factors. Since the objective of this article is to simultaneously estimate the effect of both factors on mother's employment decisions, the advantage of the survey outweighs its potential drawbacks. However, the distribution of income variables and the quality of the income data with respect to non-response will be assessed. In addition, the cross-sectional design of the data does not allow the complex relationship between economic and sociological factors and women's employment to really be accounted for. Longitudinal panel data are more appropriate. Unfortunately, such a data set is not available in the Netherlands.

Mothers' educational level, labour participation and working hours

Following the International Standard Classification of Education (ISCED) lower educated mothers are classified as those who have finished primary, junior general secondary and junior secondary vocational education (ISCED levels 0 to 2). Women with an intermediate level of education have a diploma of an upper secondary vocational education, senior general secondary education or pre-university education (ISCED levels 3–4). Mothers with the highest level of education have successfully finished either higher vocational education or university (ISCED levels 5–6). According to this definition, 29 per cent of the mothers in the sample are lower educated, half the sample intermediately, and 20 per cent higher educated.

In correspondence with national statistics over two thirds of the mothers in the sample are employed (Statistics Netherlands, 2008). As expected, participation rises with educational level from 58 per cent for lower educated mothers up to 82 per cent for the higher educated. The rate in the intermediate category lies in between (71%). Hours of work (according to the contract of employment, and the average number of working hours per week for mothers that work irregular hours or are self-employed) also vary with education. Once employed, lower educated mothers on average work nearly two days per week (15.7 hours). On average, intermediately educated mothers work almost 18 hours a week and higher educated mothers 22 hours.

Explanatory variables. Some demographic characteristics that are known to influence a mother's employment are controlled for, i.e. her age, her partner's age and some family structure variables. To account for the fact that women's labour involvement is highest

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among middle-aged women, age-squared is added. Family structure is measured by the number of children in the household and the age category of the youngest child, i.e. pre-school age (0-3) or school age (4-12).

Financial-economic factor. The financial-economic factor includes the mother's own (potential) net hourly wage rate, spouse's income, other monthly non-labour household income and the costs of an hour of formal childcare. For the working mothers, the net hourly wage is calculated by dividing her self-reported net monthly income by four times her working hours per week. The potential net hourly wage of non-working women is considered an important variable in labour supply analysis. Therefore, a potential wage rate is predicted for the non-working mothers. Following the standard approach, a Heckman two-stage model is applied to correct for possible selectivity bias (however, the inverse Mill's ratio was not significant, indicating that selection bias is not present). The final wage estimate is based on the observed characteristics of the working women in the sample, such as wage, age, education and family structure (Blau and Kahn, 2007; Mincer, 1974).

A common problem entailed in using self-reported income data instead of administrative data is the incidence of non-response. In the survey, the income of the mothers is known for 82 per cent (18% missing). Spouse income was given by 70 per cent of the respondents. A small proportion (about 6%) could be completed based on the registration of background characteristics by the organization that performed the survey.[1] Some observations remain missing. This is a concern if the non-response is selective, and for example mainly women with the lowest incomes did not answer the questions. In order to avoid distorted results, the survey organization performed a hot deck imputation for the remainder of the missing elements making use of observations in the sample and from other panels (multiple imputation with the software package Surfox). The income distributions with and without the imputed data did not show any major shifts. It is therefore assumed that the income measures will yield reliable estimates (descriptive information in Table 2).

The variable 'non-labour income' includes all other forms of monthly household income from sources other than paid work, such as allowances, unemployment benefits etc. Since it is not exactly clear what women did and did not include (e.g. extra income from undeclared work etc.) some caution with respect to the accuracy of this variable is required. Finally, costs of childcare were measured as the out-of-pocket costs, i.e. minus any employer and government childcare subsidies. As with wages, the predicted cost of childcare is included for non-users.

Socio-cultural factor. All mothers were asked whether they (totally) agree or disagree with various statements. Topics concerned the importance of children being cared for at home and mothers' preference to care for the children herself all the time, personal and financial motivation for paid work, combining work and family life and the assignment of roles and tasks to women and men in society (see Table 1). The 29 items were subjected to factor analysis (principal component). This analysis identified six factors with 68 per ent cumulative variance.

The survey was not explicitly designed to measure personal lifestyle preferences; only some statements apply directly to women's personal lives. Since the first factors

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Table 1 Statements reduced by factor analysis

orientation: care for children	7 statements: I think that as a mother I should stay at home with my children; a baby/toddler/schoolchild is best cared for by its own mother/ parents/at home
orientation: paid work - intrinsic	9 statements: being a stay-at-home mother is too limiting; paid work is the normal thing to do; paid work is necessary to make my life complete; paid work is important because of contacts with colleagues and the contribution to society
orientation: paid work - instrumental	1 statement: paid work is primarily a way to earn money
orientation: combining	4 statements: combining is a heavy burden; being a two-worker family is heavy; paid work results in feelings of failure in household duties; those who want to prove themselves at work make less good parents
attitude: division of tasks	3 statements: women and men should divide household tasks/paid work equally; men should reduce working hours after the birth of a child
attitude: role specialization	5 statements: women are more suitable for child-rearing than men; men have a stronger bond with paid work than women; family life suffers if women and men switch roles; if one parent could work it should be the father, staying at home is an attractive alternative for women to a busy job
norm: social network	3 statements: most mothers in my social network have a paid job; it is common in my social network that children are being cared for by formal/informal childcare providers
norm: socialization working mother	1 statement: when growing up (up to the age of 12), did your mother work?
norms: socialization important women paid work	1 statement: I learned at home that it is important for a woman to have a paid job

consist of items that gravitate towards the more personal formulated items, they are referred to as women's orientations. The first factor is named 'orientation towards care for children at home' (seven items, Cronbach's alpha 0.93). The second factor is characterized as the 'intrinsic orientation towards paid work' (nine items, Cronbach's alpha 0.89). It measures the value that is attached to paid work in terms of personal enrichment, satisfaction and social aspects. The question concerning the extent to which work is considered primarily as a means to earn money did not group with any of the other items. This item is called the 'instrumental orientation toward paid work'. The last orientation concerns the perceived 'burden of combining work and care' (four items, Cronbach's alpha 0.59).[2] The general attitude factors are characterized by attitudes about the division of tasks and role specialization, i.e. the division of household tasks and paid work (three items, Cronbach's alpha 0.82) and the notion of men and women being designed for different roles in life (five items, Cronbach's alpha 0.76).

The questionnaire contained no direct questions about social norms. Instead, the behaviour in the network is used as a proxy. Factor analysis identified one social norm construct about the incidence of working mothers and the use of (in)formal childcare in the social network (three items, Cronbach's alpha 0.53).[2] Two final items measure the

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Table 2 Descriptive statistics of the mothers in the sample, total (mean and standard deviation) and by level of education (mean), n=1708

	total		low	intermediate	high
age	36.4	5.8	37.5	35.6	36.5
number of children	2.1	.91	2.2	2.1	2.1
age category youngest child (in %):					
aged 0–3	51		39	55	62
aged 4–12	49		61	45	38
age partner	38.9	6.4	40.1	38.4	38.6
educational level partner (in %):					
low	31		53	26	12
intermediate	42		35	50	31
high	27		12	24	57
net hourly wage mother	9.62	.2.38	8.61	9.47	11.49
hourly childcare cost	3.28	.45	3.42	3.10	3.56
spouse's labour income	1725	640.40	1613.53	1713.59	1918.59
non-labour household income	575.87	237.31	558.40	503.32	843.32
orientation: care for children/family	55.9	20.3	60.03	55.74	50.08
orientation: paid work – intrinsic	51.8	18.1	49.50	51.55	55.67
orientation: paid work – instrumental	.59	.49	.71	.59	.41
orientation: combining (burden)	53.6	16.3	55.98	53.58	50.34
attitude: division of tasks	51.8	15.2	47.76	52.02	57.44
attitude: role specialization	46.0	16.1	45.55	46.09	46.31
norm: social network	58.5	18.2	55.21	58.55	63.23
norm socialization: importance work for woman	.18	.38	.10	.16	.35
norm socialization: working mother	.35	.48	.31	.35	.42

'normative baggage' from childhood socialization: being raised with the idea that it is important for women to have a paid job and whether or not the mother grew up with a working mother herself.

Table 2 lists the explanatory variables. As expected, the lowest wages and partner income are observed for lower educated mothers. Non-labour income (e.g. benefits,

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subsidies) is the highest for higher educated mothers. This might be the result of higher unemployment or disability benefits. However, only a small number (28) of the higher educated mothers reported receiving any non-labour income. Intermediately educated mothers on average pay the least for an hour of formal childcare. This may be attributed to the fact that at the time of the survey, the distribution of childcare subsidies was not yet regulated in the Netherlands. Mothers also differ in socio-cultural terms. Lower educated mothers score relatively high on the family orientation and other 'traditional' scales, such as the combination and role division scale. Also, they have a more instrumental orientation towards paid work. On the scales where higher scores indicate a modern orientation or attitude, such as the intrinsic work orientation and the division of tasks attitude, higher educated mothers score higher. Lower educated mothers are confronted with more traditional social norms: they have fewer other working mothers around them, are told that it is important for women to take up paid work less often and are least familiar with a working-mother role model.

Methods

The hypotheses were tested with regression analysis. In the first model, education is considered as one of the explanatory variables, in addition to demographic characteristics. In the analysis on labour participation the two possible outcomes are working or not working. Logistic regression is an appropriate method for estimating such probabilities. For the analysis on working hours, it has to be taken into account that the decision to participate and the number of working hours may not be independent. A common approach to deal with this issue of dependency is to apply Heckman's two-step model. First a probit model for participation is estimated, followed by the inclusion of a correction term – the inverse Mills ratio, calculated from this probit model – into a second OLS model estimating working hours (which can vary between one and 40 hours per week). As the results will show, the Inverse Mills ratio is insignificant in the final model, so no direct evidence of sample selection bias exists. But since both methods yield the same results, and since it is preferable to use all of the information available from the data, the results that correct for sample selection are presented.

The second model is aimed at comparing the impact of financial-economic and socio-cultural variables for lower, intermediate and higher educated mothers. There are different approaches for comparing (coefficients across) groups. Running a full interaction model with the three categories of education is one option. A common problem with interactions, however, is that they can cause and increase multicollinearity problems, which might result in uncertain and unstable estimates. In addition, it is hard to determine the relative weight and marginal effects of the variables in interaction-term models (Brambor et al., 2006). A less rigorous method would be to estimate separate models for each group and compare the coefficients across the groups. A problem with this approach is that the groups are treated as though they are independent, which they are not. Therefore the 'Seemingly Unrelated ESTimation' technique is used (Clogg et al., 1995; Weesie, 1999). SUEST simultaneously estimates the coefficients for different groups with the accurate standard errors.[3] First the models are tested (i.e. differences between the groups). Next, performing Wald tests can jointly test coefficients between the models.

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To identify the relative weight of financial-economic and socio-cultural variables the marginal effects are presented. These effects represent the impact of a unit change in an independent variable on the dependent variable, holding all other variables fixed at their mean (Long and Freese, 2006). In the analysis on working hours, the marginal effects are presented *conditional upon* participation. Each factor consists of multiple variables. The aim in this article is to determine the relative weight of the variables at factor level. Although marginal effects represent a unique effect per variable, it is not acceptable to simply add them because of possible interactions or other intervening relationships that are not accounted for. It can be claimed, however, that (some) major effects within one factor give a large weight to that particular factor.

Results

Mothers' decisions to participate in the labour market

The first model estimating mothers' labour participation includes educational level as one of the explanatory variables. The discussion of the results concentrates on the final model, which includes all the variables of interest. The results are reported in Table 3. The table shows that the level of education is a persistent predictor for mothers' labour participation. Still, the differences between mothers with lower and intermediate levels of education are insignificant in the final model. The difference in labour participation between those mothers thus appears to be more related to financial-economic and socio-cultural aspects than to the level of education per se. Living with a higher educated partner is associated with a higher probability of labour participation, irrespective of the mothers' own educational level. This may be associated with social-capital aspects, emotional support or a higher share in household and childcare tasks. The likelihood of labour participation also increases when the youngest child reaches school age.

As her net hourly earnings increase, a mother is more likely to participate in the labour market. This 'wage' effect weakens though as socio-cultural variables are taken into account. Childcare costs do not have an effect on mothers' labour participation decisions. The coefficient is quite substantive in magnitude and negative as expected, yet insignificant. Spouse's income also has no effect. Non-labour income has a very small negative effect.

In terms of the socio-cultural variables, being more family-orientated, seeing work primarily as a means to make money (instrumental work orientation) and perceiving combining tasks as a heavy burden significantly decreases the probability that a mother is participating in the labour market. By contrast, having a high intrinsic work orientation leads to an increased probability of participation: mothers who value paid work in terms of self-fulfilment, social aspects and a manner of contributing to society are more likely to work than mothers without such an orientation. Furthermore, support for an egalitarian division of tasks has a positive effect, while believing in specific gender roles has a negative effect. A modern social network has no effect on mothers' own participation. Neither has 'being told' during childhood that it is important to have a paid job. However, there is a positive effect from being raised by a working mother and this effect is quite substantial. Apparently, what counts is the practice that mothers grew up with, not the preaching.[4]

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Table 3 Coefficients from logit regression on mothers' labour force participation (odds ratios and marginal effects for the full model only), n= 1708

	model 1	model 2	model 3	full model		
	b	b	b	b	odds ratio	marginal effects
educational level mother (low=ref)						
intermediate	.563**	.428*	.419*	.161	1.175	
high	1.157**	.901**	.789*	.667*	1.948*	.101[a]
age	.284*	.282*	.030	.033	1.034	
age^2	−.004*	−.004*	−.001	−.001	0.999	
number of children	−.308**	−.299**	.072	.089	1.093	
age cat. youngest child (0–3= ref)						
4–12 years	.334*	.348*	.850**	.838**	2.313**	.141[a]
age partner	−.007	−.003	−.007	−.003	0.997	
educational level partner (low= ref)						
intermediate	.064	.049	.298	.287	1.333	
high	.206	.185	.510*	.553*	1.739*	.087[a]
financial-economic		.127**		.087*	1.091*	.014
net hourly wage mother		−.102		−.513	0.599	
hourly childcare cost		.000		−.000	1.000	
spouse's labour income		−.001**		−.002**	0.998**	−.000
non-labour household income						
socio-cultural						
orientation: care for children/family			−.029**	−.030**	0.970**	−.005
orientation: paid work - intrinsic			.075**	.076**	1.078**	.013
orientation: paid work - instrumental			−.509**	−.507**	0.602**	−.084[a]
orientation: combining (burden)			−.008*	−.008	0.992*	−.001
attitude: division of tasks			.012*	.013*	1.013*	.002
attitude: role specialization			−.044**	−.044**	0.957**	−.008
norm: social network			.006	.007	1.007	
norm socialization: importance work for woman			−.333	−.390	.677	

(Continued)

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Table 3 (Continued)

	model 1	model 2	model 3	full model		
	b	b	b	b	odds ratio	marginal effects
norm socialization: working mother			.273*	.305*	1.358*	.051[a]
constant	–4.230*	–4.774*	.033	.735		
Pseudo R^2	0.0470	0.0705	0.3194	0.3381		

**p < .001, * p < .05
[a]change of dummy variable from 0 to 1

The effects of having a high educational level and net wage attenuate when socio-cultural variables are added to the model, yet they remain significant. This indicates that socio-cultural and financial-economic variables are associated and can operate simultaneously, as is the assumption in this article.

The marginal effects show that socio-cultural variables have more impact on mothers' decisions to participate than do financial-economic variables. The marginal effect of the net hourly wage rate is 0.014, and virtually zero for non-labour income. The marginal effects are modest also for some socio-cultural variables (attitude on the division of tasks and roles and the family orientation). The effects are largest for the instrumental work orientation and the working mother role model. Hence, socio-cultural factors outweigh financial-economic factors in mothers' decisions to participate in the labour market in general. This finding is supported by the variance explained: the overall model explains almost 34 per cent of the variance. The demographic control variables and the financial-economic factor account for only small proportions of variance explained. The most notable amount of variance is explained by the socio-cultural factor (almost 32%, including the demographic variables).

Lower, intermediately and higher educated mothers' decisions to participate in the labour market. The hypothesis on labour participation predicts a stronger influence of socio-cultural factors for lower educated mothers than for higher educated mothers. Is this true? The cross-model test of the Seemingly Unrelated Estimation indicates that the models for low and higher educated mothers differ significantly (Prob > chi2 = 0.0257). This test is significant only at the 10 per cent level for the models for intermediately and higher educated mothers (Prob > chi2 = 0.0764). There is no statistically significant difference between the models for lower and intermediately educated mothers (Prob > chi2 = 0.4421).

Based on these results, the conclusion so far is that instead of (implicitly) differentiating between low and higher educated women (intermediate and high educational level), distinguishing between lower and intermediate on the one hand and higher educated mothers on the other hand is more appropriate as far as labour participation is concerned.

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Since no differences exist between the lower and intermediately educated mothers, these categories are joined. The last column of Table 3 shows the results of the Wald tests on differences between the coefficients for lower and intermediately educated mothers and higher educated mothers. Most of the differences in the financial-economic variables between the models are robust. The net hourly wage has an impact on lower and intermediately educated mothers' labour participation. For higher educated mothers, the effects come from childcare cost and non-labour income (even though the effect of the latter is very small). In terms of marginal effects, the impact of the wage rate for lower and intermediately educated mothers is smaller in magnitude than the substantive effect of childcare cost for higher educated mothers. A possible explanation for this finding is that the participation rate among higher educated mothers is already so high that, like for men, their labour supply is rather inelastic for their own wage rate. Childcare costs as an extra and fairly large taxation on earnings do however exhibit a major negative effect for higher educated mothers.

Most of the effects of the socio-cultural variables seem (somewhat) stronger for lower and intermediately educated mothers than for their higher educated counterparts. Contrary to what is the case for the financial-economic variables though, most of the differences between the coefficients are not statistically significant. The only socio-cultural coefficient that differs significantly between the models concerns the working-mother role model. Being raised by a working mother has a considerable impact on the probability that a lower or intermediately educated mother participates on the labour market. This 'working role model during childhood' effect is absent for higher educated mothers. Hypothesis 1 thus is confirmed, albeit modestly: the only socio-cultural predictor that is stronger for lower and intermediately educated women contrary to their higher educated counterparts is the working role model during childhood socialization.

Working mothers' decisions on working hours

For the analysis on the number of working hours, the results in Table 4 show that as the age of the partner increases, so does the number of hours worked by the mother. The number of children has an opposite, thus negative, effect on working hours.

For the financial-economic and socio-cultural variables, the results suggest that income-related variables are generally not important in explaining working hours. The socio-cultural explanatory variables behave mostly in the theoretically expected way: the number of hours worked increases as mothers' intrinsic work orientation is stronger (indicating a preference for paid work). Also, a stronger family orientation, a negative perception of combining tasks and traditional role attitudes are negatively associated with the number of working hours. No effects appear for the social norm variables.

Inspection of the marginal effects and the variance explained shows that the demographic variables have the greatest impact on working hours. Almost 18 per cent of the variance is explained by the control variables. Only a small percentage increase occurs when financial-economic and socio-cultural factors are taken into account as well. So although the socio-cultural variables appear to have a somewhat stronger impact on working hours than do financial-economic variables, the demographic characteristics are the most important.

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Table 4 Coefficients and marginal effects from Seemingly Unrelated Estimates after logit on mothers' labour participation by educational group

	low/intermediate		high		differences coefficients
	b	marginal effects	b	marginal effects	(Wald test)
age	.063		.206		
age^2	–.001		–.003		
number of children	.064		.200		
	.743**	.146	1.931**	.081	
age partner	–.002		.018		
educational level partner (low = ref)					
intermediate	.291		.665		
high	.520*	.094	1.165		
financial-economic					
net hourly wage mother	.119**	.023	–.102		*
hourly childcare cost	–.539		–2.470*	–.113	*
spouse's labour income	.000		.000		
non-labour household income	–.001**	–.000	–.005**	–.001	*
socio-cultural					
orientation: care for children/ family	–.030**	–.006	–.038**	–.002	
orientation: paid work – intrinsic	.074**	.015	.101**	.005	
orientation: paid work – instrumental	–.517*	–.098	–.614		
orientation: combining (burden)	–.006		–.023		
attitude: division of tasks	.014*	.003	.020		
attitude: role specialization	–.045**	–.009	–.049*	–.002	
norm: social network	.006		.020		
norm socialization: importance work for woman	–.329		–.662		
norm socialization: working mother	.393*	.075	–.293		*
n= 1708	1368		340		
Pseudo R^2	0.3118		0.5071		

**p < .001, * p < .05

Lower, intermediately and higher educated mothers' decisions on working hours. The unexpected findings do not rule out the possibility that financial-economic incentives have a stronger impact on the number of working hours for lower educated mothers, as the hypothesis on working hours predicts (hypothesis 2). However, the Seemingly Unrelated Estimation indicates that this is not the case. No significant differences between any of the educational

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Table 5 Standardised Betas from OLS regression on working hours (marginal effects for full model only) n=1184

	model 1	model 2	model 3	full model	
	Beta	Beta	Beta	Beta	marginal effects
educational level mother (low = ref)					
intermediate	.065	.104*	.082*	.113*	1.884
high	.209**	.199**	.196**	.193**	3.821
age	.291	.327	.373	.396	
age^2	−.248	−.267	−.414	−.429	
number of children	−.162**	−.152**	−.116**	−.108**	−1.058
age cat. youngest child (0–3 = ref)					
4–12	−.127**	−.128**	−.019	−.015	
age partner	.125*	.105*	.103*	.095*	.127
educational level partner (low = ref)					
intermediate	−.022	−.010	−.003	.007	
high	−.041	−.001	−.005	.031	
financial-economic					
net hourly wage mother		.002		.017	
hourly childcare cost		.117		.072	
spouse's labour income		−.181**		−.147*	−.002
non-labour household income		.101		.001	
socio-cultural					
orientation: care for children/family			−.203**	−.214**	−.088
orientation: paid work - intrinsic			.318**	.329**	.188
orientation: paid work - instrumental			.013	−.002	
orientation: combining (burden)			−.153**	−.149**	−.078
attitude: division of tasks			.161**	.159**	.086
attitude: role specialization			−.124**	−.132**	−.072
norm: social network			−.007	−.004	
norm socialization: importance work for woman			.022	.019	
norm socialization: working mother			−.009	−.006	
Mills	−.279**	−.302**	.055	.076	
constant	8.137	3.735	1.184	−1.927	
Pseudo R^2	0.1779	0.1921	0.2330	0.2393	

**p < .001, * p < .05

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group models were found (Prob > chi2 = 0.6000). Additional tests confirm that none of the coefficients differ statistically between the models. The results of this analysis are therefore not presented. All in all, the hypothesis on working hours cannot be confirmed: financial-economic factors do not outweigh socio-cultural factors in mothers' decisions on working hours in general, nor do they have a stronger influence on lower educated mothers' working hours in particular.

Conclusion and discussion

Based on this article it can be concluded that both social and economic factors are of importance in understanding the decision of Dutch mothers to participate in the labour market. As the analysis has made clear, however, orientations and attitudes outweigh the impact of the financial-economic variables. This finding is in line with other Dutch research (Van Wel and Knijn, 2006). The hypothesis that for lower educated mothers in particular socio-cultural factors play an important role is also confirmed, albeit somewhat weakly; on top of the other socio-cultural variables that are of influence, such as work orientation and egalitarian gender role attitudes, lower and intermediately educated mothers are found to be particularly sensitive to socialization role models. The likelihood that a lower educated mother is involved in the labour market herself is influenced by her own mother's labour force participation during childhood to quite a large extent.

In addition, the analysis shows that lower educated mothers, to some (albeit modest) extent, are sensitive to wages. Increasing net hourly wages might thus help stimulate lower educated mothers' labour participation. Higher educated mothers, on the other hand, are (much) more sensitive to childcare cost and non-labour income (e.g. monthly household income from sources other than paid work, such as allowances, unemployment benefits etc). Mothers with different educational levels are thus found to be affected differently by financial-economic variables. The reason why childcare costs do not seem to affect lower and intermediately educated Dutch mothers might be that, as in other countries, lower educated mothers often opt for childcare provided by grandparents. Higher educated mothers more often rely on formal childcare.

As for working hours, lower educated mothers were expected to work fewer hours per week mainly because of financial-economic factors. The results do not confirm this expectation. Financial aspects seem to have virtually no influence on mothers' working hours, irrespective of their educational level. Some socio-cultural variables do have an influence, but are also not really capable of explaining (differences in) working hours. The conventional explanations such as education, demographics and family characteristics account for most of the variance explained.

Since the sample is representative of mothers in two-parent households only, the findings from this article cannot be generalized beyond this particular group. However, the majority of women in the Netherlands, both with and without children, work part-time (Portegijs and Keuzenkamp, 2008). The apparently voluntary nature of part-time work and the low number of formal barriers to adjust working hours seem to be important elements in the Dutch working time regime. Nevertheless, on average most women would like to work a few hours more. Studying the mismatch between preferred and actual

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number of working hours might help improve the understanding of (differences in) working hours among women and the modest labour supply of lower educated women in particular. After all, even though this article has enriched the analysis on lower educated mothers' employment decisions, there are still many unanswered questions, in particular with regard to why lower educated mothers work fewer hours than their higher educated counterparts.

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Notes

1 GfK Panel Services Benelux in the Netherlands.

2 This Cronbach's alpha is low, reflecting a modest internal consistency between the items. This may be due to the low number of items in the factor. Additional tests indicated that alpha could not be increased by exclusion of any of the items. Results based on these two scales should be considered as indicative for the underlying construct.

3 SUEST is related to Seemingly Unrelated Regression (SUR) and uses the (co)variance structure to correct the standard errors across the equations.

4 We estimated some additional models to assess whether interactions between some key variables were significant. Work-orientated women, for example, might have children at a later age, and/or have fewer children. At the same time low educated women could be less work-orientated because of their lower wage prospects (or vice versa). However, neither of these interactions was significant (i.e. number of children with work orientation, wage rate with work orientation). For this reason the interactions are not presented here. The same goes for the age of the mother at birth of her first child.

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Mariëlle Cloïn works at The Netherlands Institute for Social Research / SCP. She is involved in publications on childcare, part-time work, the division of tasks between men and women and time-use. This article is part of her dissertation (a cooperation between the Utrecht University School of Economics [USE] and The Netherlands Institute for Social Research / SCP) on low educated women's employment decisions.

Saskia Keuzenkamp is Head of the research unit 'Emancipation, Youth, and Family' of the Netherlands Institute for Social Research / SCP and Professor of Emancipation in an international comparative perspective at VU University Amsterdam. Her main research topics are the labour participation of (different categories of) women, strategies to combine work and care and the impact of public policies.

Janneke Plantenga is Professor of Economics of the Welfare State at Utrecht University School of Economics (USE). Her research interest focuses on labour market flexibilization, the reconciliation of work and family and (European) social policy. She is the Dutch member and coordinator of the European Experts Group on Gender and Employment (EGGE). She has written widely on (the redistribution of) unpaid work, changing working time patterns, child care issues and modernizing social security.

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