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Gender Dependence and Attitudes toward the Distribution of Household Labor: A Comparative and Multilevel Analysis

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Abstract

We use comparative and multilevel methods to examine attitudes toward the distribution of household labor in 32 countries. We test hypotheses derived from Baxter and Kane's (1995) gender dependence theory, which suggests complex relationships between societal-level gender dependence, individual-level gender dependence, and gender attitudes. Country-level data are from the United Nations and survey data are from the International Social Survey Programme's 2002 Family and Changing Gender Roles III module. Our analysis is among the first to combine societal and individual indicators of gender dependence using multilevel modeling and to test for cross-level interactions between societal and individual gender dependence. Results provide mixed support for gender dependence theory and suggest several revisions – especially pertaining to men's attitudes.

Key words: dependence • gender attitudes • gender ideology• household labor • housework • ISSP

INTRODUCTION

Women's entrance into paid labor has been accompanied by a steady increase in egalitarian gender attitudes over the last 20 years worldwide (Inglehart and Norris, 2003). There continues, however, to be a 'stalled revolution' with respect to the sharing of household and parenting responsibilities (Hochschild and Machung, 1989; Tichenor, 2005). While women increasingly participate in paid labor, men do not share household and child-rearing responsibilities at an equivalent rate (Batalova and Cohen, 2002; Davis and Greenstein, 2004; Fuwa, 2004; Geist, 2005; Hook, 2006; Yodanis, 2005). An important explanation for this gap between

attitudes and behaviors is the continued belief that housework and parenting remain 'women's work'.

Among scholars who study the household division of labor are those who explain *attitudes* toward the division of household labor (Apparala et al., 2003; Baxter and Kane, 1995; Crompton and Harris, 1997) and those who use attitudes toward the division of household labor to explain *behavior* or the division of household labor (for a review of the literature on behavior, see Coltrane, 2000; Shelton and John, 1996; for examples of cross-national studies that examine behavior, see Batalova and Cohen, 2002; Baxter, 1997; Davis and Greenstein, 2004; Fuwa, 2004; Geist, 2005; Hook, 2006; Sanchez, 1993; Yodanis, 2005).

We examine attitudes toward the division of household labor rather than the division of household labor for several reasons. First, research suggests that attitudes influence many outcomes including the division of household labor (e.g. Fuwa, 2004; Greenstein, 1996a), the perceived fairness of the division of labor (e.g. Greenstein, 1996b; Lavee and Katz, 2002), and children's subsequent attitudes and behaviors as adults (e.g. Cunningham, 2001, 2005; Moen et al., 1997). Second, research demonstrates that men's traditional attitudes provide a powerful impediment to social change. In other words, changing men's attitudes is critical for reducing inequality in the home (Ferree, 1991; Greenstein, 1996a; Myers and Booth, 2002). Third, while many have used gender attitudes to predict behavioral outcomes, few have explained the sources of attitudes towards the household division of labor (for exceptions, see Apparala et al., 2003; Baxter and Kane, 1995; Coltrane, 1989; Cunningham, 2005). Fourth, we are able to include individuals in the analysis who are not currently coupled. It is, thus, important to shift the focus further back in the causal chain to better understand the differential sources of women's and men's attitudes.

We examine attitudes toward the division of household labor from a comparative and multilevel perspective. A comparative approach allows researchers to identify patterns that would be impossible to see when analyzing data from one country – for example, 1) differences across countries in the levels of egalitarian attitudes, and 2) differences across countries in the relationships between egalitarian attitudes and individual characteristics, such as interpersonal ties. A multilevel approach allows us to include macro-variables in the analysis to explain cross-national variability.

A rich theory is needed to account for attitudes toward the division of household labor from a comparative and multilevel perspective. The theory of gender dependence, as put forward by Baxter and Kane (1995), is one such theory. It states that women's dependence on men at the individual and societal levels mutes challenges to gender inequality and affects women's and men's gender attitudes. This theory is comprehensive because it combines both micro- and macro-accounts of gender attitudes and suggests logical interrelationships between variables at these multiple levels. As such, it holds great promise for better understanding the complexities of attitudes toward the household division of labor from a comparative perspective.

In this article, we replicate and extend Baxter and Kane's (1995) research on gender dependence and gender attitudes. We examine attitudes toward the division of household labor – for example, attitudes toward how routine housework and childcare should be divided. Using survey data from the International Social Survey Programme's 2002 Family and Changing Gender Roles III module and country data from the United Nations, we apply Baxter and Kane's (1995) gender dependence theory to examine the complex relationships between attitudes toward the household division of labor, gender, interpersonal ties, resources, relative resources between spouses, and societal-level gender equality in health, education, economic participation, income, and political representation.

Other scholars have examined attitudes towards the household division of labor from a comparative perspective (see Apparala et al., 2003; Crompton and Harris, 1997). Our analysis, however, is among the first to combine societal and individual indicators of gender dependence using multilevel modeling and to test for cross-level interactions between societal and individual gender dependence.
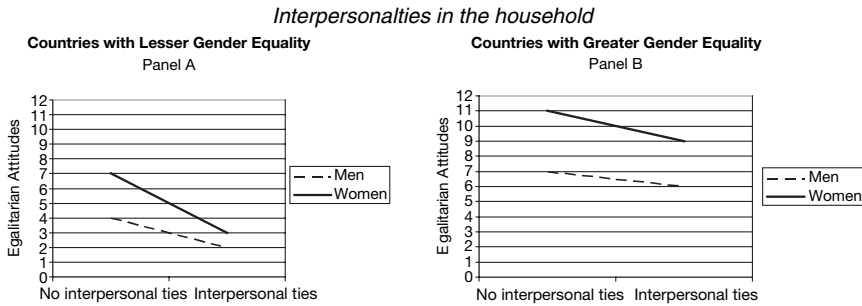
GENDER DEPENDENCE AND ATTITUDES TOWARD THE DIVISION OF HOUSEHOLD LABOR

The starting point for Baxter and Kane's (1995) theory of gender dependence is that women's dependence on men shapes both women's and men's gender attitudes and that this dependence operates at two levels – that is, at the individual level and at the societal level. Briefly stated, dependence at the individual and societal levels prevents women from developing attitudes that diverge from men's.[1] See Figure 1 for a graphical depiction of the theory – we use this figure to explain the theory and specific hypotheses in more detail below.

Baxter and Kane (1995) test their gender dependence theory using survey data from five countries (Australia, Canada, Norway, Sweden, and the United States), which were collected in the early to mid-1980s. Baxter and Kane do not include any country-level variables, but instead add country dummy variables and make specific predictions for each of the five countries – for example, respondents in Norway and Sweden are expected to have more egalitarian attitudes compared to respondents in other countries because these countries are more egalitarian (i.e. there is less societal-level gender dependence). They test for two-way interactions between all independent variables with gender and country as well as three-way interactions between all independent variables, gender, and the country dummy variables. They perform analyses using data from all respondents as well as data from a subset of married respondents to test the relative resource hypothesis.

Baxter and Kane (1995) developed the gender dependency theory in order to explain a multi-dimensional measure of gender attitudes. Their study uses a three item unweighted scale that focuses on the household division of labor as well as women's inclusion in high level positions. Gender attitudes can be operationalized as multi-dimensional or a single dimension can be examined. Other

Figure 1   Hypothesized relationships between interpersonal ties, resources, relative resources, and egalitarian attitudes

Interpersonalties in the household

Countries with Lesser Gender Equality
Panel A

Countries with Greater Gender Equality
Panel B

Individual-level relationships:

- (Hypothesis 1A) Interpersonal ties decrease egalitarian attitudes for both women and men.

- (Hypothesis 1B) Interpersonal ties decrease egalitarian attitudes more for women than men.

- (Hypothesis 4) Women have more egalitarian attitudes than to men.

Societal -level relationships:

- (Hypothesis 5) The gap between women's and men's egalitarian attitudes is larger in countries with greater gender equality.

- (Hypothesis 6) Women and men have more egalitarian attitudes in countries with greater gender equality.

- (Hypothesis 7) The relationship between interpersonal ties and egalitarian attitudes is weaker (i.e. less negative) in countries with greater gender equality.

Resources outside the household

Countries with Lesser Gender Equality
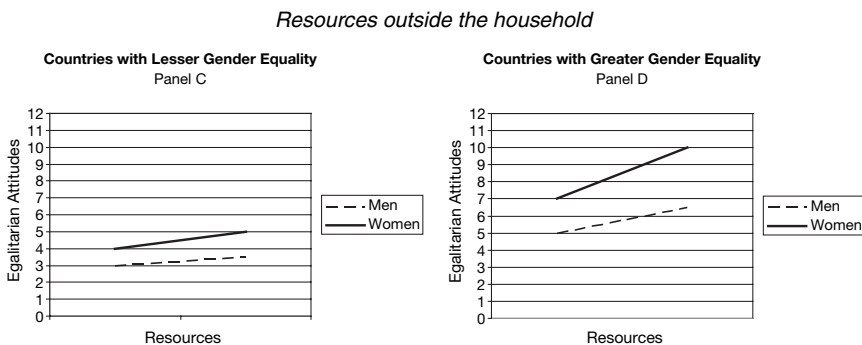Panel C

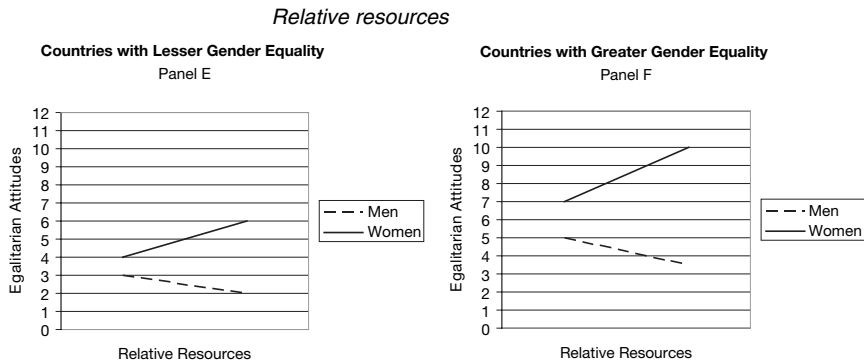**Countries with Greater Gender Equality**
Panel D

Individual-level relationships:

- (Hypothesis 2A) Resources increase egalitarian attitudes for both women and men.

- (Hypothesis 2B) Resources increase egalitarian attitudes more for women than men.

- (Hypothesis 4) Women have more egalitarian attitudes than men.

Figure 1   *(Continued)*

Societal-level relationships:

- (Hypothesis 5) The gap between women's and men's egalitarian attitudes is larger in countries with greater gender equality.

- (Hypothesis 6) Women and men have more egalitarian attitudes in countries with greater gender equality.

- (Hypothesis 8) The relationship between resources and egalitarian attitudes is stronger (i.e. more positive) in countries with greater gender equality.

Relative resources

Individual-level relationships:

- (Hypothesis 3A) Relative resources increase egalitarian attitudes for women and decrease egalitarian attitudes for men.

- (Hypothesis 3B) Relative resources influence egalitarian attitudes more for women than men.

- (Hypothesis 4) Women have more egalitarian attitudes than to men.

Societal-level relationships:

- (Hypothesis 5) The gap between women's and men's egalitarian attitudes is larger in countries with greater gender equality.

- (Hypothesis 6) Women and men have more egalitarian attitudes in countries with greater gender equality.

- (Hypothesis 9) The relationship between relative resources and egalitarian attitudes is stronger in countries with greater gender equality.

dimensions include the acceptance of women's political rights (e.g. Huddy and Terkildsen, 1993; Kenski and Falk, 2004; Norris and Inglehart, 2001), attitudes toward women's decision to work when they have young children (Adler and

Brayfield, 1996; Alwin et al., 1992; Brewster and Padavic, 2000; Crompton and Harris, 1997; Haller and Hoellinger, 1994; Panayotova and Brayfield, 1997; Treas and Widmer, 2000), and attitudes toward abortion rights (Bolzendahl and Myers, 2004; Jelen and Wilcox, 2003).

Attitudes towards the household division of labor are, thus, only one component of an individual's overall gender attitudes and can be further subdivided into attitudes toward the sharing of routine housework (e.g. cooking, cleaning, small repairs, etc.) and childcare. Previous cross-national research has measured attitudes toward the household division of labor in one of two ways. Some use a multi-dimensional approach that includes attitudes toward the household division of labor as one component (e.g. Baxter and Kane, 1995) while others focus specifically on the division of households tasks, including both childcare and household maintenance (e.g. Apparala et al., 2003).

Individual-level Gender Dependence

According to Baxter and Kane (1995), there are three major sources of women's dependence on men at the individual-level: the presence of interpersonal ties, a lack of absolute resources gained from educational and occupational experiences, and low relative resources or a resource imbalance between spouses. Each of these is hypothesized to influence men's and women's attitudes. Moreover, the relationships between these individual-level sources of dependence and attitudes are hypothesized to vary by gender (i.e. there are interaction effects).

Interpersonal ties refer to the presence of relationships, such as having a spouse or having children. Panels A and B of Figure 1 demonstrate that individuals with interpersonal ties are expected to have less egalitarian attitudes (Hypothesis 1A). Baxter and Kane's (1995) analysis, however, suggests that marital status is related to women's gender attitudes in only some countries (US, Canada, and Australia) and is not related to men's attitudes at all. Apparala et al. (2003), on the other hand, find that marital status is only relevant for men's attitudes across the 13 European countries included in their study. Baxter and Kane (1995) find very limited support for the effect of the presence of children in the home – having children in the home is associated with less egalitarian attitudes for both men and women, but only in the US. Apparala et al. (2003) also conclude that the effect of children is negligible – it is excluded from all of their multivariate models.

Resources are defined by Baxter and Kane (1995) as 'sources of status and interests independent of men' (p. 199). They hypothesize that resources increase egalitarian attitudes because they provide human capital (see Panels C and D of Figure 1 and Hypothesis 2A).[2] Baxter and Kane (1995) include income, work hours, education, and social class as resources that increase human capital. Empirical support is, again, limited. For example, income is not related to either men's or women's attitudes; work hours are associated with egalitarian

attitudes for men in the US and women in Norway and Sweden; and education is positively associated with women's attitudes, but is only related to men's attitudes in Norway. Apparala et al. (2003) include education, work hours, and self-reported social class as measures of resources. Of these, social class is the only resource that predicts women's attitudes and none predict men's attitudes.

Relative resources refer to a resource imbalance between spouses within the household. Baxter and Kane (1995) hypothesize that relative resources – measured by the gap in income between spouses – leads to more egalitarian attitudes for women (i.e. when women have relatively more resources than their spouse) and less egalitarian attitudes for men (i.e. when men have relatively more resources than their spouse).[3] These relationships are displayed in Panels E and F of Figure 1 (Hypothesis 3A). Baxter and Kane's analyses fully support this hypothesis. On the other hand, Apparala et al. (2003), using a dichotomous measure 'do you or your spouse earn more', find no support for relative resources.

In addition to examining the relationships between gender attitudes with interpersonal ties, resources, and relative resources, Baxter and Kane (1995) hypothesize that these relationships are stronger for women than men – because of the 'asymmetrical character of contact between the sexes' (p. 199) and because resources are 'sources of status and interests independent of men' (p. 199). They also hypothesize that women have more egalitarian attitudes compared to men. The interaction effects and gender differences are depicted in all panels of Figure 1 (interaction effects: Hypotheses 1B, 2B, and 3B; gender differences: Hypothesis 4). Baxter and Kane's analysis suggests that women have more egalitarian attitudes compared to men in all five countries. They also find support for differences in the effects of individual level resources for men and women. Apparala et al. (2003) find a significant gender difference in attitudes in six of 13 countries and several of the effects of the individual-level variables vary across gender (marital status and social class).

Neither Baxter and Kane (1995) nor Apparala et al. (2003) control for the effects of childhood socialization on egalitarian gender attitudes. Childhood socialization refers to a process through which individuals are exposed to and internalize norms and behaviors that shape and reinforce later attitudes and behaviors. It is expected that being exposed to egalitarian gender attitudes and behaviors leads to the development of egalitarian gender attitudes and behaviors later in life (Cunningham, 2001; Gupta, 2006; Thornton et al., 1983). Childhood socialization is often measured by having a mother who worked for pay outside of the home when the respondent was a child. Some research demonstrates that having a mother who worked for pay outside the home is associated with egalitarian attitudes (Cunningham, 2001; Panayotova and Brayfield, 1997). Based on this research, we control the effect of childhood socialization.

Societal-level Gender Dependence

Women's dependence on men also occurs at the societal level. Gender inequality in employment and restrictive state policies (e.g. related to parental leave and

part-time work provisions) limit women's access to power, prestige and material resources (Baxter and Kane, 1995). Societal-level gender dependence works *partly in conjunction with* individual-level gender dependence. It is, thus, expected to alter the relationships between gender and gender attitudes and between individual-level gender dependence and gender attitudes (i.e. there are cross-level interactions). The gap between men's and women's attitudes is, thus, expected to be larger in countries with less dependence (i.e. greater equality). Baxter and Kane (1995) argue that societal level gender *independence* allows women to develop attitudes independent of men's; since women are more egalitarian than men, they are even more egalitarian than men in countries with greater independence (see all panels of Figure 1; Hypothesis 5). Moreover, women who are tied to men at the individual level through a lack of resources and/or relative resources and through interpersonal ties still benefit from societal level *independence* – that is, they are able to translate societal-level independence into egalitarian attitudes more easily despite their own circumstances (see all panels of Figure 1; Hypotheses 7, 8, and 9).

Societal-level gender dependence also works *partly independent of* individual-level gender dependence. In other words, societal dependence is expected to influence men's and women's gender attitudes regardless of their interpersonal ties, resources, and relative resources. Baxter and Kane (1995), therefore, suggest that men and women who live in countries with less dependence (i.e. greater gender equality) have, on average, more egalitarian gender attitudes (see all panels of Figure 1; Hypothesis 6). In sum, societal-level dependence has an interactive relationship with individual-level dependence and it has an independent relationship with gender attitudes.[4]

We test the following hypotheses at the individual level: interpersonal ties reduce egalitarian attitudes (Hypothesis 1A); resources (Hypothesis 2A) and relative resources (Hypothesis 3A) increase egalitarian attitudes; women have more egalitarian attitudes compared to men (Hypothesis 4); and the effects of interpersonal ties (Hypothesis 1B), resources (Hypothesis 2B), and relative resources (Hypothesis 3B) are stronger for women compared to men. We test the following hypotheses at the societal level: in countries with greater gender equality, the gap between women's and men's attitudes is larger (Hypothesis 5); women's and men's overall level of egalitarian attitudes is higher (Hypothesis 6); the relationship between interpersonal ties and egalitarian attitudes is weaker (Hypothesis 7); and the relationships between egalitarian attitudes and resources (Hypothesis 8) and relative resources (Hypothesis 9) are stronger.

There are some important differences between our approach and that of Baxter and Kane (1995) and Apparala et al. (2003) that should be explicitly stated. First, Baxter and Kane operationalize their concept of gender attitudes more broadly than we do. They measure a general gender ideology while we focus on attitudes toward the household division of labor. Second, Baxter and Kane (1995) limit their sample to those men and women currently in paid employment. We include respondents not currently in the paid labor force for some

analyses. Third, unlike Baxter and Kane (1995) and Apparala et al. (2002), we control for a measure of childhood socialization. Fourth, we include an expanded set of relative resource variables, including relative education, work hours, income, and occupational prestige. A relative advantage in all of these external resources grants human capital that can be used to alter the balance of power within a household (Brines, 1993, 1994; Greenstein, 2000). Baxter and Kane (1995) and Apparala et al. (2003) include only relative income, although relative work hours and education are commonly used predictors of behavior (i.e. the division of household labor).

Fifth, and most importantly, Baxter and Kane's analysis is based on data from five countries. It was, therefore, impossible to control for specific country-level variables (despite the fact that they identify a number that are theoretically relevant for understanding gender ideology). Any country-level variable (theorized or not) could account for the country-differences that they observe. Apparala et al. (2003) analyze data from 13 countries. They include country-level variables, but aggregate and disaggregate the data to deal with their nested data. Our analyses are based on 32 countries (see Appendix A for the full list). We are, thus, able to include a number of country-level indicators of gender dependence and to work within a multi-level framework.

DATA

All individual-level data are from *International Social Survey Programme (ISSP) 2002: Family and Changing Gender Roles III*.[5] This ISSP module is well suited for our study because it includes comparable indicators of attitudes toward the division of household labor, childhood socialization, interpersonal ties, resources, and relative resources. We use data from all 32 countries represented in the data, which are from Europe, North America, South America, Oceania, and Asia.[6]

We use weights to analyze these survey data. The total weight applied to the data is composed of a normalized internal weight that is designed to achieve distributions in the country samples that more closely resemble known distributions in the country populations (e.g. on gender, age, region, etc.) and an external weight that is designed to equalize the sample sizes across countries. The internal weight and country-specific weighting procedures are provided with the ISSP data and codebook. The additional adjustment to equalize the sample sizes across countries ensures that the slope estimates from HLM are not pulled toward countries with larger samples; in other words, this adjustment allows each country to contribute equally to the estimation of all fixed effects (e.g. slope coefficients). The sample size for the pooled data is 44,640 (with 1395 individuals per country).[7]

Individual-level Variables

We examine three dimensions of attitudes toward the distribution of household labor: separate spheres of work for men and women, the proper distribution of

household labor, and the proper distribution of childcare. We measure each of these dimensions with one ordinal variable (response choices include: *strongly disagree, disagree, neither disagree nor agree, agree,* and *strongly agree*). The variables are worded as follows: 1) a man's job is to earn money; a woman's job is to look after the home and family; 2) men ought to do a larger share of household work than they do now; and 3) men ought to do a larger share of childcare than they do now. We have coded these variables such that high scores represent more egalitarian attitudes.

Although all three variables are indicators of egalitarian attitudes toward the division of household labor, we analyze these variables separately. First, the three items do not form a reliable scale. Internal consistency is low, primarily as a result of the weak associations involving the separate spheres item. This is seen in: 1) weak bivariate correlations (correlations based on the pooled data involving separate spheres with housework and childcare are .135 and .095, respectively; the correlations are also weak within each country), 2) weak factor loadings (.145 from a pooled exploratory factor analysis; the maximum country-specific factor loading is .437, but loadings are well below .200 for most countries), and 3) low Cronbach's alphas (alpha = .507 for the pooled data; alpha attains a minimum threshold of .6 in only seven countries). Second, despite the strong correlation between distribution of housework and distribution of childcare (.651), there are some important differences in the results across these two variables. We are able to retain this detail only by keeping these two variables separate.

Other variables contained in the data (e.g. 'Working moms can have warm relationships with their kids') indicate preferences for women working outside of the home and other related concepts, but do not have face validity as indicators of attitudes toward the division of household labor. They are also empirically distinct (based on exploratory factor analyses).[8]

We use standard measures for all other individual-level variables. Indicators of interpersonal ties include: marital status and having a child present in the household. Respondents who are currently married or currently have a steady life-partner are coded as 1. All other respondents are coded as 0.[9] Respondents who have a child under the age of 18 that lives in the household are coded as 1.

Indicators of resources include: education, work hours, income, and employment status/social class. Work hours is measured by the number of hours in paid employment per week. Education is an ordinal variable that has the following categories: no formal qualification, above lowest formal qualification, higher secondary completed, above higher secondary level/other education, and university degree completed. Exploratory analyses demonstrated that there is a linear increase in egalitarian gender attitudes across the five categories. Thus, we treat the education variable as continuous rather than breaking it into dummy variables. This measure of education is preferable to education measured in years because two individuals can have the same number of years of schooling, but drastically different educational qualifications.

Since the operationalization of respondents' income varies across countries (e.g. pre-tax, post-tax, per month, per year, etc.) we created a comparable measure of income by logging (to decrease the skew) and then standardizing income within each country separately. We then combined the data into one variable. Thus, individuals with logged incomes in the 60th percentile within their own country have the same score on the income variable despite differences in income between countries.

We use Appendices A and B from Ganzeboom and Treiman (1996) to compute the initial EGP nominal class categories and to redirect cases on the basis of self-employment status, the number of employees (for self-employed workers), and supervisory status. Because portions of our study are not limited to those currently in paid employment, we added additional categories for those not currently in the labor force. Thus, our variables capture both employment status and, for those employed, social class. The employment status and class categories that we include in the analyses are: 1) higher and lower service (the reference category), 2) self-employed (e.g. small employers and independent workers), 3) foremen, skilled worker, and independent farmer and farm manager, 4) routine clerical and sales worker, semi-skilled worker, unskilled worker, and farm worker, 5) not in the labor force, excluding student (e.g. unemployed, home-maker, retired, permanently disabled, and other), and 6) student. We believe that these combinations group the categories with respect to individual resources that are available outside of the home.

Indicators of relative resources include: the respondent-spouse education, work hours, income, and occupational prestige gaps. Spouses' education is measured with an ordinal variable that is equivalent to the education variable discussed above. The respondent-spouse education gap is equal to the respondents' educational qualification minus the spouses' educational qualification.

Spouses' time in paid employment is measured by the number of hours in paid employment per week. The respondent-spouse paid hours gap is equal to the respondents' work hours minus the spouses' work hours.

We measure the respondent-spouse income gap by dividing the respondents' income by the respondents' household income. The result is then converted to a percentage.

We assigned occupational prestige scores to each respondent and their spouse using the International Standard Classification of Occupations variable, which is available in the ISSP data. The occupational prestige scores (i.e. Standard International Occupational Prestige Score or SIOPS) are from Ganzeboom and Treiman (1996). Next, we subtract the spouses' occupation prestige score from the respondents' occupational prestige score. Occupational prestige scores are preferable to nominal class categories because a difference in *nominal* class categories is not meaningful.

Control variables include age and whether or not the respondent's mother worked for pay. Age is measured in years. Respondents whose mother worked

for pay after the respondent was born and before the respondent was 14 years of age are coded as 1. All other respondents are coded as 0.

Country-level Variables

We use five country-level variables to measure gender equality in health, education, economic participation, income, and political representation. These five variables are the unique components of the United Nation's Gender Empowerment Measure (GEM) and the Gender Development Index (GDI). The five gender equality variables are all equally distributed indices that can range from 0 to 1. A score of 0 indicates perfect gender inequality (regardless of which gender is disadvantaged) and a score of 1 indicates perfect gender equality. The data used to calculate these variables are from the United Nation's *Human Development Report* and the World Bank.

The five equally distributed indexes that measure gender equality include: health (life expectancy in 2002), education (literacy rates and primary, secondary, and tertiary school enrollments in 2002), economic participation (positions as legislators, senior officials, managers, professional and technical workers from a variety of years), income, and political representation.

We include the five unique components of these two aggregate measures rather than the aggregate measures themselves for a variety of reasons. First, the GEM and GDI are unweighted averages of their components. By averaging across the components, equality in one component could mask inequality in another. Second, there is no guarantee that all components of the GEM and GDI account for country differences in attitudes toward the division of household labor or country differences in the relationships between attitudes toward the division of household labor and individual-level gender dependence.

Analytic Technique

Hierarchical data structures exist when one unit of analysis is nested within another unit of analysis – for example, when individuals are nested within countries. Ordinary Least Squares (OLS) regression is inappropriate for hierarchical data structures because of the possibility of correlated errors and unequal error variances. OLS regression is also inappropriate for ordinal outcomes, such as our measures of attitudes toward the division of household labor. Therefore, we use hierarchical generalized linear modeling or HGLM (HLM software, Version 6). HGLM is designed to deal with nested data and ordinal outcomes.

Raudenbush and Bryk (2001) suggest that researchers develop multilevel models incrementally by estimating relatively simple models first and adding complexity in stages. We follow this basic approach by first estimating models for individual-level variables only (the slopes are not permitted to vary across countries in these models); these models allow us to test Hypotheses 1A/B, 2A/B, 3A/B, and 4. Only after verifying that the intercept and slope (i.e. the gender

slope/gap) vary across countries, do we add country-level variables to explain this variation; these models allow us to test *Hypotheses 5, 6, 7, 8,* and *9*. We do control for all individual-level variables in these final models. We provide additional information for these models in the text below.

RESULTS

Individual-level Gender Dependence

Table 1 includes results from nine ordinal multilevel regression models from HLM. These nine models allow us to test Hypotheses 1A/B, 2A/B, and 4, which pertain to individual-level dependence for all respondents. There are three dependent variables: separate spheres of work, distribution of housework, and distribution of childcare. We estimate three regression models for each of the three dependent variables: one for men, one for women, and a full interaction model. The full interaction model includes all individual-level variables, a gender dummy variable, and interactions between all individual-level variables and gender. It allows us to test the hypotheses that the coefficients differ by gender. We present the expected direction of the relationships in parentheses next to the variable names. We present logged odds coefficients, standard errors, and odds ratios. The coefficients represent precision weighted average effects (i.e. the average effects across all 32 countries). The marks in the interaction column indicate that the coefficients for men and women are significantly different.

> Hypothesis 1A. Interpersonal ties decrease egalitarian attitudes for both women and men.

Results suggest that married women have less egalitarian attitudes toward housework (0.219) and childcare (0.256) compared to women who are not married. For example, the odds of strongly agreeing that men ought to do a larger share of household work than they do now are about 19.7 percent lower for married women compared to women who are not married ($19.7\% = (1-e^{-0.219})*100$). Also, men and women with children living in their household have less egalitarian attitudes toward separate spheres of work compared to men and women in households without children, respectively. Married men, however, have more egalitarian attitudes toward separate spheres of work compared to men who are not married. In sum, there is some support for the first hypothesis.

> Hypothesis 1B. Interpersonal ties decrease egalitarian attitudes more for women than men.

Results suggest that the relationships between marital status and attitudes toward the division of household labor vary by gender (i.e. there are interaction effects). Only two of the three significant interactions, however, support Hypothesis 1B. Married women have less egalitarian attitudes compared to women who are not married (housework and childcare) and these relationships are stronger (i.e. more negative) for women compared to men. The relationships

Table 1   Individual-level predictors of egalitarian attitudes: all respondents

	Men			Women			
Egalitarian attitudes: **Separate spheres of work** *Interpersonal ties*	**Coefficient**	**SE**	**Odds ratio**	**Coefficient**	**SE**	**Odds ratio**	**Inter-action**
Married (−)	0.145*	.045	1.156	−0.049	0.040	0.952	*
Child in household (−)	−0.084*	.042	0.919	−0.060†	0.037	0.942	
Resources							
Education (+)	0.282*	.035	1.325	0.283*	0.029	1.327	
Work hours per week (+)	−0.004*	.002	0.996	0.003	0.003	1.003	*
Employment status and social class							
Higher and lower service (reference category)							
Small employers & independent (−)	−0.219*	.078	0.803	−0.314*	0.100	0.731	
Foremen, skilled, farmers/ farm managers (−)	−0.255*	.083	0.775	−0.626*	0.112	0.535	*
Routine clerical/sales, semi/unskilled, farm workers (−)	−0.251*	.077	0.778	−0.273*	0.058	0.761	
Unemployed, home maker, retired, disabled, other (−)	−0.609*	.142	0.544	−0.723*	0.106	0.485	
Student (−)	−0.307*	.149	0.736	0.007	0.126	1.007	*
Control variables							
Age (−)	−0.023*	.003	0.977	−0.018*	0.003	0.982	*
Mother worked for pay (+)	0.299*	.060	1.348	0.250*	0.053	1.284	
Egalitarian attitudes: **Distribution of housework** *Interpersonal ties*	**Coefficient**	**SE**	**Odds ratio**	**Coefficient**	**SE**	**Odds ratio**	**Inter-action**
Married (−)	−0.057	0.050	0.944	−0.219*	0.035	0.804	*
Child in household (−)	−0.038	0.041	0.963	−0.000	0.041	1.000	
Resources							
Education (+)	0.076*	0.022	1.079	0.053†	0.028	1.055	*
Work hours per week (+)	−0.006*	0.002	0.994	0.005*	0.002	1.005	*
Employment status and social class							
Higher and lower service (reference category)							

(Continued)

Table 1 (Continued)

	Men			Women			
	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Inter-action
Small employers & independent (−)	−0.076	0.076	0.927	−0.274*	0.064	0.760	*
Foremen, skilled, farmers/ farm managers (−)	−0.119*	0.053	0.887	−0.133	0.086	0.875	
Routine clerical/sales, semi/ unskilled, farm workers (−)	−0.064	0.056	0.938	−0.079	0.056	0.924	
Unemployed, home maker, retired, disabled, other (−)	−0.201*	0.098	0.818	−0.090	0.099	0.914	*
Student (−)	−0.174	0.110	0.840	0.232*	0.115	1.261	*
Control variables							
Age (−)	0.006*	0.003	1.006	0.001	0.002	1.001	*
Mother worked for pay (+)	0.124*	0.031	1.132	0.111*	0.028	1.118	†
Egalitarian attitudes: Distribution of childcare *Interpersonal ties*	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Inter-action
Married (−)	−0.080	0.062	0.923	−0.256*	0.045	0.774	*
Child in household (−)	0.020	0.039	1.020	0.008	0.040	1.008	
Resources							
Education (+)	0.074*	0.021	1.077	0.068*	0.028	1.071	
Work hours per week (+)	−0.003	0.002	0.997	0.006*	0.002	1.006	*
Employment status and social class							
Higher and lower service (reference category)							
Small employers & independent (−)	−0.040	0.076	0.961	−0.189*	0.076	0.828	†
Foremen, skilled, farmers/ farm managers (−)	−0.102†	0.055	0.903	−0.096	0.107	0.908	
Routine clerical/sales, semi/ unskilled, farm workers (−)	−0.059	0.053	0.943	−0.044	0.061	0.957	
Unemployed, home maker, retired, disabled, other (−)	−0.067	0.117	0.935	0.055	0.104	1.056	
Student (−)	−0.123	0.128	0.884	0.220*	0.102	1.246	*
Control variables							
Age (−)	0.001	0.002	1.001	0.001	0.002	1.001	
Mother worked for pay (+)	0.117*	0.035	1.124	0.032	0.032	1.032	

*$p < .05$ (two tailed test); † $p < .10$ (two tailed test).

between attitudes and having a child in the household do not vary by gender. In sum, there is some support for Hypothesis 1B.

Hypothesis 2A. Resources increase egalitarian attitudes for both women and men.

Men and women with higher educational qualifications have more egalitarian attitudes. Educational qualifications are associated with all three dependent variables. Time spent in paid employment (i.e. work hours) is positively associated with egalitarian attitudes (housework and childcare) for women, as expected. Men who work more hours in paid employment, however, have less egalitarian attitudes compared to men who work fewer hours (separate spheres and house work). Finally, social class is related to egalitarian attitudes as expected (although there is some indication that female students have more egalitarian attitudes than female higher and lower service workers). We omit income from the presented models beca-use income data are missing from several countries. Additional models (not shown), however, suggest that women with more income tend to have more egalitarian attitudes toward separate spheres. In sum, there is some support for Hypothesis 2A.

Hypothesis 2B. Resources increase egalitarian attitudes more for women than men.

The following interactions, presented in Table 1, provide support for Hypothesis 2B: work hours per week (separate spheres, housework, and childcare); foreman, skilled, farmers/farm managers (separate spheres); and small employers and independent (housework and childcare). In each case, the relationship between the variable and attitudes toward the division of household labor is stronger for women compared to men. In sum, there is some support for Hypothesis 2B.

Hypothesis 3A. Relative resources increase egalitarian attitudes for women and decrease egalitarian attitudes for men.

The results presented in Table 2 allow us to test Hypotheses 3A/B and 4 that pertain to individual-level dependence for married and cohabitating respondents. Only coupled respondents in households where both individuals work for pay are included in these analyses because the hypothesis examines relative resources between couples. Relative resources are measured by the education gap, work hours gap, income gap, and occupational prestige gap. Individuals from Australia, Czech Republic, France, Ireland, Japan, Netherlands, New Zealand, Slovak Republic, Slovenia, and Spain are excluded from these analyses because they are missing data on at least one of the respondent-spouse resource gap variables.

Results suggest that women who make more money than their spouse have more egalitarian attitudes toward housework and that women who work more hours than their spouse have more egalitarian attitudes toward childcare. Relative resources appear to be associated with less egalitarian attitudes for men. For example, men who have more education, work more hours, have more income, and have higher occupational prestige than their spouse have less

Table 2   Individual-level predictors of egalitarian attitudes: married respondents[a]

	Men			Women			
Egalitarian attitudes: Separate spheres of work *Interpersonal ties*	**Coefficient**	**SE**	**Odds ratio**	**Coefficient**	**SE**	**Odds ratio**	**Inter-action**
Child in household (−)	−0.167*	0.066	0.846	−0.058	0.058	0.943	
Resources							
Education (+)	0.309*	0.039	1.362	0.214*	0.048	1.239	
Work hours per week (+)	0.005*	0.001	1.005	0.005†	0.003	1.005	
Respondent income (+)	0.237*	0.093	1.267	0.213*	0.068	1.237	
Occupational prestige (+)	0.014*	0.003	1.014	0.020*	0.004	1.020	
Relative resources							
Education gap (M − ; W +)	−0.166*	0.034	0.847	0.008	0.030	1.008	*
Work hours gap (M − ; W +)	−0.005*	0.001	0.995	0.000	0.002	1.000	†
Percentage of household income (M − ; W +)	−0.009*	0.003	0.991	−0.002	0.002	0.998	*
Occupational prestige gap (M − ; W +)	−0.006*	0.003	0.994	−0.005†	0.002	0.995	
Control variables							
Age (−)	−0.022*	0.004	0.978	−0.020*	0.003	0.981	
Mother worked for pay (+)	0.198*	0.067	1.219	0.137*	0.066	1.147	
Egalitarian attitudes: Distribution of housework *Interpersonal ties*	**Coefficient**	**SE**	**Odds ratio**	**Coefficient**	**SE**	**Odds ratio**	**Inter-action**
Child in household (−)	−0.069	0.070	0.933	0.045	0.065	1.046	
Resources							
Education (+)	0.052	0.043	1.053	0.032	0.037	1.033	
Work hours per week (+)	−0.004†	0.002	0.996	0.002	0.002	1.002	*
Respondent income (+)	0.064	0.062	1.066	0.004	0.052	1.004	
Occupational prestige (+)	0.002	0.003	1.002	0.005	0.003	1.005	
Relative resources							
Education gap (M − ; W +)	−0.012	0.036	0.988	0.042	0.030	1.043	†

(Continued)

Table 2   (Continued)

	Men			Women			
Work hours gap (M − ; W +)	−0.004*	0.002	0.996	0.003	0.002	1.003	
Percentage of household income (M − ; W +)	−0.002	0.002	0.998	0.003†	0.002	1.003	*
Occupational prestige gap (M − ; W +)	−0.001	0.003	0.999	0.001	0.002	1.001	
Control variables							
Age (−)	0.007*	0.003	1.007	0.005*	0.003	1.005	
Mother worked for pay (+)	0.192*	0.041	1.212	0.045	0.065	1.046	

Egalitarian attitudes: Distribution of childcare *Interpersonal ties*	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Inter-action
Child in household (−)	−0.001	0.053	0.999	−0.016	0.073	0.984	
Resources							
Education (+)	0.084*	0.038	1.087	0.038	0.040	1.038	
Work hours per week (+)	−0.004	0.003	0.996	−0.001	0.002	0.999	*
Respondent income (+)	0.016	0.056	1.016	0.061	0.047	1.063	
Occupational prestige (+)	0.000	0.003	1.000	0.006*	0.003	1.006	
Relative resources							
Education gap (M − ; W +)	−0.013	0.026	0.988	0.009	0.028	1.009	
Work hours gap (M − ; W +)	0.001	0.001	1.001	0.002†	0.001	1.002	
Percentage of household income (M − ; W +)	−0.003	0.002	0.997	-0.000	0.001	1.000	
Occupational prestige gap (M − ; W +)	0.002	0.003	1.002	0.002	0.002	1.002	
Control variables							
Age (−)	0.003	0.004	1.003	0.005	0.003	1.005	
Mother worked for pay (+)	0.148*	0.059	1.160	0.052	0.050	1.053	

* *p* < .05 (two tailed test); † *p* < .10 (two tailed test).
[a]Respondents from Australia, Czech Republic, Ireland, France, Japan, Netherlands, New Zealand, Slovakia, Slovenia, and Spain are not included in these analyses due to missing data on at least one relative resource variable.

egalitarian attitudes (separate spheres) compared to men who have less educa-tion, fewer work hours, less income, and less occupational prestige than their spouse. Relative resources appear to be relevant mainly for understanding men's attitudes. In sum, there is limited support for the Hypothesis 3A.

Hypothesis 3B. Relative resources influence egalitarian attitudes more for women than men.

Several of the relationships between relative resources and egalitarian attitudes are different for men and women (e.g. the education gap for separate spheres and housework, etc.). None of the interactions, however, support Hypothesis 3B. In each case, the effects are weaker for women compared to men. In sum, there is no support for Hypothesis 3B.

Hypothesis 4. Women have more egalitarian attitudes than men.

A gender dummy variable is contained in the full-interaction models for all respondents and for married/cohabitating respondents. We do not present this coefficient in Tables 1 and 2 because we present the results for men and women separately. The coefficients for these gender dummy variables, however, are positive and significant in all models. This suggests that women have more egalitarian attitudes compared to men after controlling for all individual-level variables.[10] In sum, results support the fourth hypothesis.

Societal-level Gender Dependence

Results in Table 3 allow us to test Hypotheses 5 and 6, which pertain to societal-level gender dependence for all respondents. Results are presented separately for each country-level variable in Models 1 through 5 due to the moderate correlations between these variables (see Appendix A). Two sets of results are presented for each of the three dependent variables – one for the 'gender gap' and one for the 'level of egalitarian attitudes'.

The 'gender gap' is a dummy variable coded 0 for men and 1 for women. A positive coefficient indicates that women have more egalitarian attitudes compared to men. The 'gender gap' models in Table 3 explain differences across countries in the magnitude of the gender gap in egalitarian attitudes. The coefficients for parliamentary representation and the other country-level variables are, thus, cross-level interactions. A positive coefficient for a country-level variable in these models indicates that gender equality increases the gap between women's and men's attitudes. A negative coefficient for a country-level variable in these models indicates that gender equality decreases the gap between women's and men's attitudes.

The 'level of egalitarian attitudes' refers to the average level of egalitarian attitudes toward the household division of labor. The 'levels of egalitarian attitudes' models in Table 3 explain differences across countries in the average level of egalitarian attitudes. A positive coefficient for a country-level variable in these models indicates that gender equality increases the average level of egalitarian attitudes. A negative coefficient for a country-level variable in these models indicates that gender equality decreases the average level of egalitarian attitudes.

We control for all individual-level variables including the significant interaction effects from Table 1.

Table 3 Country-level predictors of the gender gap in egalitarian attitudes and the level of egalitarian attitudes: all respondentsa

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Egalitarian attitudes: Separate spheres of Work												
Gender gap (+)	0.230*	0.090	0.231*	0.083	−0.234*	0.082	0.230*	0.083	0.232*	0.081	0.227*	0.088
Parliamentary representation (+)	−0.387*	0.113									−0.474*	0.180
Economic participation (+)			0.324	0.528							0.927	0.474
Income (+)					−0.129	0.132					0.507*	0.204
Life expectancy (+)							−0.853*	0.318			−0.432	0.465
Education (+)									−0.400	0.882	−1.451	1.169
Percent of explained variation	0.0		0.0		−12.1		0.0		0.0		0.0	
Egalitarian attitudes: Separate spheres of Work												
Level of Egalitarian Attitudes												
Parliamentary representation (+)	2.115*	0.570									0.491	0.547
Economic participation (+)			−0.410	1.938							−1.204	2.070
Income (+)					−3.032*	0.602					2.219*	0.695
Life expectancy (+)							9.765*	2.550			2.921	3.475
Education (+)									12.317*	3.306	−0.687	3.196
Percent of explained variation	29.9		0.0		−63.3		53.3		30.5		63.5	

Egalitarian attitudes:
 Distribution of housework

Gender gap (+)	0.713*	0.143	0.719*	0.147	−0.713*	0.142	0.712*	0.140	0.716*	0.145	0.716*	0.142
Parliamentary representation (+)	−0.574*	0.195									−0.205	0.252
Economic participation (+)			−1.751	1.500							−1.684	1.487
Income (+)					−0.529†	0.303					0.076	0.282
Life expectancy (+)							−1.782†	0.879			−1.582	0.980
Education (+)									−3.385	2.357	−0.681	2.989
Percent of explained variation	8.2		3.5		−6.3		5.7		8.9		1.9	

Egalitarian attitudes:
 Distribution of housework
 Level of Egalitarian Attitudes

Parliamentary representation (+)	−0.293	0.520									−0.067	0.479
Economic participation (+)			−0.874	2.088							−0.006	2.259
Income (+)					−0.366	0.602					−0.071	1.012
Life expectancy (+)							−0.808	2.810			0.418	4.157
Education (+)									−2.772	3.816	−2.635	4.075
Percent of explained variation	0.0		0.0		0.0		0.0		0.0		0.0	

Egalitarian attitudes:
 Distribution of childcare

Gender gap (+)	0.489*	0.080	0.493*	0.082	0.485*	0.076	0.488*	0.082	0.492*	0.083	0.492*	0.080
Parliamentary representation (+)	−0.525*	0.188									−0.135	0.209
Economic participation (+)			−2.462*	1.096							−2.553*	1.114
Income (+)					−0.540*	0.248					−0.320	0.295
Life expectancy (+)							−1.182	0.750			−0.731	0.933
Education (+)									−3.122	1.899	0.623	2.325
Percent of explained variation	9.4		9.4		0.0		2.3		9.6		10.9	

(Continued)

Table 3 (Continued)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Egalitarian attitudes: Distribution of childcare												
Level of egalitarian attitudes												
Economic participation (+)			−1.964	2.302							−0.961	2.674
Income (+)					−0.859	0.829					0.262	1.260
Life expectancy (+)							−2.703	3.420			−1.469	4.606
Education (+)									−5.667	4.942	−3.549	5.244
Percent of explained variation	4.3		0.0		3.2		2.2		5.8		0.0	

* *p* < .05 (two tailed test); † *p* <.10 (two tailed test).
aWe control for all individual-level variables including the significant interaction effects from Table 1. We omit these results from the table to conserve space.

Hypothesis 5. The gap between women's and men's egalitarian attitudes is larger in countries with greater gender equality.

While the coefficients for the 'gender gap' indicate the average difference between men's and women's attitudes, the coefficients for the country-level variables (e.g. parliamentary representation) in the 'gender gap' models indicate whether gender equality (measured by the country-level variables) makes the gender gap smaller (negative coefficients) or larger (positive coefficients). The coefficients for the five measures of gender equality are consistently negative and significant for all three dependent variables (two of five for separate spheres and three of five for housework and childcare). This suggests that gender equality at the country level *reduces* the gap in attitudes between men and women. This finding does not support Hypothesis 5.

Hypothesis 6. Women and men have more egalitarian attitudes in countries with greater gender equality.

The coefficients for the country-level variables (e.g. parliamentary representation, etc.) in the 'level of egalitarian attitudes' models indicate whether gender equality (measured by the country-level variables) decreases (negative coefficients) or increases (positive coefficients) the level of egalitarian attitudes. Results suggest that respondents in countries with greater gender equality have more egalitarian attitudes toward separate spheres of work, but not toward housework or childcare. The significant gender equality variables explain from about 30 percent to about 63 percent of the variation in attitudes toward separate spheres of work (see Models 1, 3, 4, and 5 in Table 3).

Additional analyses (not shown) suggest that this increase in egalitarian attitudes occurs for both women and men. In other words, the increase in egalitarian attitudes (toward separate spheres) is not solely the result of women becoming more egalitarian. In fact, it appears as though gender equality increases men's egalitarian attitudes more than women's because the gap between men's and women's attitudes narrows with greater equality (see the results for Hypothesis 5). In sum, there is some support for the sixth hypothesis.

Hypothesis 7. The relationship between interpersonal ties and egalitarian attitudes is weaker (i.e. less negative) in countries with greater gender equality.

Hypothesis 8. The relationship between individual resources and egalitarian attitudes is stronger (i.e. more positive) in countries with greater gender equality.

Hypothesis 9. The relationship between relative resources and egalitarian attitudes is stronger in countries with greater gender equality.

Gender dependence theory suggests that the relationships between egaliarian attitudes and interpersonal ties are less negative in countries with greater gender equality (i.e. there are cross-level interaction effects between societal gender equality and interpersonal ties – see panels A and B in Figure 1). Cross-level

interactions are also expected for societal gender equality with resources and relative resources. We evaluated these hypotheses by allowing the coefficients for interpersonal ties, resources, and relative resources to vary across countries and by using the country-level indicators of gender equality to explain this variation. Although many of the coefficients vary across countries, this variability is not explained well by the country-level variables. Very few of the hypothesized interactions are significant and fewer still are in the direction predicted (to conserve space, we do not present the results, but they are available from the authors upon request). Therefore, there is no support for Hypotheses 7, 8, and 9.

DISCUSSION AND CONCLUSIONS

The purpose of this article was to examine the sources of attitudes toward the household division of labor using Baxter and Kane's (1995) gender dependence theory. Our analysis extends the cross-national research on attitudes towards the household division of labor in several ways. Most importantly, we use data from an expanded set of countries (i.e. 32 countries) which allows us to include country-level indicators of dependence in our models. Thus, rather than relying on indirect evidence, we are able to directly test the country-level hypotheses. In addition, we control for childhood socialization, which has played a prominent role in much of the research on gender attitudes. We also use an expanded set of relative resource variables

Results support some of gender dependence theory's major hypotheses. For example, women have more egalitarian attitudes compared to men. Also, net of childhood socialization, individuals with interpersonal ties tend to have less egalitarian gender attitudes and individuals with more resources tend to have more egalitarian attitudes (although there are exceptions to both). In addition, relative resources (i.e. husbands having more than wives) consistently decrease men's egalitarian attitudes. Finally, respondents in countries with greater gender equality tend to have more egalitarian attitudes compared to respondents in countries with less gender equality. Given the large number of countriesincluded in our analysis, the support for these hypotheses is widely generalizable.

Our results also challenge the predictions of gender dependence theory in several areas. First, gender dependence theory suggests that gender equality at the country-level allows women to develop attitudes independent of men's, which leads to a larger gender gap in attitudes. The results from our analyses suggest that both women and men have more egalitarian attitudes in countries with greater equality. Moreover, our results suggest that the gap between men's and women's attitudes is *smaller* in egalitarian countries. This pattern implies that men become more egalitarian relative to women with increases in country-level gender equality.

Second, our results suggest that relative resources are not related to women's gender attitudes. Relative resources reduce men's egalitarian attitudes – that is, when men have relatively more resources compared to their spouse, they have less egalitarian attitudes. This pattern suggests that men use relative resources to

justify inequality. On the other hand, women appear unable to convert an advantage in relative resources into more egalitarian attitudes. This finding supports research on the distribution of household labor (see Greenstein, 2000).

Third, there is little evidence of cross-level interactions between societal gender dependence and individual gender dependence. Results suggest that interpersonal ties, resources, and relative resources affect attitudes in a similar way despite differences in country-level gender equality. Thus macro-conditions appear to be most relevant for explaining differences in the level of egalitarian attitudes and differences in the gap between men's and women's attitudes.

A Constructive Critique

The greatest weakness of gender dependence theory pertains to explaining men's gender attitudes. This weakness is unfortunate given research demonstrating that men's attitudes are critical for changing inequality (see Ferree, 1991; Greenstein, 1996b). We, thus, offer two revisions to gender dependence theory, which we outline below.

The mechanism linking individual resources to egalitarian attitudes is illogical when applied to men (this logical contradiction, however, does not exist for *relative* resources). Resources are expected to increase egalitarian attitudes. The mechanism that explains this relationship is independence. Individual resources from education, work hours, income, and social class lead to women's independence from men. This independence allows women to develop attitudes that diverge from men's (and, thus, women develop more egalitarian attitudes). What do individual resources, however, mean for men? If they lead to men's independence from women, why would we not also expect independence to allow men to develop attitudes that diverge from women's? If the mechanism explaining the link between resources and egalitarian attitudes is independence, then we should expect resources to *decrease* men's egalitarian attitudes.

Neither of the two predictions – 1) resources increase men's egalitarian attitudes and 2) resources decrease men's egalitarian attitudes is fully supported by the data. The results for education and employment status/social class seem to support the first prediction while those for work hours seem to support the second. In order to maintain the logical consistency of the theory we propose an alternative mechanism linking education and employment status/social class to gender attitudes. Education and employment status/social class, for example, may reflect exposure to egalitarian attitudes and female colleagues who need additional support at home. Thus, the mechanism may be socialization. Men with more education and men with higher social class may be exposed to egalitarian attitudes and behaviors in institutions of higher learning and higher skill occupations, which may lead them to adopt egalitarian attitudes. A second possibility (i.e. other than socialization) is that men with more education and higher class position learn not to violate social norms of equality by expressing traditional gender attitudes. This is similar to an argument made by Jackman and Muha (1984) in reference to

education and prejudice – those with more education self-censor themselves and do not openly express prejudice even if they hold prejudiced attitudes.

The independence mechanism may still be used to explain the relationships between work hours and income as well as relative resources with gender attitudes for men. We contend, however, that men's independence from women (i.e. with more work hours and income) decrease men's egalitarian attitudes. Thus, men with more hours in paid employment, income, and relative resources for those with a spouse should express less egalitarian attitudes. This statement is consistent with our own analyses and previous research (see Apparala et al., 2003). In sum, the first revision to gender dependence theory is to remove independence as the mechanism linking education and employment status/social class to men's gender attitudes and to state that men's independence from women leads to less egalitarian attitudes.

A second revision to gender dependence theory pertains to societal-level gender equality. Our results suggest that *independence* at the country level (i.e. gender-equality) increases both women's and men's egalitarian attitudes and that this increase is larger for men compared to women. How can we account for this finding? One possible explanation is consistent with the logic of gender dependence theory – with increases in equality (i.e. decreases in women's dependence on men) men lose some of the power that allows them to maintain non-egalitarian attitudes. This interpretation is equivalent to the first revision discussed above – men's dependence (e.g. from equality) leads to egalitarian attitudes and men's independence (e.g. from inequality) leads to traditional attitudes. A second possibility is that equality allows women to demonstrate competence in male-dominated spheres (e.g. in positions of leadership in politics and business), which may erode the belief among men that men and women should maintain separate spheres. In sum, gender dependence theory should be revised such that societal-level equality (i.e. independence) is associated with more egalitarian attitudes and a *smaller* gap between men's and women's attitudes.

Additional Considerations

In addition to individual-level indicators of gender dependence, we control for childhood socialization. Our research indicates that childhood socialization is a powerful variable across 32 countries. Male and female respondents whose mothers worked for pay have more egalitarian attitudes toward separate spheres and housework. Male respondents also have more egalitarian attitudes toward childcare.

Our results also suggest that relative resources beyond income are especially relevant for men. Men appear to use a relative advantage in occupational prestige to justify maintaining separate spheres of work for men and women.

We examine three distinct sub-dimensions of attitudes toward the household division of labor: attitudes toward separate spheres of work, attitudes toward the proper distribution of household labor, and attitudes toward the proper distribution

of childcare. A careful inspection of the results suggests that we do not explain the final two outcomes (i.e. housework and childcare) nearly as well as the first (i.e. separate spheres). Part of this may lie in the fact that maintaining a belief that men and women belong in separate spheres is a stronger measure of traditional beliefs than the other measures. A closer inspection of the wording of the housework and childcare variables, however, suggests another interpretation. Both of these variables refer to men changing their behavior. It is not difficult to imagine that some respondents who would agree that women should do less housework would find it more difficult to agree that men should do more. The less consistent findings for these two variables may reflect this tension.

Researchers have used the Gender Empowerment Measure and/or the Gender Development Index to capture gender inequality at the country level. For this analysis, we have disaggregated these indexes into their unique components. Our results suggest that these components do not explain country differences equally well. Overall, women's representation in national parliaments appears to be the most important country-level equality measure and economic participation and education the least.

Gender dependence theory holds great promise for better understanding gender attitudes from a cross-national perspective. This analysis suggests several important revisions to the theory. With these revisions, gender dependence theory provides logical explanations for relationships between key individual and societal variables. Gender dependence theory should be further tested using additional dimensions of gender attitudes and additional country-level indicators of dependence.

NOTES

1 Prior to Baxter and Kane (1995), research established that women's individual-level economic dependence on men affects the division of labor within the home in terms of hours spent in housework and childcare (Brines, 1993, 1994). Subsequent research also established that societal level dependence affects the actual division of household labor (Fuwa, 2004).

2 Apparala et al. (2003) hypothesize that individual resources increase egalitarian attitudes for women, but *decrease* egalitarian attitudes for men.

3 Other research involving couples has shown that relative resources affect gender behaviors (Brines, 1994; Crompton et al., 2005; Davis and Greenstein, 2004; Greenstein, 2000; Harrell, 1995; Ross, 1987). As the man's resources increase relative to the woman's, the woman will often compensate by working more in the home. Men, however, do not increase their share of household responsibilities – even when women earn as much as fifty percent more (Tichenor, 2005).

4 Similar to Baxter and Kane (1995) we also considered three-way interactions involving country-level variables, gender, and individual level variables. Results suggest no evidence of three-way interactions, so we omit them from further discussion.

Appendix A   Country-level data: indicators of the gender empowerment measure and the gender development index with descriptive statistics and bivariate correlations (N = 32)

Country	Parliamentary representation	Economic participation	Income	Life expectancy	Education
Australia	0.757	0.950	0.690	0.903	0.993
Austria	0.840	0.905	0.558	0.889	0.965
Belgium	0.741	0.916	0.613	0.895	0.993
Brazil	0.327	0.876	0.158	0.719	0.882
Bulgaria	0.378	0.895	0.169	0.767	0.910
Chile	0.360	0.829	0.194	0.848	0.903
Cyprus	0.382	0.737	0.380	0.887	0.894
Czech Republic	0.479	0.880	0.360	0.838	0.922
Denmark	0.940	0.841	0.756	0.859	0.978
Finland	0.921	0.899	0.633	0.881	0.993
France	0.380	0.895	0.622	0.898	0.965
Germany	0.840	0.946	0.612	0.885	0.955
Hungary	0.341	0.925	0.319	0.779	0.949
Ireland	0.471	0.901	0.746	0.865	0.962
Israel	0.435	0.881	0.461	0.899	0.941
Japan	0.354	0.673	0.577	0.940	0.940
Latvia	0.634	0.917	0.222	0.763	0.953
Mexico	0.525	0.847	0.173	0.805	0.849
Netherlands	0.880	0.882	0.661	0.888	0.992
New Zealand	0.846	0.968	0.535	0.887	0.987
Norway	0.924	0.901	0.899	0.897	0.983
Philippines	0.573	0.957	0.097	0.748	0.889
Poland	0.434	0.927	0.247	0.813	0.960
Portugal	0.594	0.905	0.419	0.850	0.972
Russian Federation	0.200	0.928	0.194	0.696	0.956
Slovak Republic	0.472	0.902	0.303	0.809	0.907
Slovenia	0.420	0.904	0.431	0.852	0.960
Spain	0.773	0.920	0.453	0.904	0.967
Sweden	0.978	0.927	0.649	0.917	0.993
Switzerland	0.693	0.897	0.678	0.902	0.953
United Kingdom	0.561	0.917	0.615	0.885	0.993
United States	0.469	0.992	0.837	0.867	0.968
Descriptive statistics					
Mean	0.591	0.895	0.477	0.851	0.951

Appendix A   (Continued)

	Parliamentary representation	Economic participation	Income	Life expectancy	Education
Median	0.543	0.903	0.498	0.874	0.960
Standard deviation	0.222	0.061	0.222	0.061	0.038
Bivariate correlations					
Parliamentary representation	1.000				
Economic participation	0.275	1.000			
Income	0.588*	0.091	1.000		
Life expectancy	0.515*	−0.211	0.770*	1.000	
Education	0.579*	0.374*	0.734*	0.531*	1.000

* $p < .05$ (two tailed test).

5 The survey data utilized in this article were documented and made available by the Central Archive for Empirical Social Research at the University of Cologne. The data for the 'ISSP' were collected by independent institutions in each country. Neither the original data collectors nor the Central Archive bear any responsibility for the analyses or conclusions presented here. Additional information is available at: [http://www.issp.org/].

6 We combine the samples from East and West Germany as well as Great Britain and Northern Ireland in our analyses; these are treated as four separate contextual units in the ISSP data. We use information provided with the ISSP documentation as well as recent census data to weight the data from Germany and the United Kingdom (otherwise, respondents from East Germany and Northern Ireland would be significantly overrepresented in the data). It was necessary to combine these data because country-level data are only available for the whole of Germany and the United Kingdom. For example, if East and West Germany were treated as separate 'countries' in the analysis, both would necessarily have identical scores on all country-level variables.

7 ISSP data are representative samples of each country's population. The 32 countries, however, are not a random sample of countries because a variety of non-random factors determine which countries participate in the ISSP. Therefore, the population to which country-level results are generalized is not well-defined. As a result, the reader should use caution when interpreting significance tests for country-level variables. See Ebbinghaus (2005) for a more detailed discussion of selection problems in cross-national research.

8 Results from country-specific exploratory factor analyses and reliability analyses are available upon request.

9 Some prior research in the United States has found that people who cohabitate rather than marry profess a more egalitarian gender ideology (Clarkberg et al., 1995; Lesthaeghe and Surkyn, 1988; Shelton and John, 1993; Smock, 2000). This distinction

is peripheral to our study, however. Therefore we combine couples who are married with those who cohabitate.

10 This can also be seen by examining the results presented in Table 3 (for all three dependent variables and in all models of the table). For example, using results from Model 1 for the gender gap in separate spheres of work, the odds of strongly disagreeing that a man's job is to earn money and a woman's job is to look after the home and family are 25.9 percent higher for women compared to men ($25.9\% = (1 - e^{0.230}) * 100$). The gender gap appears to be largest for attitudes on the division of housework (˜.7) and smallest for attitudes on women and men maintaining separate spheres (˜.2).

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