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How do working life and its interplay with family structures affect men's and women's gender role attitudes?

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Abstract

Using fixed effects models and longitudinal data from the British Household Panels Surveys (BHPS) and the follow-up study “Understanding Society” (UKHLS), the current study examines the impact of change in employment status and working conditions on gender role attitudes by simultaneously considering the family structure. A second research question investigates whether employment status and family life interact with one another regarding their influence on gender role attitudes. This study shows that men are more traditional before marriage as well as after separation or divorce, while the same correlation does not seem to exist for women. Moreover, having children affects men’s but not women’s tendencies towards more traditional attitudes. A further important conclusion drawn in this study is that employment status moderates the relationship between children and gender role attitudes: women working full-time develop more egalitarian gender role attitudes if they have additional children while their counterparts who are only working part-time or not working at all become more traditional in the same situation. Regarding occupational circumstances, it turns out that, for men, egalitarianism decreases as income increases; for women, on the other hand, the opposite is the case. Further, job satisfaction affects only the gender role attitudes of women: the higher the job satisfaction is the more egalitarian are their attitudes. In sum, our findings demonstrate that it is essential to consider both family structures and employment circumstances — not to mention their interdependency — to gain a deeper understanding of changes in gender role attitudes of adults.

1. Introduction

Economic, social and political changes in the last five decades have affected norms, roles and social actions in many economically developed countries. One of the major social developments has been the increase in women's labor participation (Blossfeld & Hakim, 1997). This trend was accompanied by a rise of egalitarian gender role attitudes. Accordingly, the percentage of people who take paid employment of women for granted has increased substantially over the last years (Alwin et al., 1992; Bolzendahl & Myers, 2004; Brooks & Bolzendahl, 2004; Scott et al., 1996; Kraayenkamp, 2012). Previous investigations have found that individual employment status and 'his' or 'her' basic gender role attitudes are strongly connected (Corrigan and Konrad 2007; Cunningham 2008; Kraayenkamp 2012). However, relatively little is known about the mechanism of intra-individual changes in gender role attitudes over time. There are indeed recent longitudinal studies which demonstrate that there are considerable intra-individual changes over time (Baxter et al. 2015; Kim and Cheung 2015), but what are the underlying causes thereof and what role do employment and working circumstances play therein? In the present study, we assume that it is likely that a person's gender role attitudes change under changing circumstances in the context of his or her working life and with respect to life events. Regarding the former, we focus on working life because transitions in an individual's professional life can change their experience, their interaction partners as well as their social demands and/or role requirements. Any of this, in turn, may affect their gender role views (Fan and Marini 2000; Vespa 2009). The influence of employment and working circumstances is assumed particularly important for women's gender attitudes, but even for men, job status and working conditions may affect their attitudes regarding gender roles. However, we expect that the effects on egalitarianism will partly differ for women and men (Bolzendahl & Myers 2004; Brewster & Padavic 2000; Kraayenkamp 2012).

To gain a better understanding of the impact of working life conditions on changes in gender attitudes, we use fixed effects models with detailed information on employment status, job satisfaction, individual income and job prestige. The information is derived from longitudinal data provided by British Household Panels Surveys (BHPS) and the follow-up study "Understanding Society" (UKHLS). However, it is important to consider the individual's family structure, for it can be assumed that the effect of employment characteristics depends on an individual's family structure. Thus, two main research questions are addressed. First, we investigate the consequences of change in employment status and work conditions on the development of gender role attitudes by simultaneously considering the family structure. Our

second research question relates to the interplay between family events, such as marriage or the birth of children, and employment changes with respect to transitions in attitudes toward gender roles. More specifically, we examine the question of whether family life and employment status interact in impacting gender roles attitudes.

The current study complements previous work and makes considerable contributions. First, using a longitudinal design and fixed effects models allows for the investigation of intra-individual changes in gender attitudes over time. Second, we conduct an in-depth examination of the impact of change in employment status and work conditions as well as transitions in family structure. Third, since we assume that the effect of employment changes depends on family life, we analyze the interplay between family life events and employment changes in detail by investigating the interaction effects between family life events and current employment status. Fourth, we examine the gender attitudes of men and women separately, since we assume that the family structure and work conditions influence men and women in different ways. We choose this approach to gain a deeper understanding of the mechanisms underlying the rise of egalitarian attitudes regarding gender roles in many countries.

2. State of Art and Hypotheses

Gender role attitudes often refer to normative beliefs about “the appropriate role-related behaviors for women and men” (Frieze and Ciccocioppo 2009: 751). Traditionally, women are assigned the role of homemaker and caregiver whereas men are given the breadwinner role (Cunningham et al. 2005). Thereby, the call for both genders to perform similar tasks in terms of housework sharing and labor market participation is considered as pertaining to liberal or egalitarian values.

Many studies have revealed a close connection between certain social characteristics relating to demographics, family status and employment and the individual view on gender roles. For example, it is well known that younger and more educated individuals have more egalitarian attitudes while older and less educated people tend towards more traditional attitudes (Bolzendahl and Myers 2004; Brewster & Padavic 2000; Brooks & Bolzendahl 2004; Corrigan & Konrad 2007; Cunningham 2005; Fan and Marini 2000). Moreover, women generally hold more liberal views than men do and employed women adopt more egalitarian attitudes than unemployed women (Scott et al. 1996; Vespa 2009). In this context, previous studies have suggested that paid employment of women has an effect on gender attitudes among both women and men (Cunningham 2008; Fan and Marini 2000; Kraaykamp 2012; Lendon and Silverstein 2012). However, in the case of women, this might be due to self-selection since women with liberal gender attitudes are more likely to work in paid jobs than women with traditional gender attitudes.

Many previous studies explain the development of gender role attitudes by conducting either interest-based or exposure-based approaches (Bolzendahl and Myers 2004). Interest-based explanations assume that people develop egalitarian gender attitudes if they stand to benefit from gender equality (Bolzendahl and Myers 2004). However, the belief in this benefit depends on the specific interest structures of individuals as well as their personal objectives and the particular life context. In the context of working life, for instance, this model can explain why women develop more egalitarian views regarding female labor force participation. Having their own income from employment gives women more economic autonomy. Furthermore, they benefit from employment because of the psychological rewards of working, such as increasing self-confidence and a sense of self-fulfillment. But men may also benefit from egalitarian attitudes if additional income made available by women’s labor force participation puts households in a better financial position (at least as it concerns married or cohabiting couples). In the context of family structure, women carrying out the housewife and mother role may

actually be interested in maintaining gender inequality with respect to working life, since this generates indirect advantages through their male counterparts (e.g. if their counterpart benefits from reduced competition). However, from an interest model perspective, women should prefer gender equality in most cases because it reduces their domestic workload and improves their professional opportunities as well as their work–life-balance. In the case of men, gender inequality may be of benefit to them, as women perform the housework and take care of children, where applicable. Furthermore, inequality is beneficial for men in that it reduces competition within the workplace and working life.

While, from the standpoint of the interest model, shifts in gender attitudes occur if individuals' interests change, exposure-based models presume that attitudes change if people are exposed to new gender ideologies. According to the latter perspective, individuals develop liberal attitudes if they are exposed to egalitarian ideas or to situations that support gender equality (Bolzendahl and Myers 2004). The exposure approach argues that working women are exposed to discriminatory practices which makes them aware of gender inequality and feminist views. Moreover, working women adopt egalitarian attitudes due to their interaction with other successful employed women who have reconciled their work and family lives. In addition, employment also trains women to perform in the workplace (Banaszak and Plutzer 1993). For men, being exposed to employed women can liberalize their gender role attitudes, as they are exposed to egalitarian gender attitudes in their own family lives. Regarding family structure, the argument can be made that women who stay at home and accept their role as housewives and mothers with economic dependence on their spouses are more exposed to traditional gender roles. This, again, can reinforce traditional orientations for both men and women.

Empirical analyses based on cross-sectional data or short time panel studies (and often with selected samples, e.g. only women or people in certain age groups) conducted over the last few decades have been able to confirm to a large extent both the interest- and the exposure-based model with respect to women's labor market participation. Several studies have shown that women's labor force participation, i.e. their entering into labor market is — in particular for women, but also for men — often connected with liberal gender attitudes (Bolzendahl and Mayers 2004; Cunningham 2008; Fan and Marini 2000; Kroska and Elman 2009; Gubernskaya 2010; Kraaykamp 2012; Lendon and Silverstein 2012; Kim and Cheung 2015). Moreover, empirical research suggests that women employed full-time are generally more egalitarian than women working part-time (Alwin et al. 1992; Cunningham et al. 2005; Kraaykamp 2012). With regard to the influence of job circumstances, studies have found that women with higher

incomes often develop more egalitarian gender role attitudes (e.g. Banaszak and Leighley 1991). The empirical evidence on the impact of job prestige is ambiguous. While some studies have found a positive connection between women's job prestige and egalitarian attitudes (Morgan and Walker 1983), others have shown no relationship (e.g. Harris and Firestone 1998). We are not aware of any available international studies on the influence of job satisfaction.

While many studies focus on the impact of women's labor force participation on gender role attitudes, the effects of men's own occupational situations have rarely been investigated. The main reason for this is that men's labor force participation can be considered the normal situation, so that a man's work status is often expected to have little impact on his gender attitudes. However, a recent study based on Dutch cross-sectional data has demonstrated that men working part-time have the most egalitarian views (Kraaykamp 2012). In addition, there have been several studies examining men's and women's proportions of family income. For instance, Bolzendahl and Meyers (2004) have demonstrated that men who earn higher proportions of the family income have greater expectations of women being responsible for household tasks.

With regard to family structures, several studies conducted in the U.S. as well as in Korea have shown that marriage reinforces traditional gender role attitudes for both women and men (Fan and Marini 2000; Liao and Cai 1995; Vespa, 2009 particularly for Caucasians in the US; Kim and Cheung 2015 for Korea). This means that married men and women support more non-egalitarian attitudes than single or divorced individuals (see also Amato 1991; Bolzendahl & Myers 2004, Kiecolt and Acock, 1988). In the case of parenthood experiences, most studies found that the transition to parenthood is connected with a change towards more traditional gender role attitudes (for instance, Corrigan and Konrad 2007; Fan and Marini 2000; Moors 2003; Baxter et al. 2015). Thereby, only a few studies have shown a limited effect of parenthood (e.g. Kraaykamp 2012 using Dutch data). The other single studies merely demonstrated an indirect effect of parenthood on gender attitudes through the effect of employment and childcare organization on gender role views. For example, using structural equation models, Schober and Scott (2012) have shown that women's prenatal earnings do, in fact, indirectly affect their own or their spouse's postnatal gender attitudes by influencing maternal employment.

In sum, there have been many studies on gender role attitudes based on cross-sectional analyses that do not allow for conclusions about intra-individual changes in gender orientations over time. Other studies considered only women (Kim and Cheung 2015; Cunningham 2008), married spouses (Kroska and Elman 2009), young adults (e.g. Corrigan and Konrad 2007;

Cunningham et al. 2005) or certain cohorts (Fan and Morini 2000; Vespa 2009). Yet, other studies have investigated the singular influence of family life events without controlling for employment effects (e.g. Baxter et al. 2015). For this reason, the present study examines both women's and men's intra-personal changes in gender role attitudes by using a longitudinal design based on a large representative national sample including all adult age groups of reproductive age, without restrictions to certain cohorts. In addition, we investigate changes in gender attitudes with simultaneous consideration of family life events and employment changes. In doing so, we carry out a detailed study on the interplay between family life and employment changes. Moreover, in order to gain a more comprehensive understanding of the role of employment, we examine not only employment status but also additional employment circumstances, such as job satisfaction, individual income and occupational prestige.

2.1. Changes in employment as predictors

In line with the interest and exposure models and many empirical studies, we hypothesize that a greater women's involvement in the job market make their attitudes more egalitarian (H1a). In the case of men, we expect a lesser effect of labor market participation. However, we presume that the more men become involved in the job market, the less they support gender egalitarianism (H1b) because these men have an increasing interest in their female spouse (if they have a female partner) taking care of the children and doing the housework. In regard to job circumstances, we assume a greater degree of receptiveness towards gender egalitarianism when women's job satisfaction, individual income and job prestige increase (H2a). For men, the matter is more complicated in two respects: Firstly, one could expect decreasing egalitarianism with rising job satisfaction, individual income and job prestige as, under these conditions, men can be expected to have a growing interest in their own employment. Secondly, however, higher income and job prestige in particular are connected with higher levels of education and a higher professional position. Hence, men are also exposed to more liberal gender ideologies, which should increase their gender egalitarianism. Accordingly, regarding men's income and job prestige, no clear hypothesis may be derived from either of the models.

2.2. Changes in family structure as predictors and interaction effects

In accordance with most studies and theoretical approaches, we expect a negative impact of marriage on gender egalitarianism. We assume that marriage leads both women (H3a) and men

(H3b) to adopt more traditional attitudes. With respect to children, we expect various interaction effects of employment for both women and men. In the case of women, we assume that having more children has stronger negative effects on gender egalitarianism if women are less — or not at all — involved in the job market (part-time, unemployed or housewives, H4a). The main reason for this is that unemployed women generally experience greater levels of stress from housekeeping and child-bearing, causing them to have less time for activities outside the household and a lack of exposure to egalitarian gender role views. Conversely, women who are fully integrated in working life tend to be more interested in gender egalitarianism as the number of children increases. For men, we expect that having more children has stronger effects on their attitudes (H4b) if they are more involved in the job market because especially men with children who are employed full-time tend to be interested in female domestic work and childcare.

3. Data and Methods

3.1. Data set and Measurement

The statistical analyses presented here are based on data from the BHPS and the UKHLS, a large-scale, random sampling and ongoing study of private households in Great Britain (see Buck 2012; Knies 2015 and Taylor et al. 2010 for details). The surveys were conducted by the Institute for Social and Economic Research (ISER), University of Essex, and started in 1991 with more than 10,000 individuals in Great Britain aged 16 years and older. The last wave used here contains a sample size of more than 11,000 adults living in approximately 7,500 UK households, including boost samples in Scotland and Wales (first selected in 1999), and a Northern Ireland sample (selected in 2001) (see Knies 2015).

The BHPS and UKHLS concern a multi-topic data set not only focusing on various aspects of the subjects' socioeconomic status and demographic characteristics, but also on their traits, behaviors and attitudes. The data sets are thus particularly suitable for investigating gender roles in a longitudinal framework. For the empirical analyses, we use information from 10 interview waves collected between 1991 and 2012. Since women older than 50 years of age usually do not give birth to children, the analyses are restricted to respondents up to the age of 50 years. Our final analytic sample contains about 53,200 person-year observations, representing approximately 12,900 individuals at the time of the interview.

3.1.1. The dependent variable

We use a combined index variable with three items focusing on attitudes about women's work and family roles as dependent variables. These items are presented in approximately every second wave, amounting to ten waves of information. The items used are:

- (1) "A pre-school child is likely to suffer if his or her mother works"
- (2) "All in all, family life suffers when the woman has a full time job"
- (3) "A husband's job is to earn money; a wife's job is to look after the home and family"

The items are measured on a five point Likert scale, which is scaled from strongly agree (1) to strongly disagree (5). The answers are coded, so that an answer of (1) reflects an egalitarian and an answer of (5) a traditional attitude. To create the index, the three items are then averaged into a variable with a score of (5) indicating support for traditional gender roles and a score of (1) for egalitarian gender attitudes. Internal consistency is measured with Cronbach's alpha test and is "acceptable" or "good": The alpha score among women ranged from 0.783 in 1991 to 0.814 in 2012. Among men, it ranged from 0.770 (1991) to 0.825 (2010).

3.1.2. The explanatory and control variables

Our main explanatory factors of interest are job characteristics and family circumstances. To evaluate the influence of employment status, we use the following employment dummies: "Employed full-time" is a contrast reference to "employed part-time", "retired", "unemployed", "on maternity leave / engaged in family care", "student/pupil", "other non-employment", and "other employment". To reflect the occupational prestige, if people are employed, we consider the Magnitude Prestige Scale (MPS, Wegener 1992), which is based on the occupational characteristics in the International Standard Classification of Occupations (ISCO88). The MPS is a metric scale for measuring occupational and vocational prestige and ranges from 16 (lowest job prestige) to 88 (highest job prestige). Individual job satisfaction is measured with a 6-point scale ranging from "completely dissatisfied" (1) to "completely satisfied" (6). To consider the influence of earnings, we include the personal net income.

Regarding family circumstances, we use two variables: the demands of childcare and marital status. To measure the demands of childcare, we include several variables accounting for the number of children in the respective household. Because younger children need more care, we distinguish between four age groups: number of children in household aged 0 to 2, 3 to 4, 5 to 11, and 12 to 15 years. To consider the influence of partnership ties, we use marital status with

these categories: single, never married/in a civil partnership, married, in a registered same-sex civil partnership, separated, but legally married, divorced, widowed, separated from civil partner, living together as a couple.

Furthermore, we include several independent variables in the models to control for the influence of relevant socio-demographic factors and variables known to affect gender role attitudes. The level of education is captured by the highest educational qualifications: “degree” (highest education), “other higher degree”, “A-level”, “GCSE” and “no qualification” (lowest education). To consider other potentially confounding factors, we controlled for age and periods.

3.2. Method of Estimation

To investigate the impact of changing job experiences and family circumstances on gender role attitudes, we use fixed-effects panel estimation. The fixed-effects (FE) model is particularly suitable for analyzing changes over time because it uses a quasi-experimental design and a "before" and "after" comparison by considering intra-individual variation only. In the present study, the FE model compares the extent of traditional gender roles after a change in job characteristics or family circumstances with the previous level of traditional views. Thus, the FE model estimates the amount of change in an outcome between two points in time by changing the independent variable (treatment). Because the FE model considers only intra-individual variations, all person-specific time-constant variables, such as gender or social background, are held constant. Therefore, time-constant unobserved heterogeneity no longer represents a problem and the analyses allow for stricter control of potential distortions compared with pooled regression (OLS) or random effects models (RE) (Allison 2009; Brüderl and Ludwig 2015 Wooldridge 2003).

However, FE modeling also entails various limitations. For instance, an unbiased estimation requires strict exogeneity. This, however, is violated in the FE model, as controlling for time-variant heterogeneity is only possible if time-variant variables are observed and included (Allison, 2009; Brüderl and Ludwig 2015). Another restriction is that it is not possible to estimate the effects of the time-constant covariates, for they cannot trigger a causal effect and are cancelled out by intra-individual transformation. It is, however, nonetheless possible to consider the time-constant variables (e.g. gender), including under interaction terms. Moreover, FE models generally have less statistical power as compared to random effects (RE) or ordinary

least squares (OLS) models because only intra-individual variation is considered. Since we estimated fixed effects regression models, the coefficients demonstrate the intra-individual variation in gender role attitudes connected with the intra-individual changes in the values of the independent variables.

The following analysis is performed in several steps. First, we analyze the descriptive results. Second, we examine the causal effects of employment status and family circumstances. Thereby, to account for gender-specific differences, we estimate two separate FE models, one each for women and men (including control variables). Third, we use interactive models to examine the interplay between the effects of employment status and family circumstances. To investigate these interactions, we create several terms capturing the interaction between the respondents' job characteristics and family circumstances. Finally, to examine the impact of the respondents' working life conditions in detail, we consider the impact of job satisfaction, individual income and occupational prestige on the development of gender attitudes. All of our models control for observable covariates as described above.

4. Results

4.1. Descriptive Statistics

Table 1 presents women's and men's mean and standard deviations for the gender role index variable, depending on different categories of explanatory variables. A first look reveals that egalitarian gender roles are positively associated with younger age, higher education, having no kids, being unmarried and full-time employment, particularly among women but with some limitations also among men.

- Table 1 here -

Figure 1 depicts the development in attitudes towards gender roles during the period from 1991 to 2012. The findings indicate that support of more egalitarian gender role attitudes clearly increased among the British over the two observation decades. However, there are substantial differences between men and women that remained stable during the entire period: Men are approximately 20% more traditional in their views of gender roles than women. This corresponds well to the results of other studies (Brooks and Bolzendahl 2004; Brewster and Padavic 2000).

- Figure 1 here -

4.2. Multivariate Results

This study analyzes the impact of employment changes and family life events on gender role attitudes. To carry out this analysis, we used a fixed effects (FE) regression approach comparing different models in two steps. In the first step, we estimated several separate FE models (model 1 to model 3), one each for the entire women and the entire men group. We investigated gender attitudes for men and women separately, since we assume that both work conditions and family structure influence men and women differently. To check whether the coefficients differ significantly across gender groups, we further estimated full interaction models. Interaction models are not presented here, but significant differences between women and men are listed in italics. In the second step, to gain a better understanding of the impact of working life conditions (job satisfaction, individual income, prestige) on gender role attitudes, we developed a separate model which focuses focus only on individuals who are integrated in the labor market (model 4).

The values presented in table 2 represent the results from the fixed effects regression models 1 to 3 for the group of women while the results for men are shown in table 3. All models also control for education, age and period, of which the latter two are not shown.

- Table 2 here -

The first model merely estimates the influence of changes in employment status on the outcome variable by including control variables (education, age and period). This model suggests that women who change their employment status from “employed full-time” to “part-time”, “unemployed” or (especially) “housewife” develop considerably more traditional gender attitudes and vice versa. Contrary to this, the number of children in the household hardly has any influence on women’s gender views; only children in the “middle” age range (5-11 years) generate higher levels of traditionalism. This effect, however, is negligible and close to zero. In further estimations (not shown), we used an alternative “child variable” representing children as a whole without dividing them by age. This estimation resulted in even smaller children effects. Furthermore, for women, marital status does not play a role in the development of gender attitudes. In conclusion, these findings indicate that, among women, the influence of professional changes is more meaningful for the development of gender role attitudes than changes in number of children or in family status.

Men’s gender role attitudes, in contrast, are hardly influenced by changing employment status. Only if they switched from full-time employment to family care, men developed more

egalitarian attitudes (model 2 after controlling for family changes). This can be interpreted either as an adjustment process to the new situation or as a selection effect. Moreover, model 2 shows that having additional young and middle-aged children (from 0 to 11 years) leads to more traditional gender role attitudes for men. In addition — and in contrast to women — men tend to be more traditional before a marriage and after a separation or divorce than currently married men. This indicates that men who live with a female partner develop more egalitarian attitudes, which confirms the exposure hypothesis.

- Table 3 here -

In model 3, we investigated the interaction between children and employment to determine whether the influence of children on gender role attitudes is moderated by employment status. The main effect coefficient for work represents the intra-individual changes in gender role attitudes connected with work conditional on having no children (value 0 in children variables). The effect for the other employment categories (employed part-time, unemployed, housewife/stay-at-home-dad and student/pupil) is the sum of the work main effect and the work*children interaction coefficients. To determine whether the differences between men and women are significant, we posited an additional interaction model. The significant differences between men and women are presented in italics (see model 3 in table 2 and 3).

In the group of women, we find negative main children effects, the second of which is significant. This suggests that full-time employed women (value 0 in the work variable) develop more egalitarian gender attitudes if they have additional young children, especially aged between 3–4 years (see figure 3). Additionally, we observe a positive main effect of part-time employment and being a housewife for women without children. That is, women who are housewives or part-time employed and have no children tend to develop more traditional gender roles. The negative main coefficient among students/pupils supports the egalitarian effect of education institutions as asserted by the exposure model. The interaction results (work*children coefficients) show that, in contrast to full-time employed women, women of the other occupational categories (apart from students or pupils) tend to develop more traditional gender role attitudes if they have additional children (see model 3, table 2). This positive interaction effect between children and employment status, which is significant, particularly applies to housewives (see figure 2, 3 and 4), but also to part-time employed (see figure 3 and 4) and unemployed women (see figure 2, 4 and 5). One explanation for this might be that being a housewife results in psychological adaptation to traditional roles while full-time employed women have a greater interest in the equal sharing of routine housework due to the double

burden of work and family. These findings suggest that having children alone is not sufficient to produce anti-egalitarian gender views in women. Only if they reduce or quit their employment activities entirely, women are likely to hold more traditional gender attitudes given an increasing number of children.

- Figure 2-5 here -

Shifting our attention to the group of men (see model 3 table 3), we identify three small, but positive, children main effects. That is, in contrast to women, full-time employed men with additional children develop more traditional gender role attitudes compared to men without full-time employment. . These results may confirm the interest hypothesis claiming that men employed full-time tend to support gender egalitarianism because they have an increasing interest in childcare and housework. A further interesting result of this model is that — apart from family status — the other independent variables, including interaction terms, do not display any significant coefficients. Thus, to sum up, for men, the occupational status has neither a significant main nor an interaction effect on the development of gender role attitudes.

Regarding the impact of working life (see model 4, table 4), however, we find significant effects of individual income on the development of gender role attitudes for both, men and women, albeit in different directions. That is, while *traditionalism* increases for men with higher income, for women, *egalitarianism* increases with higher income. This finding corresponds with our hypothesis highlighting the different interest structures of men and women.

Looking at job satisfaction, we observe only in women, but not in men, an effect, directed negatively. That is, in accordance with our expectation, increasing job satisfaction leads to more modern gender role attitudes in women. Accordingly, as assumed, positive job experiences, i.e. more satisfaction and higher income, — and, consequently, increasing employment importance — leads to more egalitarian attitudes among women. In contrast, job prestige does not appear to have an influence on gender role attitudes, neither in men nor in women. Since income and job prestige are highly correlated, we further estimated separated models with only one of the both predictors. However, the results did not differ from table 4 in any relevant manner.

5. Conclusion and Discussion

Relatively little is known about the mechanism explaining intra-individual changes in gender role attitudes over time and the impact of employment and working circumstances in this context. Conducting longitudinal data from the British Household Panels Surveys (BHPS) and the follow-up study “Understanding Society” (UKHLS) and using fixed effects models, the present study investigated the development of gender attitudes and tested hypotheses derived from an interest and exposure model of attitude change.

Two main research questions were addressed in this investigation. In the first one, we explored the consequences of change in employment status and working conditions on the development of gender role attitudes by simultaneously considering family structure. The second dealt with the interplay between family events, such as marriage or the birth of (additional) children, and employment changes with regard to transitions in gender roles attitudes. More specifically, we posed the question of whether employment status and family life interact in impacting gender roles attitudes.

Overall, our study offers several contributions and implications: Most importantly, our findings challenge previous findings that parenthood is generally associated with less egalitarian gender attitudes (e.g. Fan and Marini 2000; Moors 2003). Instead, they demonstrate the necessity of simultaneously considering family structure and employment circumstances to gain a deeper understanding of changes in gender role attitude in adult age. By doing so, the results clearly show that a change in employment status has an influence on intra-individual changes in women's gender role attitudes - which confirms previous studies based on cross-sectional (Kraaykamp 2012) and longitudinal data deriving from specific cohorts (Fan and Morini 2000; Vespa 2009) or selected age groups (Cunningham et al. 2005). Especially for women, changes in employment seem to be more important than changes in family status or in the number of children. However, in contrast to previous findings, having children alone is not enough for women to develop traditional gender attitudes (see Kraaykamp 2012 with similar results for young children). In fact, when women change to full-time employment, their gender roles actually tend to become *more* egalitarian with an increasing number of children (in the “middle” age range of 5-11 years). In the current analysis, this correlation applies only to men and those women who are not at all or only superficially integrated in the job market.

Against this background, the findings suggest that employment status moderates the relationship between children and gender role attitudes: women working full-time develop more egalitarian gender role attitudes if they have additional children, while their part-time or non-working counterparts become more traditional in the same situation. On the one hand, this result

supports the interest model perspective that mothers working full-time have considerable interest in equal division of housework and childbearing because of their double burden of having a family and a profession. On the other hand, the results are consistent with the exposure model (Bolzendahl and Meyers 2004), which claims that experiences in a traditional family structure decrease women's egalitarianism while exposure to workplace settings — e.g. spending a lot of time at their jobs — leads to increasing egalitarianism among women. In addition, the findings highlight the importance of occupational benefits like more money (e.g. Banaszak and Leighley 1991) or higher work satisfaction.

A further central result of our study is that the reasons for attitude change are gender-specific, a result, which was not found in several other studies (e.g. Cunningham 2005). In this context, we found that employment transitions, higher income and job satisfaction are associated with more egalitarian attitudes among women, whereas they have only limited impact on the gender role attitudes of men. For men, we only observed an influence of income. One explanation might be that high-income men oppose egalitarian division of household, which are likely to reduce their job engagement and personal income. Remarkably, there are gender-specific differences regarding marital status and having children: While, for women, marital status has no influence, men are more traditional before marriage and after separation or divorce than currently married men. This finding suggests — in contrast to findings from several other partly longitudinal studies (e.g. Fan and Marini 2000; Kim and Cheung 2015; Vespa, 2009) — that getting married helps men to gain a better understanding of women's points of view and interests. However, having additional children affects the intra-individual changes in men's attitudes towards becoming more traditional, which highlights a further difference between men and women.

Notwithstanding its important contributions, our study also contains several limitations. First, our analysis only considers gender role attitudes, including three items relating to the role of women. For a comprehensive understanding of the individual trajectories of gender attitudes, future analyses should also investigate gender attitudes and their changes regarding the role of men. Second, the sample used only includes individuals from Great Britain and it is debatable as to what extent the results are generalizable to other societal or cultural contexts. Third, it could therefore prove fruitful to perform an international comparison with explicit consideration of the respective formal and informal childcare arrangements and/or institutional support for combining parenthood with paid work. This is important as the displayed findings might be merely reflecting the relatively expensive and restricted formal childcare structure in

Great Britain, which most likely represents a problem for mothers employed full-time. Fourth, further research is needed to investigate whether the demonstrated effects are of a lasting nature or whether the gender attitudes will return to their previous levels after a certain period of time, for example, if women give up their jobs again at a later time in order to care for their children. Fifth, it is important to consider which role the partner's attitudes and life circumstances play regarding the development of gender attitudes as well as how they influence one another. What is clear from our study is that changes in gender role attitudes are complex, and that future research should consider the interplay between several areas of life in detail, where possible including other societal and political conditions.

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Table 1 Descriptive statistics of attitudes toward gender roles (Index)

		Women			Men		
Variable		MEAN	SD	N	MEAN	SD	N
Gender Role Attitudes							
Index- Range:		2.48	0.88	28,896	2.72	0.84	24,266
1=egalitarian							
5=traditional							
Variable	Category	MEAN ¹	SD	N	MEAN ¹	SD	N
Number of children 0-2	No child	2.47	0.87	25,286	2.72	0.83	21,488
	1 children	2.55	0.92	3,410	2.68	0.90	2,614
	2-4 children	2.64	0.88	200	2.73	0.98	164
Number of children 3-4	No child	2.47	0.87	25,509	2.71	0.83	21,720
	1 children	2.57	0.91	3,236	2.75	0.90	2,424
	2-3 children	2.68	0.89	151	2.87	0.82	122
Number of children 5-11	No child	2.44	0.87	19,957	2.68	0.84	17,935
	1 children	2.54	0.89	5,747	2.77	0.81	4,004
	2-7 children	2.69	0.89	3,192	2.88	0.83	2,327
Number of children 12-15	No child	2.45	0.87	22,727	2.69	0.84	19,954
	1 children	2.56	0.89	4,945	2.83	0.83	3,480
	2-3 children	2.70	0.89	1,224	2.93	0.81	832
Family Status	Married	2.59	0.89	15,153	2.77	0.86	12,675
	Living as couple	2.38	0.86	4,450	2.59	0.81	3,804
	Widowed	2.69	0.88	248	2.90	0.70	37
	Divorced	2.53	0.88	1,621	2.93	0.81	643
	Separated	2.53	0.88	729	2.93	0.85	326
	Never married	2.28	0.81	6,695	2.65	0.79	6,781
Employment status	Full-time	2.89	0.82	14,090	2.72	0.83	20,137
	Part-time	2.62	0.83	6,867	2.74	0.84	819
	Unemployed	2.62	0.89	1,008	2.80	0.87	1,560
	Maternity leave /family care	2.95	0.89	5,054	2.78	0.92	277
	Students /pupils	2.17	0.78	1,958	2.54	0.80	1,475
Education	No qualification	2.89	0.90	3,552	2.98	0.85	2,572
	GSCE	2.51	0.87	9,932	2.74	0.81	7,174
	A-level	2.39	0.85	7,399	2.71	0.82	7,567
	Other higher degree	2.46	0.86	2,939	2.74	0.85	2,189
	Degree	2.29	0.82	5,074	2.55	0.85	4,764
Age (Categories)	16-24 Years	2.27	0.82	5,719	2.59	0.78	4,767
	25-39 Years	2.47	0.88	13,941	2.66	0.84	11,545
	40-50 Years	2.64	0.88	9,236	2.88	0.85	7,854

Source: BHPS/UKHLS 1991-2012

Note: ¹Mean of gender role attitudes (Index) in the different categories of the independent variables

Table 2 Fixed-effects regression model predicting gender role attitudes. Women

Variables	Model 1		Model 2		Model 3	
Work (Reference: Full-time)						
Part-time	<i>0.087***</i>	<i>(0.013)</i>	0.080***	(0.014)	0.037*	(0.018)
Unemployed	<i>0.128***</i>	<i>(0.027)</i>	<i>0.126***</i>	<i>(0.027)</i>	0.050	(0.034)
Family care/ Maternity leave	<i>0.232***</i>	<i>(0.017)</i>	<i>0.220***</i>	<i>(0.019)</i>	<i>0.144***</i>	<i>(0.027)</i>
Students /pupils	<i>-0.040</i>	<i>(0.023)</i>	-0.044	(0.023)	-0.056*	(0.026)
Children						
N. of child. aged 0-2 years			0.012	(0.014)	<i>-0.048</i>	<i>(0.026)</i>
N. of child. aged 3-4 years			0.007	(0.013)	<i>-0.070**</i>	<i>(0.025)</i>
N. of child. aged 5-11 years			0.026*	(0.008)	<i>-0.006</i>	<i>(0.013)</i>
N. of child. aged 12-16 years			-0.002	(0.009)	-0.018	(0.014)
Family Status (Reference: Married)						
Living as couple			0.004	(0.020)	-0.002	(0.019)
Widowed			-0.099	(0.064)	-0.100	(0.065)
Divorced			<i>-0.001</i>	<i>(0.028)</i>	<i>-0.005</i>	<i>(0.028)</i>
Separated			<i>0.009</i>	<i>(0.031)</i>	<i>0.008</i>	<i>(0.031)</i>
Never married			<i>-0.039</i>	<i>(0.025)</i>	<i>-0.046</i>	<i>(0.025)</i>
Work*Children aged 0-2 years						
Part-time					0.058	(0.033)
Unemployed					0.210**	(0.077)
Family care					0.108**	(0.032)
Stud./pupils					-0.007	(0.110)
Work*Children aged 3-4 years						
Part-time					0.105**	(0.032)
Unemployed					0.047	(0.075)
Family care					0.120***	(0.032)
Stud./pupils					0.008	(0.087)
Work*Children aged 5-11 years						
Part-time					<i>0.044**</i>	<i>(0.015)</i>
Unemployed					<i>0.090**</i>	<i>(0.039)</i>
Family care					0.065***	(0.018)
Stud./pupils					-0.004	(0.036)
Work*Children aged 12-15 years						
Part-time					0.029	(0.019)
Unemployed					<i>0.104**</i>	<i>(0.051)</i>
Family care					0.017	(0.023)
Stud./pupils					0.031	(0.032)
Education						
GSCE	-0.143*	(0.059)	-0.139*	(0.057)	-0.140*	(0.058)
A-level	-0.144*	(0.061)	-0.135*	(0.061)	-0.139*	(0.061)
Other higher degree	-0.137*	(0.069)	-0.132	(0.069)	-0.135*	(0.068)
Degree	-0.142*	(0.066)	-0.131*	(0.066)	-0.143*	(0.065)
Constant	2.615***	(0.055)	2.599***	(0.056)	2,628***	(0.057)
Observations	28,896		28,896		28,896	
R-squared	0.018		0.019		0.022	
Number of Persons	6,639		6,639		6,639	
Controlled for Age and Period	YES		YES		YES	

Robust standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Note: Significant difference between women and men are presented in italics

Table 3 Fixed-effects regression model predicting gender role attitudes. Men

Variables	Model 1		Model 2		Model 3	
Work (Reference: Full-time)						
Part-time	0.027	(0.026)	0.022	(0.026)	0.039	(0.033)
Unemployed	-0.020	(0.022)	-0.025	(0.022)	-0.002	(0.027)
Family care/ Maternity leave	-0.098	(0.049)	-0.119*	(0.049)	-0.105	(0.061)
Students /pupils	0.008	(0.027)	-0.007	(0.027)	-0.013	(0.029)
Children						
N. of child. aged 0-2 years			0.032*	(0.014)	0.032*	(0.015)
N. of child. aged 3-4 years			0.033*	(0.014)	0.035*	(0.014)
N. of child. aged 5-11 years			0.047***	(0.008)	0.050***	(0.009)
N. of child. aged 12-16 years			0.010	(0.010)	0.011	(0.011)
Family Status (Reference: Married)						
Living as couple			0.001	(0.021)	0.002	(0.021)
Widowed			-0.033	(0.210)	-0.034	(0.208)
Divorced			0.113**	(0.041)	0.110**	(0.041)
Separated			0.170***	(0.040)	0.168***	(0.040)
Never married			0.052*	(0.026)	0.052*	(0.026)
Work*Children aged 0-2 years						
Part-time					-0.012	(0.059)
Unemployed					0.015	(0.065)
Family care					0.022	(0.119)
Stud./pupils					-0.001	(0.110)
Work*Children aged 3-4 years						
Part-time					0.039	(0.072)
Unemployed					0.007	(0.058)
Family care					-0.128	(0.142)
Stud./pupils					-0.167	(0.109)
Work*Children aged 5-11 years						
Part-time					-0.060	(0.033)
Unemployed					-0.052	(0.028)
Family care					0.023	(0.058)
Stud./pupils					0.054	(0.042)
Work*Children aged 12-15 years						
Part-time					0.013	(0.041)
Unemployed					-0.050	(0.039)
Family care					-0.045	(0.078)
Stud./pupils					0.030	(0.038)
Education						
GSCE	-0.035	(0.072)	-0.034	(0.071)	-0.031	(0.070)
A-level	-0.070	(0.071)	-0.060	(0.070)	-0.056	(0.069)
Other higher degree	-0.067	(0.080)	-0.057	(0.080)	-0.052	(0.079)
Degree	-0.088	(0.077)	-0.073	(0.076)	-0.071	(0.076)
Constant	2.859***	(0.066)	2.801***	(0.066)	2.796***	(0.065)
Observations	24,266		24,266		24,266	
R-squared	0.013		0.016		0.017	
Number of Persons	5,756		5,756		5,756	
Controlled for Age and Period	YES		YES		YES	

Robust standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Note: Significant difference between women and men are presented in italics

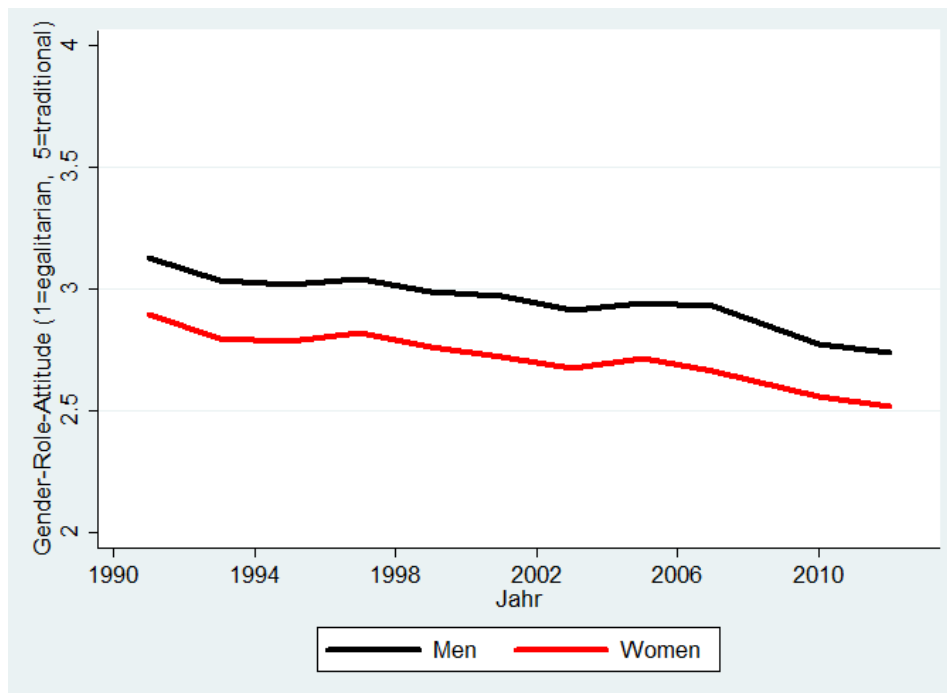
Table 4 Fixed-effects regression model predicting gender role attitudes.
Only employed individuals

Variables	Women		Men	
Part-time Work (Reference: Full-time)	0.060**	(0.018)	0.073*	(0.035)
Individual Income	<i>-0.070***</i>	<i>(0.015)</i>	<i>0.044*</i>	<i>(0.018)</i>
Job Prestige	<-0.001	<(0.000)	<0.001	<(0.000)
Job Satisfaction	<i>-0.019***</i>	<i>(0.005)</i>	<i>-0.006</i>	<i>(0.005)</i>
Children				
N. of child. aged 0-2 years	<i>-0.042*</i>	<i>(0.019)</i>	<i>0.028</i>	<i>(0.017)</i>
N. of child. aged 3-4 years	<i>-0.052**</i>	<i>(0.018)</i>	<i>0.020</i>	<i>(0.017)</i>
N. of child. aged 5-11 years	<i>-0.005</i>	<i>(0.012)</i>	<i>0.044***</i>	<i>(0.010)</i>
N. of child. aged 12-16 years	<i>-0.018</i>	<i>(0.012)</i>	<i>0.019</i>	<i>(0.012)</i>
Family Status (Reference: Married)				
Living as couple	0.008	(0.032)	-0.001	(0.024)
Widowed	-0.036	(0.078)	0.060	(0.225)
Divorced	<i>-0.042</i>	<i>(0.033)</i>	<i>0.140**</i>	<i>(0.046)</i>
Separated	<i>0.007</i>	<i>(0.038)</i>	<i>0.165***</i>	<i>(0.047)</i>
Never married	<i>-0.008</i>	<i>(0.030)</i>	<i>0.037</i>	<i>(0.030)</i>
Education				
GSCE	0.004	(0.085)	-0.010	(0.077)
A-level	-0.033	(0.087)	<0.000	(0.077)
Other higher degree	-0.036	(0.094)	0.021	(0.089)
Degree	-0.041	(0.097)	-0.066	(0.091)
Constant	3.033***	(0.142)	2.443***	(0.153)
Observations	17,307		16,040	
R-squared	0.013		0.015	
Number of Persons	4,347		3,913	
Controlled for Age and Period	YES		YES	

Robust standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Note: Significant difference between women and men are presented in italics

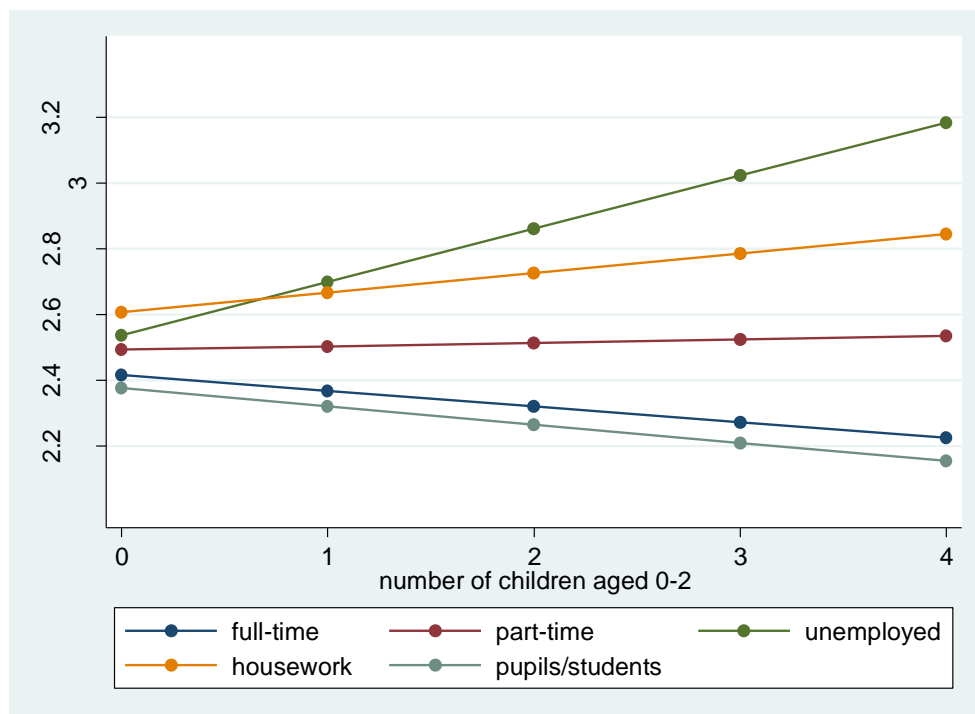
Fig. 1 Trends in traditional gender role attitudes, 1991-2012



Source: BHPS/UKHLS 1991-2012

Fig. 2 Impact of having children on gender role attitudes by employment status.

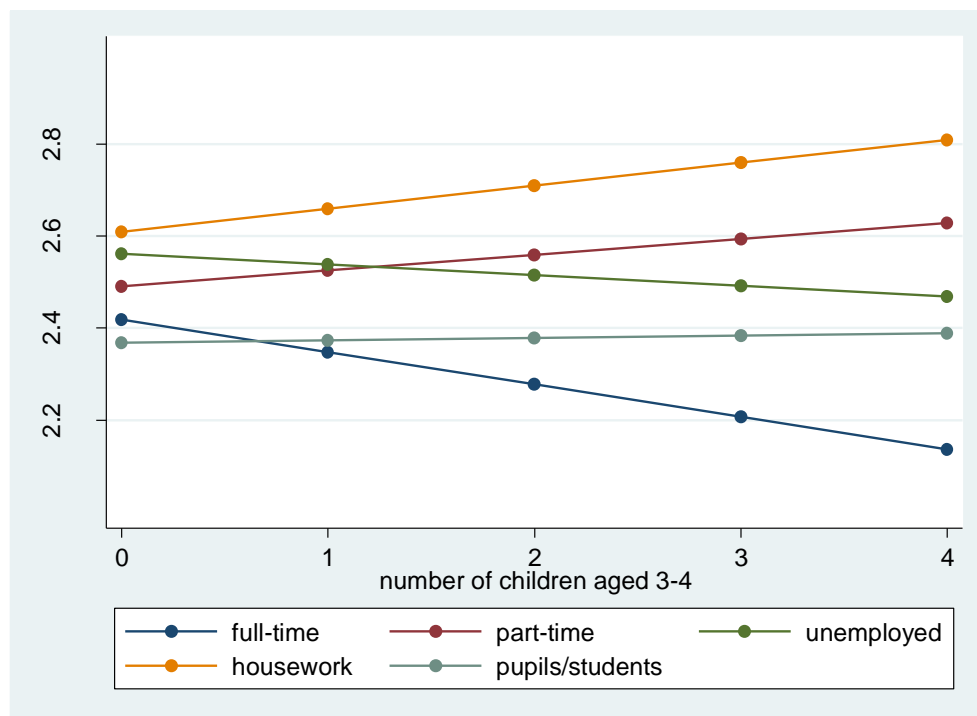
Children aged 0-2



Note: Results from interaction effects in model 3 in table 2 (women)

Fig. 3 Impact of having children on gender role attitude by employment status.

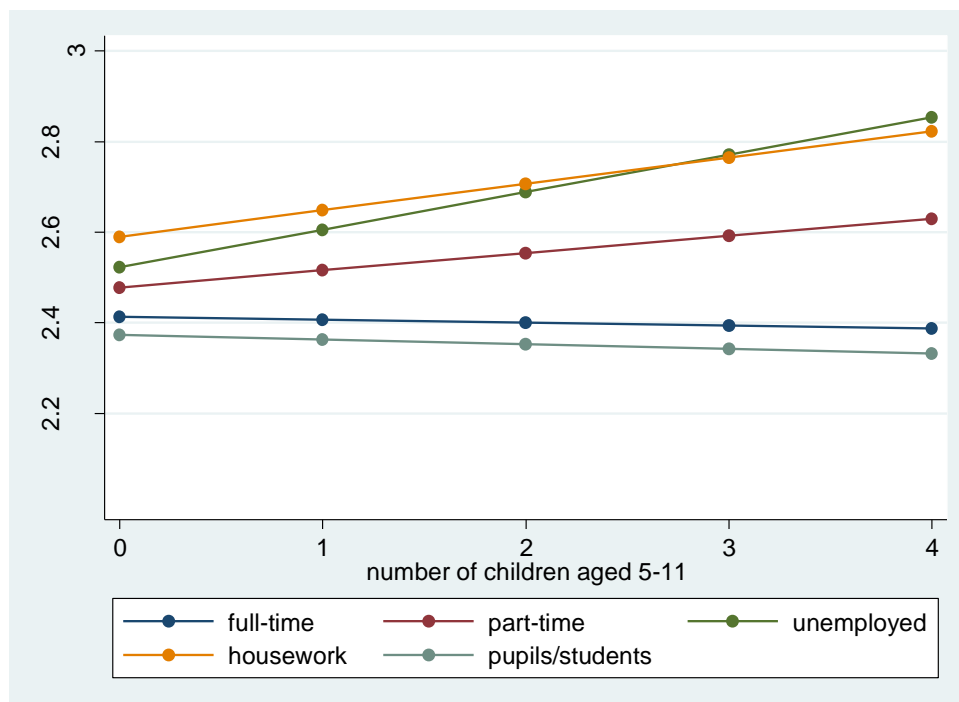
Children aged 3-4



Note: Results from interaction effects in model 3 in table 2 (women)

Fig. 4 Impact of having children on gender role attitude by employment status.

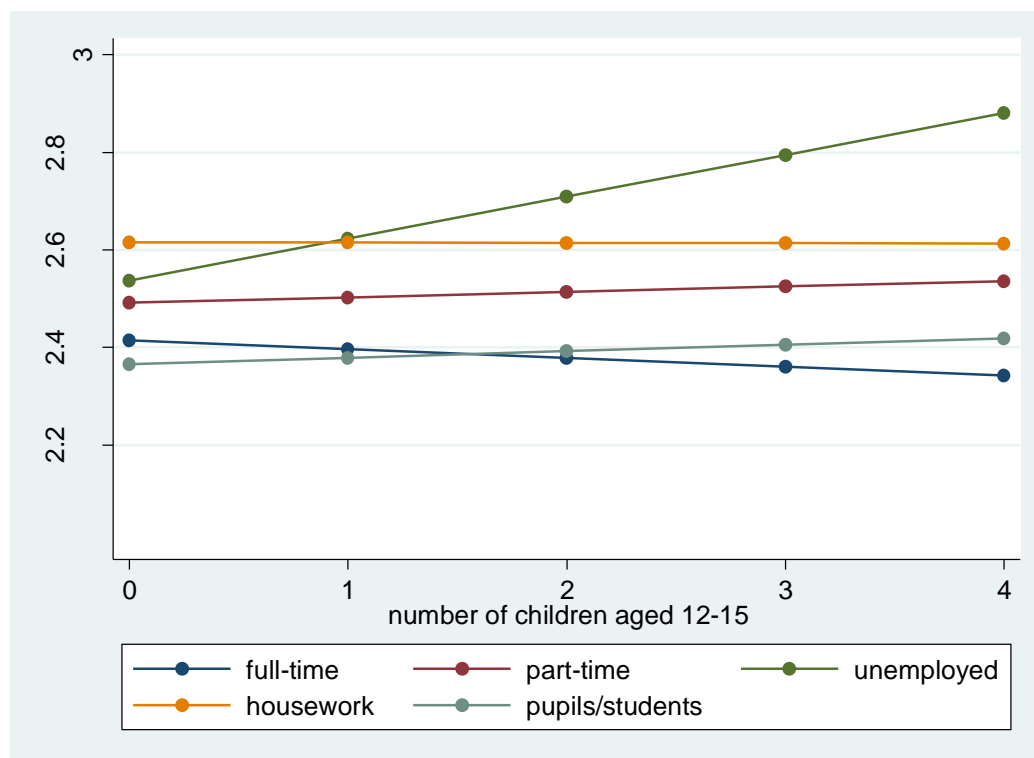
Children aged 5-11



Note: Results from interaction effects in model 3 in table 2 (women)

Fig. 5 Impact of having children on gender role attitude by employment status.

Children aged 12-15



Note: Results from interaction effects in model 3 in table 2 (women)