Differences in the distribution of childcare tasks among heterogamous and homogamous couples

Is it due to gender role values?

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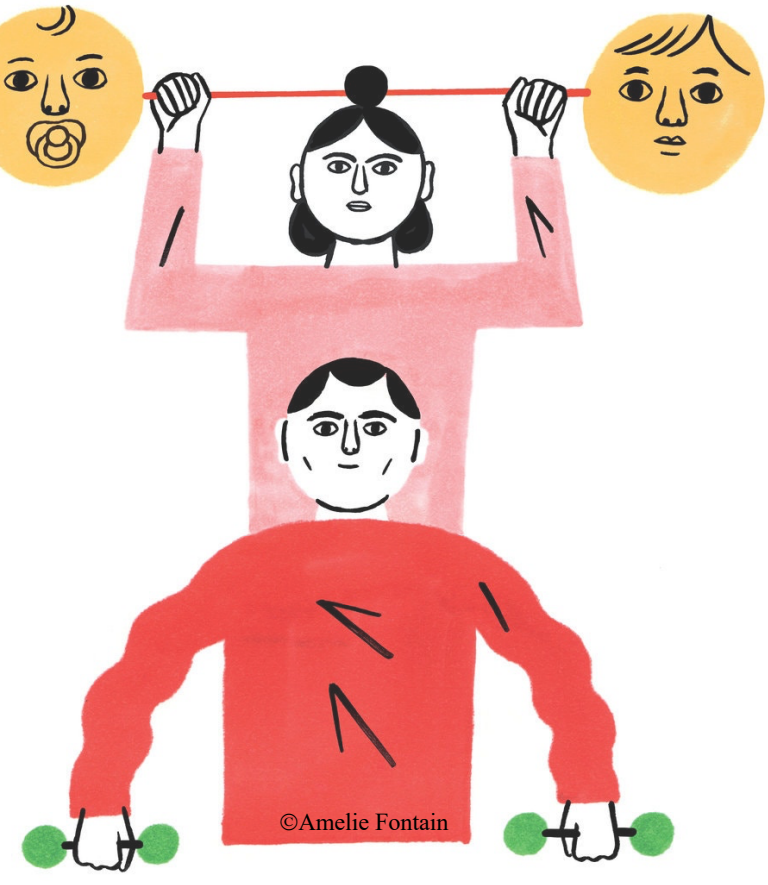


Differences in the distribution of childcare tasks among heterogamous and homogamous couples: Is it due to gender role values?

Abstract. This study examines differences in distribution of childcare tasks among different types of unions (i.e. homogamous, hypogamous and hypergamous unions) and is motivated by the following question: *To what extent can differences in the distribution of childcare tasks among heterogamous and homogamous couples be explained by gender role values?* Literature on relative task division has up until now mostly focused on economical and macro-level explanations. Using data from the Longitudinal Internet Studies for the Social sciences (LISS), we contribute to previous research by taking into account the gender role values of couples. Moreover, this research's focus is on the educational level of couples in relation to each other. The findings reveal that hypergamous couples (in which the male is higher educated than the female) have more equal task divisions than hypogamous unions (in which the female is higher educated), despite the fact that the latter group's gender role values are more equal. As such, the childcare task division of hypergamous and hypogamous couples are not in line with their gender values. The childcare task division of homogamous unions (in which partners have a similar education) is more conforming to their gender role values. Implications of these findings are discussed.

Key words: childcare task division, gender role values, homogamous union, hypergamous union, hypogamous union

1 Introduction

'How to share the parenting load with your partner?' 'Dividing childcare and housework duties with your partner' (Parents Magazine, n.d.; Babycenter.com, n.d.). The abundance magazine articles on topics such as household chores and childcare mirrors a strong focus on equality regarding the distribution of household tasks. Compared to men, women generally still take up more of the household and childcare tasks regardless of their employment status (Bonke & Esping-Andersen, 2011). Furthermore, men and women have shown to take up traditionally masculine and feminine tasks (e.g. home repairs versus childcare and shopping) (Cerrato & Cifre, 2018). Previous studies mainly focused on education and income on the individual level as important determinants for who does what household tasks and how often (Bonke & Esping-Andersen, 2011). However, household and childcare responsibilities are shared and distributed within couples as a unit. As such, the task division of two partners within a household is not a choice on the individual level. Therefore, instead of focusing on the education of individuals in itself, it is important to take into account the type of union that individuals are engaged in, since it is expected that couples involved in different types of unions have a different distribution of childcare tasks.

Based on the educational level of both partners, three types of unions can be distinguished. The first type of union is a traditional one in which men prefer to marry spouses who are slightly lower educated, while women prefer someone that has a socioeconomic status which is at least as high as theirs (Greitemeyer, 2007). The result is a traditional mating pattern of educational *hypergamy*, i.e. unions in which the male is higher educated compared to the female. Second, people may be seeking for a partner that matches their status and corresponding socioeconomic and cultural resources (Kalmijn, 1998). As such, *homogamous unions* may consist of two lower or higher educated partners. Lastly, *hypogamous unions*, in which females are higher educated compared to their partners, are on the increase (De Hauw, Grow & Van Bavel, 2017). These unions are expected to become more salient as the share of women in higher education and in the labor force is increasing (Charles, 2011; Jaumotte, 2003). No previous studies have specifically focused on differences in childcare task divisions among these different types of unions. However, it is likely that hypergamous couples adopt specialized task distributions, in which the male is employed in the labor market, while the female takes care of the children and the housework (Fuwa, 2004). As for homogamous couples,

two lower educated parents generally show a more traditional and gendered distribution of childcare tasks, while two highly educated parents display more egalitarian parenting (Bonke & Esping-Andersen, 2011). Hypogamous unions have the potential of a division of childcare tasks that is different from the traditional division, which is why these unions are of specific interest.

This study is concerned with the differences in distribution of childcare tasks among homogamous couples (i.e. F=M), hypogamous couples (i.e. F>M) and hypergamous couples (i.e. F<M). Hypergamous and hypogamous couples are both categorized as heterogamous couples, i.e. couples in which both partners have different levels of educational attainment. Previous studies have mainly focused on economical explanations (income, time availability and bargaining power) and macro-level gender norms to explain existing differences in childcare division (e.g. Fuwa, 2004; Poortman & Van der Lippe, 2009). This study adds to the literature by focusing on couples' *gender role values* as an alternative explanation. Gender role values potentially influence both the type of union one engages in and the distribution of household tasks that is adopted within the union. In this line of reasoning, (non-)traditional values could lead to (non-)traditional unions through a selection effect. At the same time, gender role values may determine the way in which household task distributions are made. In short, differences between hypogamous, homogamous and hypergamous couples and the extent to which they share childcare responsibilities equally could be explained by differences in gender role values. This results in the following research question: *To what extent can differences in the distribution of childcare tasks among heterogamous and homogamous couples be explained by gender role values?*

Understanding what influences the distribution of childcare tasks is important on the individual level since it can have consequences for women, men and children. Young women with children may experience high levels of stress because of a poor work-life balance (Reddy, Vranda, Ahmed, Nirmala & Siddaramu, 2010). The high levels of stress may be caused by what is called a second shift, which implies that women who are employed in the labor market need to take care of their children and the household when they come home (Hochschild & Machung, 2012). A more equal division of tasks may reduce stress levels and could make it easier for women to combine work with their family lives. In turn, this may encourage men to show more father involvement with their children. A more equal division of childcare and childrearing may not only benefit parents, but it could also positively influence their children. If fathers engage more in comforting and helping children with their problems, children become more interested in typically feminine activities (Deutsch, Servis & Payne, 2001). Moreover, children gain more self-esteem if fathers take on more tasks in the attentive field of parenting such as worrying and disciplining (Deutsch et al., 2001).

This study contributes to existing literature in a number of ways. First, gender role values are taken into account as an alternative for more economical explanations of differences in childcare task division. Second, research on relative parental time investment has been largely confined to US data (Bonke & Esping-Anderson, 2011). Expanding this type of study to the Dutch context may be interesting, since the Netherlands scores high on gender ideology compared to other countries, but moderately when it comes to gender equality in actual behavior (Social and Cultural Planning Office of the Netherlands, 2000). For example, the Netherlands stands out in a way that it strongly shows patterns of a 1,5-earner model, in which most women only work part-time. This makes it relevant to explore how childcare tasks are distributed in the Dutch context. Third, most studies with a focus on the distribution of household tasks relate this to socioeconomic status or education of the parents. This study is innovative in a way that it explores differences in task distribution between hetero- and homogamous unions. Even though the educational level of an individual or a couple may allow us to make certain assumptions about income and norms and values, it does not fit the purpose of this study since the division of childcare tasks is based on negotiation between both of the partners. Therefore, considering the educational levels of both partners *in relation to each other* gives insight in the dynamics of a relationship. The whole (educational level of both partners in relation to each other) is expected to be greater than the sum of the parts (individual educational level of both partners). In addition, it is important to focus on differences between homogamous and heterogamous marriages because homogamy rates in society are generally high, but hypogamy rates appear to be increasing (Esteve, García-Román, & Permanyer, 2012).

This study begins by examining two main perspectives regarding the distribution of household and childcare tasks. Also, gender role values will be introduced as an explanation for differences in childcare task distributions. The second section outlines the methodology, while the results and conclusions will be discussed in the final sections.

2 The division of childcare tasks within couples and the role of values

Perspectives explaining unequal childcare division

Childcare is comprised of several tasks such as playing with children, story-reading, bringing children to school and talking with children about their problems. Several perspectives attempt to explain how the division of childcare tasks comes about (Poortman & Van der Lippe, 2009). A first strand of research is building on to economic theories, assuming that decisions about who does what within a household are rational, gender neutral, and driven by available resources and constraints. The second perspective is more gender oriented and proposes that the task division within couples is determined based on beliefs about which behaviors are typically male or female. This section will discuss both perspectives in relation to hypogamous, hypergamous and homogamous unions. These different types of unions can be characterized based on gender and education, which are both important determinants of the quality, quantity and division of childcare tasks among parents. A distinction is made between lower and higher educated homogamous couples, since previous research has shown important differences in their distribution of tasks (Bonke & Esping-Andersen, 2011).

Rational choice perspective

The first perspective trying to explain disparities in childcare between parents is based on the rational choice theory and focusses on the relative resources and time available for men and women. Husbands and wives use their resources as bargaining power in the negotiation about who does what in the household (Fuwa, 2004). With regard to relative resources, it is expected that women with higher earnings have more power in the negotiation and thus share childcare more equally with their partner. The time availability perspective assumes that time spent on childcare or in the household depends on the available time (Fuwa, 2004). As such, it implies that the spouse with lowest number of working hours in the labor market specializes in childcare and housework. It should be noted that the bargaining and time availability hypotheses are mainly tested on housework, while childcare may be perceived as a more desirable activity (Bonke & Esping-Andersen, 2011). Consequently, people could feel less need to bargain out of these tasks.

In order to apply this to heterogamous and homogamous unions, the association between education, income and working hours needs to be established. In the Netherlands, the average income of individuals increases with educational level, although men have higher incomes than women (Statline, 2020a). With regard to the link between education and working hours, data from the Central Bureau of Statistics shows that higher educated people work significantly more hours than their lower educated counterparts (Statline, 2020b). Time use data from 2016 show higher-educated males have an average employment of 36 hours per week, while higher-educated females work 27 hours per week on average. The lower educated work significantly less: 26 hours for males versus 13 hours for females (Roeters, 2017). Based on the rational choice perspective, we expect women in hypogamous unions to have more bargaining power based on resources and less time available compared to women in homogamous and hypergamous unions. As such, the male is expected to take up more of the childcare in hypogamous unions. We expect a less equal division of tasks in homogamous unions because the female has as much or less bargaining power than her husband, which decreases her chances to convince her partner to share childcare tasks more equally. Hypergamous unions are expected to have the least equal childcare task division, because of the female's relatively few working hours and lower income compared to her partner.

Rational choice hypothesis (H1a): Based on the rational choice perspective, hypogamous unions (F>M) are expected to result in the most equal division of childcare tasks, while hypergamous unions (F<M) are expected to result in the least equal division. Homogamous unions (F=M) end up in between.

Based on the wife's greater bargaining power in hypogamous unions, the rational choice perspective could lead us to think the division of tasks becomes unequal from the male's perspective. However, in practice, women take up most childcare tasks and the likelihood that the scales tip at the expense of men is small (Bonke & Esping-Andersen, 2011).

Gender perspective

There are reasons to expect that the picture is broader than outlined by the rational perspective. This section discusses the gender perspective, which focusses on gender, culture and identity (Poortman & Van der Lippe, 2009). Fuwa (2004) theorizes that both men and women are socialized into certain constructed gender roles. In order to measure up to these roles, couples divide their household and childcare tasks according to societal norms. If couples fail to show gendered behavior, they might experience certain internalized and externalized sanctions (Cialdini, Kallgren & Reno, 1991). Internalized sanctions may come in the form of feelings of guilt, being different, and not living up to expectations. Externalized sanctions may be effectuated through parents, peers, or third others. One of the gender norms still ingrained in society prescribes the man to be higher educated and the main breadwinner, while the female is dependent on her husband (Binder & Lam, 2018). Behavior that is not typically male or female is regarded as a violation of this norm (Brines, 1994). As a result, couples in which the female is higher educated than her husband as well as couples in which the female is the main breadwinner may encounter judgement from third parties.

The lack of display of gendered behavior with regard to educational levels may be compensated for in other parts of the marriage. For example, females deviating from the norm of being dependent on their husbands may make up for this by adopting traditional household arrangements (Brines, 1994). This is also referred to as *deviance mitigation*. Based on this, women in hypogamous marriages (F>M) are expected to be more involved with their children because of a lack of gender display in other areas. Drawing on time diary data, Schneider (2011) indeed provides empirical evidence for the gender performance of women. Women with increased relative earnings are able to use their resources as a bargaining power in order to avoid a set of household tasks. However, women who out-earn their husbands appear to increase their time on household labor. At the same time, men possibly involve in deviance mitigation behavior as well. The male identity is often linked to being the breadwinner of the family. This part of a man's identity can be jeopardized if his wife is higher educated or has a higher income (Brines, 1994). As a result, men may feel like they cannot afford to get involved with work that is associated with the woman's domain because this would be a violation of the gender norms (Brines, 1994). This suggests that household labor is important to both men and women for the construction of gender.

Women in hypogamous unions are expected to compensate for violating contemporary gender norms. As such, the division of tasks in these unions is expected to be unequal even to a greater extent than the traditional hypergamous unions and homogamous unions in which both partners are lower educated. Bonke and Esping-Andersen (2011) have shown the latter group to be more prone to traditional specialization of tasks compared to homogamous higher educated couples, who appear to adopt more egalitarian parenting practices. This results in the following hypothesis:

Gender hypothesis (H1b): Based on the gender perspective, hypogamous unions (F>M) are expected to result in the least equal division of childcare tasks, followed by hypergamous (F<M) and homogamous (F=M, both lower educated) unions. Homogamous unions (F=M, both higher educated) are expected to share childcare responsibilities most equally.

Rational choice versus gender perspective

Carriero and Todesco (2018) show that a solid bargaining position is necessary in order to put gender ideology into practice. As such, both the rational choice perspective and the gender perspective are important in explaining childcare task distributions. However, dominant approaches towards the division of household work have up until now usually omitted the role of gender values (Bühlmann, Elcheroth and Tettamanti, 2010). Especially for hypogamous couples, certain gender role values may be influential. The next section will explore the role of values more elaborately.

The role of values

Gender role values are conceptualized as beliefs about gender-specific responsibilities (Dicke, Safavian & Eccles, 2019). For example, individuals holding traditional gender role values view providing for the family as a typical men's job. Taking care of the home and the family is perceived as a woman's role. In general, the higher educated are believed to be more progressive and open-minded and hold less traditional gender role values compared to lower-educated individuals (Shu, 2004; Auletto, Kim & Marias, 2017). This can be explained by the fact that higher-educated individuals are exposed to more gender egalitarian ideas in certain institutions such as universities (Auletto et al., 2017). Also, women are found to be more positive towards gender equality than their male counterparts, since it is more in the self-interest of women to reduce the impact of traditional gender role values (Crompton, Brockmann & Lyonette, 2005, in Kjeldstad & Lappegård, 2014). After all, a more equal division of household labor and childcare may lead to more freedom for women to focus on a career, whereas men benefit from having someone taking care of the home and the children (Kjeldstad & Lappegård, 2014).

Gender role values and types of unions

Extensive research on the role of values in relation to homogamous or heterogamous unions is lacking. However, the extent to which one holds equal gender role values could affect the type of union one is in through selection. People holding gender equal values in the first place may be more likely to end up in a hypogamous marriage (F>M). These people may be more open minded and may care less about meeting certain rigid gender norms. Furthermore, people in hypogamous relationships may be less susceptible for any sanctions in the form of judgement and guilt. Also, they may be less likely to value the idea of the breadwinner and the caretaker as important parts of being a 'good' man or woman. In this line of reasoning, hypogamous couples may identify and value themselves based on values other than the prevailing traditional ones. As a result, people with more equal gender role values are more likely to engage in (non-traditional) hypogamous unions than individuals holding more traditional gender role values. As a side note, some research shows socialization within marriages can influence and change an individual's gender role values (Kroska & Elman, 2009). Auletto et al. (2017) show that a husband's beliefs about women's employment are positively affected with increasing education of the female. As such, education has a spillover effect among married couples towards more equal gender role values.

Gender role values and the division of childcare

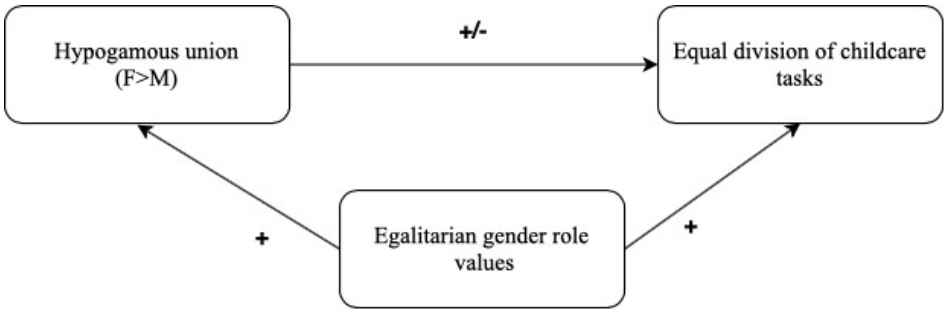
Gender role values are not only theorized to have a relationship with the type of union one engages in, but also with the division of childcare tasks within a couple. Several studies have revealed the association between gender role values and the division of household labor (Poortman & Van der Lippe, 2009; Weisner, Garnier & Loucky, 1994). People's behavior is likely to be consistent with their attitudes (Cooper & Croyle, 1984). In a study on attitudes towards housework and childcare, Poortman and Van der Lippe (2009) show that if individuals have more favorable attitudes towards childcare, their parent-child time increases. It has also shown that the outcome of a task distribution is determined by the extent to which partners hold *traditional* gender role values (Poortman & Van der Lippe, 2009). In fact, Kjeldstad and Lappegård (2014) state that equal gender role values should be considered a 'prerequisite' for an equal division of household work (p. 223). Research also shows equal gender role values of couples have a positive effect on father involvement in tasks (Weisner et al.,1994). It should be noted that equal gender role values do not always

result in gender equal behavior. The translation of values into actual behavior can be distorted by broader social structures and societal attitudes towards childrearing (Bühlmann et al., 2010). In summary, gender role values are expected to confound the relationship between type of union and division of childcare. On the one hand, equal gender role values are expected to result in a higher likelihood of a hypogamous marriage (F>M). On the other hand, equal gender role values are expected to lead to a more equal division of childcare tasks. This results into the following hypothesis:

> *Selection hypothesis (H2): Gender role values are expected to explain why hypogamous couples have a more equal division of childcare tasks compared to hypergamous and homogamous unions.*

This hypothesis assumes hypogamous unions to lead to the most equal task division compared to the other type of unions (rational choice hypothesis). However, the opposite may also be true, and the selection hypothesis may support the expectation that hypogamous unions lead to a less equal task division. In that case, hypogamous couples could adopt less equal gender role values as a form of deviance mitigation behavior. Figure 1 gives an overview of the relationships between the variables.

Figure 1: conceptual model



Note: the +/- sign in the main relationship is due to contradicting hypotheses (1a and 1b).

3 Data and methods

Sample

The research question is answered on the basis of quantitative analysis using the Longitudinal Internet Studies for the Social sciences (LISS). The LISS Panel consists of data from 4500 households in the Netherlands. Members of the panel were selected using a true probability sample of households drawn from the population register by Statistics Netherlands (CBS) (LISS, 2020). In order to improve the representativeness of the LISS study, refreshment samples were carried out in 2009, 2013, and 2016. The refreshment samples are random and stratified on household type, age and ethnicity (LISS, 2020). Oversampling of groups that were difficult to reach in the original sample leads to better representation of these groups in the data. People without access to a computer with Internet connection were provided with one, so the sample was not biased in this respect.

The LISS panel consists of two main components. The first component of the LISS Panel is the LISS Core Study, a longitudinal study that shows changes in the lives and living conditions of individuals. The Panel started in 2007 and has had eleven yearly waves since the start of the project. The second component consist of monthly online questionnaires on a range of subjects, including a household box, which contains information on the background of respondents and their household members. Two of the main variables in our study come from the LISS Core Study wave 10 (2017), the other variables are from the household box.

Our study targets heterosexual couples that are married or cohabit and have at least one child living at home. Since this study focusses on the division of tasks between couples, single parents are excluded from the analyses. The LISS Panel consists of a group of 1439 couples which meet the requirements. If the

respondents that provided information on the division of household tasks and gender role values are selected, the number of couples decreases to 565. Unfortunately, this number decreases even more after adding the control variables (n=117). Since the LISS panel is a household sample only one of the partners filled out the questionnaires in most cases. This study uses the female's response when it is available, while the male's response is used in all other cases. If both partners responded, we used the female's response. We controlled for the fact that responses are given by males or females.

Operationalization

Childcare task division

The dependent variable childcare division is measured based upon the following items related to children's upbringing: How have you and your partner arranged the work of raising and caring for the children? 1) Story-reading, playing games, other forms of play; 2) Bringing to/fetching from daycare or school, attending sports activities, clubs, etc.; 3) Talking about problems in school or about manners; 4) Small outings, as to the cinema, zoo, etc. Respondents have answered on a five-point scale, where 1= I do a lot more than my partner and 5= My partner does a lot more than I. Regarding the care-related tasks, the following items are used: Can you indicate which of you performs the following care-related tasks, you or your partner? 1) Changing diapers, 2) Getting up from bed during the night, 3) Washing the child, 4) Taking the child to the doctor when unwell, and 5) Staying home with the child when unwell. Answer categories ranged from 1) Only me to 5) Only my partner.

In order to put the items together in a scale, items filled out by males have been recoded in a way that a higher value points to the male partner doing more of the childcare tasks compared to the female. A factor analysis reduced the items to one dimension for women, while three dimensions were detected for men. Despite this discrepancy, we decided to put the items together in one scale, based on a reliable Cronbach's alpha and underlying theoretical assumptions. Respondents were excluded from the scale if they failed to fill out four or more of the items. A reliability analysis resulted in a Cronbach's alpha of 0.70 for males and 0.79 for females. Bryman (2012) has marked a Cronbach's alpha of 0.7 and higher as satisfactory, meaning the computed scales are of sufficient quality to use. After computing individual scales for males and females, a new variable was created in which either the males' or the females' response is used, depending on who filled out the questions on task division. If both partners participated in the panel, the woman's response is used. To be able to differentiate between the responses of males and females, a variable is created to control for which of the partners has filled out the questionnaire.

Type of union

The independent variable in this study is the type of union that individuals are in. This variable is measured using the highest level of education completed. Educational level is categorized into a lower, medium and higher education group. The low education category is made up of primary education and intermediate secondary education (vmbo). The middle group contains individuals with higher secondary education/preparatory university education (havo/vwo) and intermediate vocational education (mbo). The higher education group is comprised of higher vocational education (hbo) and university (wo). Couples were then ordered into homogamous (F=M), hypogamous (F>M) or hypergamous (F<M) marriages in order to be able to distinguish between different types of unions. Couples are considered homogamous-both low (LL) if both partners have a low or middle level of education. If both partners have high education, they are categorized as homogamous couples- both high (HH). A couple is considered hypogamous if the woman is higher educated than her husband. This is the case when the female is higher educated while the male is middle or lower educated, and also when the female is middle educated, and the male is lower educated. Hypergamous couples are couples in which the man is higher educated than his spouse, which is the case when he is higher educated while she is middle or lower educated, but also when he is middle-educated, and she is lower educated. Dummy variables are created to include this categorical variable into the regression analysis. Hypogamous unions are used as reference category.

Gender role values

The confounder variable, gender role values, is measured on the basis of the following items from the values part of the LISS core study: 1) The father should earn money, while the mother takes care of the household and the family, 2) A woman is more suited to rearing young children than a man, 3) A working mother's relationship with her children can be just as close and warm as that of a non-working mother, 4) A child that is not yet attending school is likely to suffer the consequences if his or her mother has a job and 5) Overall, family life suffers the consequences if the mother has a fulltime job. Answers were based on a Likert-scale from 1 to 5, whereby 1= fully disagree and 5= fully agree. Some of the items have been recoded so that a higher score on the scale means one has more equal gender role values (items 1, 2, 4 and 5). A factor analysis reduced the items to one dimension and a reliability analysis resulted in a Cronbach's alpha of 0.837 for males and 0.807 for females. Based on Bryman (2012), we may conclude the reliability of this scale is more than satisfactory. Again, the scales of males and females are put together in order to create a scale that includes both males and females. If the male participates in the LISS panel, his response is used, if the female participates in the panel, her response is used in the scale. If both partners participated, the woman's response is used. A control variable is made to be able to control for the fact that questions are filled out by either a male or a female.

Controls

It is important to control for certain variables in the data that could exert influence both on the dependent and independent variable. First, we considered age of the parent, because it is associated with both type of union (De Hauw et al., 2017) and division of childcare (Bianchi, Sayer, Milkie & Robinson, 2012). Furthermore, income and working hours have been taken into account, since earlier research has shown a connection with both type of union (Statline 2020a, 2020b) and division of childcare (Fuwa, 2004).

Reliability, validity and limitations

The reliability tests have demonstrated the reliability of items used to compute scales. In all cases, the Cronbach's alpha exceeded the satisfactory level of 0.7. Factor analyses ward the internal validity of the variables. Regarding the phrasing of the questions, we are limited to what the LISS Panel offers. For example, some of the items for the dependent variable are rather broad. In one and the same question, respondents are asked which of the parents do more of talking about problems in school *or* about manners, while parents may be unequally involved in either of the tasks. Same counts for the fetching children from or bringing children to daycare or school and attending sports activities and clubs. Another limitation regards the limited number of respondents in each of the four specific types of unions, which is why results are interpreted with the necessary caution.

Methods

The hypotheses were tested using a selection analysis for a confounding variable in SPSS. First, we explored to what extent the type of union (X) is related to the division of childcare within these unions (Y) in a linear regression model. Second, the relationship between gender roles and division of childcare tasks (Z-Y) was tested in a multinomial regression model. Then, the relationship between gender role values and type of union (Z-X) was tested in a linear regression model. Finally, we checked whether the association of the main relationship showed a significant decrease when the Z-variable was added to the model.

Ethics and privacy considerations

This study uses data that has been collected by CentERdata, a Dutch institute for data collection and research. The data has been anonymized and cannot be traced back to the individual household members. We did our utmost best to handle the data with care and we have not encountered any privacy problems. Appendix A includes an ethics and privacy checklist to ensure ethical use of the data.

4 Results

Descriptive statistics

Table 1 shows the descriptive statistics of the variables used in the analysis and gives insight in part of the background, behavior and values of the respondents. Some interesting findings may be noted. First, with a mean of 2.78 (reported by males) and 2.45 (reported by females), it shows that there is a slight tendency towards women doing more childcare tasks than men (1= female does most of the tasks, 5= male does most of the tasks). Second, more than half of the people are engaged in homogamous unions (57.9%), 21.6 percent of our target group is in a hypogamous union and 20.6 percent is in a hypergamous union. These marriage patterns resemble the general marriage patterns in contemporary societies (De Hauw et al., 2017). Third, with regard to gender values, a mean of 3.79 (reported by males and females) shows respondents are inclined towards more equal gender role values (1= unequal gender role values, 5= equal gender role values). Furthermore, income and working hours both show considerable differences between fathers and mothers. The income of males is about twice that of females. On average, males are engaged in the labor market for about 37 hours a week, while women work about 24 hours a week. This resembles the Dutch population in general, as Dutch women generally tend to have part-time jobs, while men work fulltime (Roeters, 2017).

Table 1: descriptive statistics of used variables: mean, standard deviation, minimum and maximum values, total number of respondents and Cronbach's alpha (if applicable)

Variable	*Mean*	*Standard deviation*	*Min.*	*Max.*	*N total*	*Cronbach's alpha* [a]
Task division [b] (Scale 9 items)	2.52	0.58	1	5	578	
Male reported	2.78	0.54	1.5	5	122	0.70
Female reported	2.45	0.57	1	5	456	0.79
Type of union	20.6% hypergamous 29.9% homogamous LL 28.0% homogamous HH 21.6% hypogamous				273 396 371 286	
Gender values [b] (Scale 5 items)	3.79	0.84	1	5	1049	
Male reported	3.79	0.83	1.6	5	278	0.84
Female reported	3.79	0.85	1	5	771	0.81
Age of parent						
Male	48.5	10.11	21	87	1439	
Female	45.5	9.5	21	80	1369	
Income						
Male	2363.14	1021.90	0	9500	1009	
Female	1206.88	897.00	0	6500	1032	
Working hours						
Male	37.53	14.92	0	100	639	
Female	24.03	11.76	0	65	618	

[a] Note: scales for males and females were put together after an individual reliability analysis.
[b] Values of the scale are based on the mean of the items.

Table 2 shows the mean and standard deviation of childcare task division and gender values for respondents across different types of unions (for graphical representation see figure A1 and A2 in appendix B). On average, men seem to take on slightly more of the tasks in hypergamous (F<M) and homogamous (HH) unions in comparison to homogamous (LL) and hypogamous (F>M) marriages. Generally, for all unions, women still take up most of the tasks. Second, gender role values show that males and females in homogamous (HH) and hypogamous unions have most equal gender role values compared to respondents in the other type of unions. Of note is that respondents in hypogamous unions generally report equal gender role values but have one of the least equal childcare task divisions (2.35 reported by females).

Table 3 shows the bivariate correlates for the continuous variables in the analysis. The correlations between independent variables are generally weak or moderate, meaning we can assume the likelihood of multicollinearity is minimal. The correlation between our main variables gender values and task division is r= 0.206 for males and r= 0.204 for females (both significant at the 0.05-level), meaning there is a positive, weak and significant correlation between the variables. People having more equal gender role values have, on average, a slightly more equal task division. Interesting in table 3 is the correlation between the working hours of females and task division (r= 0.255) and gender values (r=0.346). This shows that couples generally have more equal gender role values and a more equal task division if the female works more hours in the labor market. The working hours of males on the other hand have a very small and non-significant correlations with task division (r= -0.001) and gender values (r= 0.008). The correlation for income shows a similar story: women's income seems positively related with task division (r= 0.286) and gender values (r=0.468), while men's income shows small and non-significant correlations.

Table 2: bivariate statistics for dependent and independent variables: mean and standard deviation

	*Task division mean (standard deviation) **		*Gender values mean (standard deviation) ***	
	Male reported	***Female reported***	***Male reported***	***Female reported***
Hypergamous union (F<M)	2.69 (0.61)	2.46 (0.56)	3.68 (0.87)	3.46 (0.88)
Homogamous union LL	2.72 (0.30)	2.41 (0.62)	3.63 (0.88)	3.70 (0.82)
Homogamous union HH	2.80 (0.44)	2.54 (0.51)	4.02 (0.77)	4.03 (0.79)
Hypogamous union (F>M)	2.72 (0.50)	2.35 (0.59)	3.92 (0.70)	3.94 (0.80)

** 1= female does most of the tasks, 5= male does most of the tasks.*
*** 1=unequal gender role values, 5=equal gender role values.*

Regression analysis

In order to conduct a regression analysis, we checked for multicollinearity and a normal distribution of the dependent variable. Our data meets both requirements, so we proceeded with the analyses.

Hypothesis 1. The first hypothesis regarding the equality of childcare task division in different types of unions is tested by way of a regression analysis with *childcare task division* as dependent variable and the categorical variable *type of union* as independent variable. Despite being non-significant, model 1 (table 4) suggests traditional hypergamous unions (F<M) to be more equal compared to hypogamous unions (b=0.186, p=0.187). Moreover, the model suggests homogamous unions (HH) to be more equal compared to hypogamous unions. This relationship is near-significant (b=0.225, p= 0.063). Two lower educated partners show to have the least equal childcare division within the household. Unfortunately, this appears to be non-significant (b=-0.021, p=0.893). Despite the fact that the regression coefficient for homogamous unions did not significantly differ from hypogamous unions, an additional analysis has shown a nearly significant difference between homogamous (LL) and homogamous (HH) unions (b=0.246, p=0.069).

Table 3: bivariate correlates of all (continuous) variables in the analysis

	1	2	3	4	5	6	7	8	9	10
1. Gender values (reported by male)	-									
2. Gender values (reported by female)	0.581**	-								
3. Task division (reported by male)	0.206**	0.213**	-							
4. Task division (reported by female)	0.179**	0.204**	0.469**	-						
5. Working hours M	0.008	0.036	-0.001	-0.024	-					
6. Working hours F	0.263**	0.346**	0.296**	0.255**	0.023	-				
7. Net income in Euros M (standardized)	0.005	-0.026	-0.006	0.027	0.205**	0.012	-			
8. Net income in Euros F (standardized)	0.382**	0.468**	0.335**	0.286**	-0.089*	0.548**	-0.010	-		
9. Age M	-0.020	-0.046	0.068	0.036	-0.087*	-0.083*	-0.011	-0.123**	-	
10. Age F	0.014	-0.002	0.038	0.044	-0.081*	-0.050	0.021	-0.064*	0.889**	-

** Correlation is significant at the 0.01 level (2-tailed).*
*** Correlation is significant at the 0.05 level (2-tailed).*

The results allow some tentative conclusions to be drawn, despite the fact that not all the coefficients are significant. The outcomes suggest that homogamous unions (HH) may have the most equal childcare task division, followed by hypergamous (F<M) and hypogamous unions (F>M). Couples in homogamous unions (LL) seem to adopt the least equal task division. In other words, we did not find evidence to support the *rational choice hypothesis,* which expected hypogamous unions to result in the most equal division of childcare tasks, while hypergamous unions were expected to lead to the least equal division. The *gender hypothesis* expected homogamous unions (HH) to result in the most equal task division, followed by homogamous (LL), hypergamous and hypogamous unions. This hypothesis is partially supported: homogamous (HH) unions indeed appear to result in the most equal division of childcare tasks, followed by hypergamous and hypogamous unions. However, contrary to the expectation that homogamous unions (LL) would end up after homogamous unions (HH), the results suggest these couples may have the least equal division of tasks.

Hypothesis 2. The selection hypothesis tests the explanatory power of *gender values* as a confounding variable in the type of union – childcare task division association. The adjusted explained variance increased from 0.023 to 0.076, which implies gender values may improve the model more than is expected by chance.

First of all, the selection hypothesis assumes an effect of gender values on the type of union one engages in. This assumption was tested through a multinomial logistic regression analysis, which allows for a categorial dependent variable with more than two groups (table 5). Firstly, table 5 shows gender values is a significant predictor for ending up in a hypergamous union as opposed to engaging in a hypogamous union (b=-0.591, p=0.000, Exp(B)=0.554). As such, the odds of engaging in a hypergamous union compared to a hypogamous union are decreasing by a factor 0.554 with each unit increase on the gender role values scale. Secondly, the odds of ending up in a homogamous (LL) relationship rather than a hypogamous one significantly decreases with a factor of 0.692 with every unit increase on gender values. Lastly, gender values are no significant predictor for engaging in homogamous (HH) unions compared to hypogamous unions. Despite its non-significance, the effect of gender values on this type of union is positive (b=0.143, p=0.222), meaning the likelihood of engaging in a homogamous union (HH) increases when gender role values become more equal. Second, the selection hypothesis assumes an effect of gender values on task division. Model 2 shows a significant regression coefficient for gender values (b=0.159, p=0.007) (see table 4). This implies that when gender role values are more equal, the childcare task division within a union increases with 0.159 points, meaning the male takes on more childcare tasks.

All in all, we found support for the explanatory value of gender values as a predictor for the type of union one engages in. The results also show gender values is a significant positive predictor for childcare task division. As for the main relationship, table 4 shows an increase of the regression coefficient with gender values added to the model. The regression coefficient of hypergamous unions increases from r=0.186 to r=0.296, and the coefficient becomes significant at the 0.05-level (p=0.039). For homogamous unions (HH), the regression coefficient significantly increases from r=0.225 to r=0.251 (p=0.034). Finally, homogamous unions (LL) increase from r= -0.121 to r= -0.016 (p=0.917).

In case of a selection effect, we expect the effect of type of union on the dependent variable to decrease. Therefore, rather than a selection effect, it seems like the independent variable gender values takes on the role of a suppressor variable. A suppressor variable substantially improves the prediction of the dependent variable and is characterized by opposite signs regarding the main and indirect relationships between the independent and dependent variables (Thomas & Levine, 1997; MacKinnon, Krull & Lockwood, 2000). With the suppressor *gender role values* added to the model, the effects of type of union are increasing. As such, the suppressor variable *gender values* may improve the relationship of other independent variables and the dependent variable *childcare task division*, which is reflected in higher regression coefficients (Pandey & Elliot, 2010). Also, opposite signs are present in our model: e.g. in the case of hypogamous unions, the effect of gender values on type of union and childcare task division is positive, while these unions do not have a more equal task division (thus, the main effect is negative). In other words, the inclusion of gender

Table 4: results of a stepwise regression with childcare task division as dependent variable (reference group = hypogamous unions)

	Model 1				*Model 2*				*Model 3*			
	b	SE	Beta	p	*b*	SE	Beta	p	*b*	SE	Beta	p
Dependent variable												
Childcare task division	2.418	0.100		0.000	1.748	0.263		0.000	1.482	0.503		0.004
Independent variables												
Hypergamous union	0.186	0.140	0.155	0.187	0.296	0.142	0.247	0.039	0.492	0.157	0.358	0.007
Homogamous union LL	-0.121	0.154	-0.015	0.893	-0.016	0.149	-0.011	0.917	0.121	0.161	0.088	0.455
Homogamous union HH	0.225	0.120	0.232	0.063	0.251	0.117	0.258	0.034	0.287	0.126	0.295	0.024
Gender values					0.159	0.058	0.258	0.007	0.100	0.061	0.162	0.107
Controls												
Age M									0.010	0.011	0.128	0.393
Age F									-0.006	0.013	-0.073	0.636
Income M									-0.013	-0.060	-0.021	0.831
Income F									0.131	0.070	0.231	0.065
Working hours M									0.003	0.005	0.067	0.478
Working hours F									0.008	0.005	0.177	0.123
Task division: response by*									-0.198	0.226	-0.090	0.383
Gender values: response by*									0.095	0.151	0.066	0.530
R^2 (adjusted)	0.023				0.076				0.124			
N	565				475				117			

**0=male, 1=female*

Table 5: results of a multinomial logistic regression analysis with type of union as dependent variable

		B	*SE*	*p*	*Exp(B)*
*Type of union**					
Hypergamous (F<M)	Intercept	2.135	0.456	0.000	
	Gender values	-0.591	0.119	0.000	0.554
Homogamous (LL)	Intercept	1.657	0.436	0.000	
	Gender values	-0.369	0.111	0.001	0.692
Homogamous (HH)	Intercept	-0.369	0.474	0.437	
	Gender values	0.143	0.117	0.222	1.153
N	984				

*reference category = hypogamous unions (F>M)

values *strengthens* rather than weakens the predictive validity of the independent variable type of union. Hence, we did not find support for the selection hypothesis in the LISS dataset.

Control variables. In model 3 of table 4, the control variables are added to the analysis. After adding the control variables, the main relationship is increasing. Also, the variable gender values has become non-significant (b=0.100, p=0.107). This could be caused by adding the control variable *working hours of females*. Before adding this variable, gender values was significant (p=0.018), even though the effect of the independent variables still showed an increase. Moreover, without working hours of females in the model, the standardized income of women shows to have a significant effect (b=0.188, p=0.000). However, after adding the control variables, the sample size strongly decreased from 475 to 117 respondents. As such, this could explain the described changes, as well as the non-significant effects of most variables in this third model. Nonetheless, the model does show some interesting outcomes. For example, with every year that males get older, they score higher on the childcare task division scale (b=0.010, p=0.393). Table 4 also shows that if men increase their earnings, it seems like they do less in the household, while they take on more childcare responsibilities if the females' salary increases. Several robustness checks have shown that different ways of operationalizing results in similar outcomes regarding our hypotheses. Appendix C elaborately discusses these checks and their outcomes.

5 Conclusion and discussion

This article set out to study differences in childcare task division between couples in hypogamous, hypergamous and homogamous unions. Specifically, we assessed to what extent gender values can explain differences in the distribution of childcare tasks among these couples. We did this by analyzing data from the Longitudinal Internet Studies for the Social Sciences (LISS) in the Netherlands.

First, it should be noted that this research supports the idea that females still take up the lion's share of childcare tasks. This is in line with previous research, which time and again shows that men take up less childcare and household responsibilities than women (Bonke & Esping-Andersen, 2011). The focus of this research, however, was on differences in childcare task divisions among different types of unions and our findings suggest that these differences do indeed exist. Couples in hypergamous, homogamous (LL and HH) and hypogamous unions all have their own specific distribution of who does what and how often. Most remarkable in this respect is that our results show to be in line with the gender hypothesis rather than the rational choice hypothesis. Based on time availability and relative resources, the rational choice hypothesis expected couples in hypogamous unions (F>M) to have the most equal distribution of childcare tasks, while hypergamous unions (F<M) were expected to be least equal (Fuwa, 2004). Contrary to this, our analyses have shown that couples in traditional, hypergamous unions distribute their childcare responsibilities more

equally than couples in more non-traditional, hypogamous unions. Homogamous (LL) unions had the least equal task division, while couples in homogamous (HH) unions divided their childcare tasks most equally.

Therefore, we found partial support for the gender hypothesis, which expected hypogamous unions to result in a least equal task division, followed by hypergamous unions and homogamous unions (LL), while homogamous unions (HH) were expected to be most equal. The overall results suggest that the rational choice perspective is rather limited in explaining differences in division of childcare tasks. In fact, childcare could be perceived as a desirable activity by men and women, and therefore, people may feel less need to bargain out of these tasks. Moreover, women in hypogamous unions might actually engage in deviance mitigation behavior. That is, women may behave in stereotypical ways within the household in order to compensate for the violation of norms in the respect of education and income (Brines, 1994). As such, the actual task division in hypogamous unions is in contrast with the hope for a potential of change towards a more equal division of household tasks between males and females.

Another conclusion from our analysis is that the extent to which a person holds equal gender role values seems to determine the type of union one ends up in. To our knowledge, this is the first report of an association between the gender values a person holds and their type of union. For example, people with equal gender role values are more likely to end up in hypogamous unions than in hypergamous unions. Moreover, in line with Poortman and Van der Lippe (2009) and Weisner et al. (1994), our results support the expectation that more equal gender role values lead to a more equal childcare task division between partners. However, while looking at couples in specific types of unions, their gender values and childcare task division, we found some unexpected results.

First, in spite of holding quite equal gender role values, couples in hypogamous unions (F>M) do not translate this into an equal childcare task division. In fact, hypogamous unions belong among the most unequal type of unions. Apparently, both men and women do adopt some sort of compensation behavior to make sure they adhere to the gender norms ingrained in society. This may be explained through fear of internalized (e.g. feeling guilty) and externalized sanctions (e.g. through peers or family) (Cialdini, Kallgren & Reno, 1991). However, the reported inequalities in task division in hypogamous unions could also be seen in another light. Women in hypogamous unions have equal gender role values and may be especially preoccupied with gender equality and an equal distribution of tasks. In this line of reasoning, a certain childcare task division may be experienced as more unequal than it actually is. The childcare task division scale could therefore be biased for women in hypogamous unions because of a strong focus on gender (in)equality. In line with this argument, we would assume women in homogamous unions (HH) to be preoccupied with gender equality as well, since table 2 shows these women to have even more equal gender role values than women in hypogamous unions. However, contrary to women in hypogamous unions, women in homogamous unions (HH) report that their childcare tasks are rather equally distributed among the partners. This could be explained by the fact that gender inequalities are less of an issue for women in homogamous unions (HH), because these unions have less inequalities in the first place (e.g. with regard to education). Women in homogamous unions (HH) may therefore perceive less inequalities in task division because they are less preoccupied with marital inequalities. Thus, it may be possible that a more unequal division of tasks among hypogamous couples is more of a perception than a reality. However, future research is needed to validate or refute these ideas.

A second unexpected result is that couples in hypergamous unions show less equal gender role values than people in other type of unions, but they do adopt a rather equal childcare task division. This exemplifies a rather counterintuitive pattern, as we would expect less equal gender values to lead to a less equal task division. Possibly, fathers may feel they can afford to deviate from the traditional gender norms because they are breadwinners in the first place. This may lead them to be more involved with their children's upbringing and take on more responsibilities regarding their children. So, meeting certain expectations in one area (namely, being higher educated and financially supporting the family) may give space to show increasing involvement in the upbringing of children. Lastly, the patterns for homogamous unions are more straightforward. Homogamous unions (HH) generally have higher gender values and a rather equal childcare

task division, while homogamous unions (LL) have lower gender values, as well as a less equal division of childcare tasks.

In short, our findings suggest that different types of unions exemplify different childcare task divisions. Also, gender role values seem to influence the type of union a person engages in. However, couples do not always behave in line with their gender role values. In conclusion, we did not find support to assume gender role values explain the differences in distribution of childcare tasks among heterogamous and homogamous couples. This is consistent with previous research, indicating a discrepancy between egalitarian gender values and egalitarian practices in Europe (Kjeldstad & Lappegård, 2014). Aligning behaviors with ones' gender role values may be encouraged or inhibited by broader societal structures, such as the tax or welfare system in a certain country (Bühlmann et al., 2010). To illustrate, in the case of hypergamous unions, couples did not hold equal gender role values, but their task division was rather equal. One possible explanation here is that the Dutch government allows for this by penalizing one-income households through a higher tax burden (Koot, Boer & Jongen, 2018). This encourages both male and female partners to be employed in the labor market, which in turn may lead to a more equal division in regard to parenting since both parents have more or less equal working hours and time available. Obviously, these societal structures apply to citizens in all types of unions. As such, women in hypogamous unions are encouraged to join the labor market as well. However, for these higher educated women it may be more important to 'do gender', i.e. adapting to certain gender norms (Fuwa, 2004). Women in hypergamous unions are less likely to feel the necessity of this kind of behavior, since they meet the gender norms in other areas. Even though certain policies are plausible explanations for couples not behaving in line with their gender values, it may be interesting for future research to examine this discrepancy further.

Of note is that the outcome of the regression analyses shows non-significant results for most independent variables in the male model (see table A4 in the appendices). This suggests that males do not experience a relationship between type of union and task division as such. Gender differences in reporting time spent on household tasks and childcare could be a possible explanation. Yavorsky, Kamp Dush and Schoppe-Sullivan (2015) have studied differences between males and females in time spent on household and childcare tasks. The authors found that men often overestimate their time spent on household and childcare while filling out surveys. Especially men who hold equal gender role values seem to overreport their contribution to the household. Apparently, they want to align their gender role values with their behaviors (Press & Townsley, 1998, in Yavorsky et al., 2015). Given these insights, men in the LISS-data may have reported to take on more childcare tasks than they do in reality. Especially men in hypogamous and homogamous unions (HH), who are generally holding more equal gender role values, may have wanted to report behavior similar to their gender role values. Hence, we may not have found significant outcomes in the model reported by males because of the urge to align values and behaviors.

As with the majority of studies, the findings of this study have to be seen in light of some limitations. First of all, Thompson and Levine (1997) show we should be careful in identifying suppressor variables. Statistics pointing to a suppression context are possibly produced by a sample that is too small. Since the sample in this study is rather limited for different types of unions, this could apply to our data. In other words, regression coefficients may have shown substantial increases because the sample is too small to indicate valid outcomes (Thompson & Levine, 1997). The relatively small sample size that meets the requirements of our target group also demands caution in drawing conclusions and complicates the process of finding significant results. The sample size especially decreased after adding the control variables to the model, which resulted in weak effects and complicates interpreting to what extent the effects of different types of unions change by adding the controls. However, the directions of the effects remain unchanged and relationships that were significant before adding the controls, remain significant. Secondly, the Netherlands stands out in its context of the 1.5-earner model. In most OECD countries, both males and females work 40 hours per week (OECD, 2018). The Netherlands is an exception here, as most women work less than 30 hours per week (OECD, 2018). The results found in this study could be different in a country where dual earner couples are more common. To give an example, in countries with high numbers of dual-earner households, the idea of a *main* breadwinner may be less widespread (e.g. the United States and many East-

European countries). Thus, couples that are both employed in the labor market and both take on their responsibilities in the household may feel less like they are deviating from existing norms. As a result, women in dual-earner households may lack the urge of overcompensation in the household, while men may feel less like they should avoid household and childcare tasks. Future studies should focus on different research contexts to find out whether this is the case.

Despite the limitations mentioned here, the present research has gone some way towards enhancing our understanding of the distribution of childcare tasks among couples in different type of unions. An important implication from our research is that especially people in hypogamous and hypergamous unions show a disbalance between gender role values and behaviors. As implied by the cognitive dissonance theory, people could experience this disbalance between their gender role values and actual behavior, and this could lead to feelings of impotence, dissatisfaction and stress (Harmon-Jones & Harmon-Jones, 2007). Therefore, our research suggests it is important for policy makers to create circumstances which allows people to show behaviors in line with their gender role values. A further important implication is that unequal childcare task divisions may still hinder women to be fully employed in the labor market. Especially in cases where a mother is responsible for looking after the children when they come home from school, she is confined to working within certain time slots (Cerrato & Cifre, 2018). As for fathers, many of them report quite equal gender role values. Nevertheless, extensive father involvement still does not seem to be an integral part of the upbringing of children. This might imply that men are having a hard time to put their gender role values into practice (Bühlmann et al., 2010). In turn, this has implications for children growing up in a family where the mother is relatively more involved with the children. In the first place, these children will perceive their parents as their role models and will accordingly be socialized into certain (more or less traditional) gender norms. Also, children may be less interested in typically feminine activities and may suffer from a small(er) degree of father involvement (Deutsch et al., 2001).

We suggest a number of recommendations for future research. Future work on childcare or household task division should consider the explanations for the discrepancy between the equal gender role values and unequal task division of couples in hypogamous unions more carefully. This study shows that one possible explanation for this discrepancy may be the compensation behavior of women in order to mitigate deviation from the norm. Nonetheless, future research is required to investigate other explanations for this discrepancy in order to allow men and women to show behavior in line with their equal gender role values. Also, investigating potential changes in division of childcare tasks in the context of Covid-19 might prove important for future work. The temporary closure of primary and secondary schools has forced children to stay at home for an extensive time period. As such, parenting may have become more intensive for most couples with children of school age. On the one hand, the distribution of tasks could have become more unequal in case one of the parents is working in a vital sector. On the other hand, if both parents work from home, they might change up their habits towards a more equal distribution. If any, further research should demonstrate these changes in task distribution.

To conclude, our data suggest that we still have a long way to go to an equal division of childcare tasks, as women still take on relatively more responsibilities in all of the unions discussed. We have shown that couples in hypogamous and hypergamous unions generally do not align their behavior with their gender role values. In fact, they either show a more equal or a less equal division of childcare tasks compared to their values. The main conclusion that can be drawn is that men with lower educated wives take on relatively more childcare responsibilities than men with higher educated wives, even though this is not in line with the gender role values that these couples hold. As such, exploring which factors cause couples to deviate from their gender role values may be considered a promising step on the path of change towards more equality.

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Appendix A: *Ethics and privacy checklist*

ERASMUS UNIVERSITEIT ROTTERDAM

CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor. This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal. The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: Differences in the distribution of childcare tasks among heterogamous and homogamous couples: Is it due to gender role values?

Name, email of student: Mirthe Heistek (457760mh@student.eur.nl)

Name, email of supervisor: Renske Verweij (Verweij@essb.eur.nl)

Start date and duration: March-July 2020

Is the research study conducted within DPAS **YES** - NO

If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: TYPE OF RESEARCH STUDY

Please indicate the type of research study by circling the appropriate answer:

1. Research involving human participants. YES - **NO**

2. Field observations without manipulations that will not involve identification of participants. YES - **NO**

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). **YES** - NO

PART III: PARTICIPANTS
(Complete this section only if your study involves human participants)

Part IV: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

I will make use of my personal computer that is secured with a password. I am the only one having access to this computer.
Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

I am responsible for this.

How (frequently) will you back-up your research data for short-term data security?

Back-ups will be made weekly.

In case of collecting personal data how will you anonymize the data?

n.a.

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE
Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

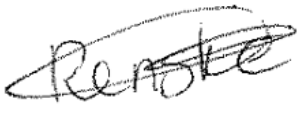
Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Mirthe Heistek

Date: March, 12, 2020

Name (EUR) supervisor:

Date: March 2020



Appendix B: *Graphical representation of childcare task division and gender values in different types of unions*

Figure A1: childcare task division in different types of unions (1=female does all the tasks, 5= male does all the tasks)

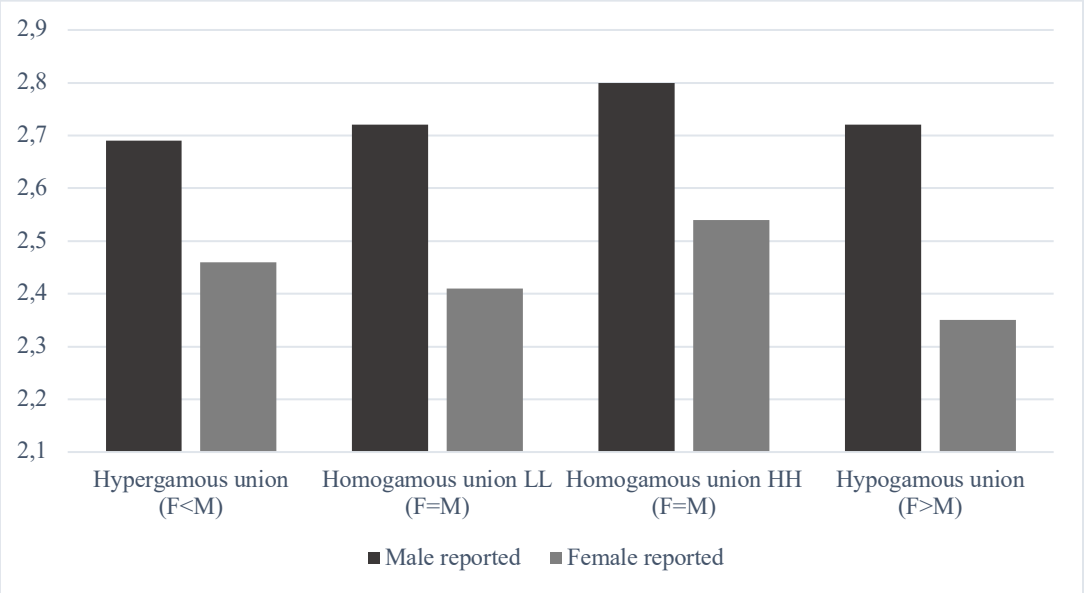
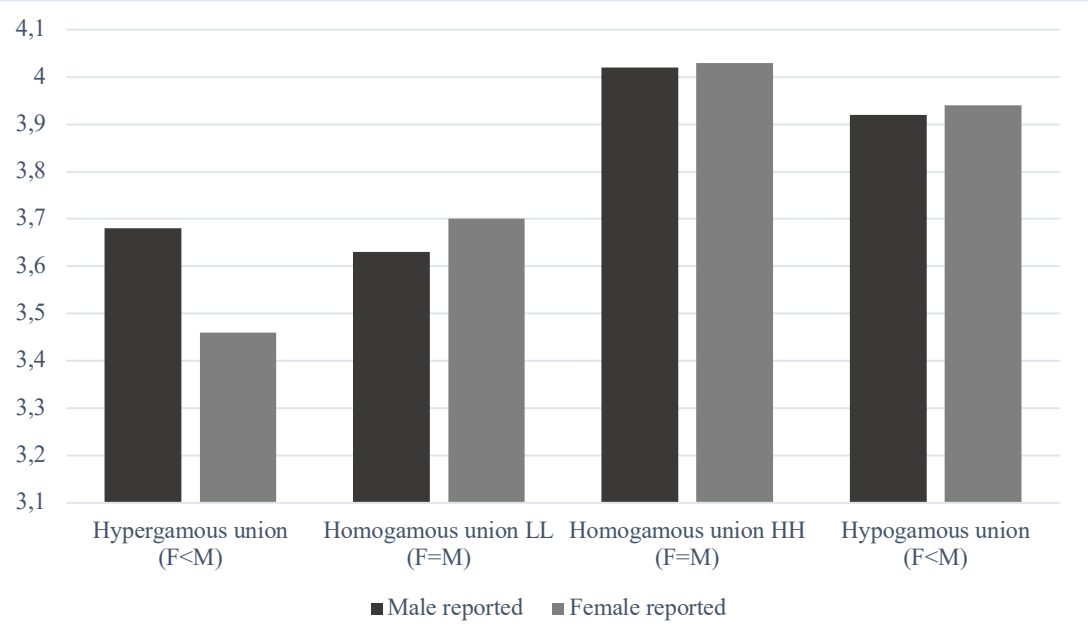


Figure A2: gender values in different types of unions (1= unequal gender role values, 5= equal gender role values)



Appendix C: *Robustness checks*

We conducted some robustness checks to test whether other operationalization methods would result in the same outcomes regarding our hypotheses. Table A2 shows a regression table in which the independent variable is operationalized differently. Instead of using one variable which includes both partners' educational level, we used one variable for the educational level of females (either low, medium or high) and one variable that categorizes the educational level of her partner as higher, similar or lower. As such, we are still able to know whether a type of union is categorized as hypogamous, homogamous or hypergamous. Additionally, we know the educational level of the female. As for the ranking of unions from most equal to least equal childcare task division, table A2 shows hypergamous unions to be most equal, followed by homogamous and hypogamous unions. In other words, a different way of analyzing the data results in a slightly different outcome: hypergamous unions still prove to have a more equal task division than hypogamous unions. However, the regression analysis also shows homogamous unions to be more equal than hypogamous unions. As such, couples in hypogamous unions would have a least equal task division. This difference in outcome is likely to be caused by the merging of the homogamous LL and HH categories, which are separated in the main regression because of the expectation that the task division among this type of union is likely to differ across educational levels.

Secondly, patterns in regard to task division and gender values were more extensively explored for males and females separately. Even though table 2 generally shows resembling patterns for men and women, this was checked by running a regression model for males and females separately. For both models, gender values and task division are filled out by either only females or only males. As such, we can make sure males and females do not demonstrate opposite patterns, which may cancel out possible effects. Table A3 and A4 shows the regression analysis run for females and males respectively. The outcome of the regression analyses shows non-significant results for most variables in the male model, which does not allow us to make solid interpretations of the model. The female model does allow us to draw some tentative conclusions, however. Homogamous unions (HH) once again prove to be most equal in childcare task division (b=0.266, p=0.042). Hypergamous unions are second in place, followed by homogamous (LL) and hypogamous unions. It should be noted that these effects are near-significant or non-significant.

Table A1: ranking of task division by type of union (from male does more - female does more)

Main regression model (table 4)	Regression model including female education (table A2)	Regression model for females only (table A3)
Homogamous (HH)	Hypergamous	Homogamous (HH)
Hypergamous	Homogamous	Hypergamous
Hypogamous	Hypogamous	Homogamous (LL)
Homogamous (LL)		Hypogamous

Table A1 compares the outcomes of different regression models regarding equality of childcare task division in all type of unions. The first and third model both show homogamous (HH) unions to be most equally divided, followed by hypergamous unions (F<M). In other words, the males in these unions take on more childcare tasks compared to males in other type of unions. However, as shown in table 2, women generally still take on more tasks compared to men. The second model is slightly different compared to the other models, as there is a merged category for homogamous (HH) and (LL) unions. Since homogamous (HH) and (LL) unions ended up respectively first place and last place in the main model, it seems straightforward for this category to end up in the middle. Still, the second model shows couples in hypergamous unions to have a more equal task division than couples in hypogamous unions (F>M). Overall, we may be quite certain about the (more) equal division of childcare in hypergamous unions as compared to hypogamous unions. However, as shown by the first and third model: there is less certainty about the position of hypogamous unions relative to homogamous (LL) unions.

With regard to the hypotheses, the outcomes in table A1 still point in the direction of the gender hypothesis over the rational choice hypothesis. The gender hypothesis expected homogamous unions (HH) to be most equal, followed by homogamous (LL), hypergamous and hypogamous unions. All three of the regression analyses in table A1 show it is likely that hypergamous unions are more equal than hypogamous unions. Even though we cannot be completely sure about the position of homogamous unions, it is likely that homogamous unions (HH) have a more equal task division relative to homogamous unions (LL). With regard to gender values, the robustness checks show outcomes similar to the main model. The regression coefficient is positive and significant or nearly significant. Again, adding gender values to the model causes an increase in the main relationship between type of union and task division. As such, the robustness checks do not result in different conclusions.

Table A2: *results of a stepwise regression with childcare task division as dependent variable and an alternative operationalization of the variable type of union*

	Model 1				*Model 2*				*Model 3*			
	b	SE	Beta	p	*b*	SE	Beta	p	*b*	SE	Beta	p
Dependent variable												
Childcare task division	2.513	0.099		0.000	1.844	0.252		0.000	1.256	0.482		0.010
Independent variables												
Hypergamous union	0.522	0.168	0.435	0.002	0.626	0.167	0.522	0.000	0.705	0.179	0.588	0.000
Homogamous union	0.176	0.111	0.178	0.114	0.196	0.107	0.198	0.071	0.256	0.116	0.259	0.029
Female education: low	-0.419	0.190	-0.252	0.030	-0.389	0.185	-0.235	0.037	-0.369	0.196	-0.222	0.063
Female education: medium	-0.437	0.113	-0.414	0.000	-0.449	0.110	-0.424	0.000	-0.417	0.121	-0.395	0.001
Gender values					0.160	0.055	0.259	0.005	0.112	0.059	0.182	0.058
Controls												
Ages M									0.011	0.011	0.148	0.307
Age F									-0.005	0.012	-0.054	0.714
Income M									-0.039	0.057	-0.063	0.496
Income F									0.076	0.068	0.135	0.263
Working hours M									0.006	0.004	0.118	0.195
Working hours F									0.009	0.005	0.207	0.061
Task division: response by*									-0.138	0.218	-0.063	0.528
Gender values: response by*									0.070	0.144	0.048	0.630
R^2 (adjusted)	0.105				0.160				0.196			
N	560				471				117			

**0=male, 1=female*

Table A3: *results of a stepwise regression with childcare task division and gender values filled out by women only (reference group = hypogamous)*

	Model 1				*Model 2*				*Model 3*			
	b	SE	Beta	p	*b*	SE	Beta	p	*b*	SE	Beta	p
Dependent variable												
Childcare task division (reported by females)	2.392	0.100		0.000	1.908	0.276		0.000	1.446	0.491		0.004
Independent variables												
Hypergamous union	0.199	0.149	0.176	0.183	0.270	0.151	0.238	0.077	0.383	0.164	0.338	0.022
Homogamous union LL	0.030	0.159	0.024	0.852	0.033	0.157	0.026	0.835	0.156	0.168	0.124	0.355
Homogamous union HH	0.266	0.129	0.289	0.042	0.274	0.127	0.297	0.034	0.319	0.134	0.346	0.019
Gender values (reported by females)					0.116	0.061	0.194	0.059	0.049	0.063	0.082	0.440
Controls												
Age M									0.002	0.012	0.030	0.862
Age F									0.006	0.014	0.077	0.659
Income M									-0.014	0.059	-0.024	0.818
Income F									0.117	0.071	0.220	0.101
Working hours M									0.003	0.005	0.068	0.502
Working hours F									0.007	0.005	0.160	0.182
R^2 (adjusted)	0.030				0.055				0.106			
N	449				362				101			

Table A4: *results of a stepwise regression with childcare task division and gender values filled out by men only (reference group = hypogamous unions)*

	Model 1				*Model 2*				*Model 3*			
	b	SE	Beta	p	*b*	SE	Beta	p	*b*	SE	Beta	p
Dependent variable												
Childcare task division (reported by males)	2.742	0.122		0.000	2.136	0.326		0.000	1.938	0.606		0.002
Independent variables												
Hypergamous union	-0.135	0.170	-0.100	0.430	-0.063	0.171	-0.047	0.713	0.029	0.201	0.022	0.886
Homogamous union LL	-0.026	0.192	-0.016	0.894	0.021	0.191	0.013	0.913	0.121	0.210	0.076	0.564
Homogamous union HH	0.011	0.147	0.010	0.941	0.038	0.145	0.035	0.793	0.034	0.162	0.031	0.832
Gender values (reported by males)					0.147	0.073	0.202	0.048	0.126	0.077	0.173	0.106
Controls												
Age M									0.011	0.014	0.124	0.451
Age F									-0.006	0.016	-0.062	0.714
Income M									0.042	0.075	0.061	0.583
Income F									0.119	0.088	0.193	0.182
Working hours M									0.000	0.006	-0.005	0.965
Working hours F									0.001	0.006	0.011	0.934
R^2 (adjusted)	-0.019				0.011				-0.013			
N	367				311				103			