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#### **ORIGINAL ARTICLE**



# Contextual Effects on the Gendered Division of Housework: A Cross-Country and Cross-Time Analysis

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#### Abstract

Individuals who espouse an egalitarian gender ideology as well as economically independent women benefit from a more egalitarian division of housework. Although these two individual-level characteristics affect the gender division of housework, each suggests a different mechanism; the former is anchored within an economic logic and the latter within a cultural one. Using data of 25 countries from the 2002 and 2012 "Family and Changing Gender Roles" modules of the International Social Survey Program, we examine whether a country's mean gender ideology and women's labor force participation (WLFP) rate have a distinct contextual effect beyond these individual-level effects. We predict that the division of housework between married or cohabitating partners will be more egalitarian in countries with higher WLFP rates and in countries with more egalitarian attitudes, even after controlling for the two variables at the individual level. Given the cross-country convergence in WLFP, but not in gender ideology, we expect the effect of WLFP to decline over time and the effect of gender ideology to remain salient. Indeed, our multi-level analysis indicates that the net effect of WLFP, which was evident in 2002, had disappeared by 2012. By contrast, the net contextual effect of gender ideology, which was not significant in 2002, had become an important determinant of housework division by 2012. We conclude that further changes will depend on a country's prevalent gender ideology because the equalizing effect of WLFP on the division of housework may have reached its limit.

**Keywords** Division of housework  $\cdot$  Division of household labor  $\cdot$  Unpaid labor  $\cdot$  Contextual effects  $\cdot$  Gender ideology context  $\cdot$  Women's labor force participation rate

The convergence between men and women with respect to the amount of time devoted to paid work over the past few decades is one of the most significant characteristics of the transition to postindustrial societies (Goldin 2006; Mosisa and Hipple 2006). Nevertheless, most household tasks still remain in the hands of women (Altintas and Sullivan 2016; Sayer 2016). This uneven change has motivated scholars to study the gendered division of labor inside and outside the household, as well as the relationship between the two (for reviews see Coltrane 2000; Lachance-Grzela and Bouchard 2010).

Although the unequal gendered division of housework is omnipresent, the degree varies substantially from country to

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Hadas Mandel hadasm@tauex.tau.ac.il country (Kan et al. 2011; Sayer 2010). Research aspiring to explain this variation, however, is mainly focused on differences between countries with regard to individual/householdlevel effects (hereinafter: individual level) (Aassve et al. 2014; Geist 2005; for review see Lachance-Grzela and Bouchard 2010). Thus, we know much less about the possible explanatory power of country-level factors as opposed to individual/ household-level factors. Furthermore, to the best of our knowledge, no scholarly attention has been devoted to *changes* in country-level effects over time. To fill this lacuna, our objectives in the present paper are to examine (a) whether and how country-level factors affect the division of housework and (b) whether and how the effects of these factors have changed over time.

Two country-level factors stand at the center of our theoretical focus. Both are among the most significant factors influencing the division of household labor at the individual level, but are yet to receive sufficient scholarly attention from a cross-country comparative perspective. The first factor, women's labor force participation (WLFP), is perhaps the

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most studied variable at the individual level. Many studies have showed that housewives who are fully economically dependent on their husbands do more housework than women who work for pay and thus are only partly dependent or not at all (Bianchi et al. 2000; Cunningham 2007; Hook 2017). The second variable, gender ideology, also has been studied extensively at the individual level. Households where partners hold egalitarian gender role attitudes tend to have a more egalitarian division of labor, even after accounting for different measures of relative resources (for a review see Davis and Greenstein 2009, pp. 96–97).

The aggregated effect of these individual-level factors should be reflected at the country level; in countries with high participation rates of women in paid work, the division of housework should be more egalitarian, if not merely because more women participate in paid work and therefore more women are less economically dependent on their partners (Geist and Cohen 2011). The same is true for gender ideology. In countries where more individuals hold egalitarian gender attitudes, the division of housework should be more egalitarian by virtue of the overarching composition of attitudes alone (Nordenmark 2004). However, our theoretical motivation is to learn about the importance of country-level factors in relation to the division of housework beyond their (aggregated) effects at the individual level.

Our first challenge is therefore to identify the distinctive country-level effects of our focal variables, after separating them from their analogous individual-level effects. We term this a *contextual effect*, that is, the country level effect after taking into account the analogous effect at the individual level. Meeting this challenge will enable us not only to better understand the variety of forces that affect the division of housework, but also to avoid the under- or over-estimation of each of them (as is the case when each is examined alone).

Furthermore, in order to identify distinct contextual effects, it is essential to differentiate the effect of each contextual variable vis-à-vis the other. There are good theoretical reasons to do so because each of our two country-level variables is ensconced within a different theoretical logic-economic, on the one hand, and cultural on the other. The economic based theories explain the spousal dynamic as an economic exchange between paid and unpaid work, determined by the relative economic contribution of each partner (Brines 1994). A cultural-based theory, on the other hand, explains the division of housework between partners via the rigidity of the social norms and perceptions that dictate gender behavior and presentations of gender roles (Davis and Greenstein 2009; South and Spitze 1994; West and Zimmerman 1987). The two very different, albeit mutually related, dynamics highlight different expectations and have been extensively compared at the individual level (Aassve et al. 2014). Nevertheless, we are not aware of any examination that distinguishes the two factors at the country level.

Separating each contextual effect from the other is of importance not only for theoretical purposes but also for advancing gender equality. Because each factor operates on the division of housework differently, it suggests a different strategy for equalizing it. Such a separation becomes feasible when adopting a perspective over time because cross-country fluctuations in the two variables are not uniform. As for WLFP, studies have revealed a significant convergence between countries as the dual-earner or the one-and-a-half earner models have gained prominence in recent decades (see Cipollone et al. 2014). In contrast to WLFP, there is no clear sign of convergence between countries in gender ideology, and so variation between countries in gender ideology remains rather substantial (Fortin 2005; Guetto et al. 2015; Nordenmark 2004).

The International Social Survey Program's (ISSP) "Family and Changing Gender Roles" data source gives us the opportunity to fulfill our objectives. It provides data on individuals nested within countries, enabling the use of multilevel models to examine the effect of the country-level variables net of individual-level effects as well as net of each other. It also has two usable time points 2002 and 2012, which allow us to examine possible changes in the effects over time. By so doing, our study contributes to a better understanding of the two most significant determinants of gender inequality within the household, and it points to practice implications in relation to existing policies seeking to mitigate gender inequality within the family and in society at large.

#### **WLFP and Division of Housework**

The link between women's participation in paid work and the division of housework between partners has been well established in research. Women who work for pay have more time constraints (Davis and Greenstein 2004), more autonomy to outsource or forgo domestic tasks (Gupta 2007), and are less economically dependent on their partners (Brines 1994), and therefore provide less housework. Albeit with some differences, prevalent theoretical explanations such as "specialization" and "time availability," as well as the bargaining models of "economic dependency" and "relative resources," all describe a tradeoff between paid and unpaid workwhether resulting from a rational economic decision or a negotiation between partners based on valued resources (Aassve et al. 2014; Brines 1994; Sullivan 2011). Thus, women's economic dependency is a key covariate explaining the division of housework: The more economically dependent a woman is, the more housework she does (Aassve et al. 2014; Brines 1994).

When aggregated to the country level, we expect that in countries with high rates of WLFP, more women will be economically independent of their partners, and therefore they will have more bargaining power with regard to the amount of housework they do. In other words, we expect that differences between countries in the share of economically active women (i.e., compositional differences) will co-vary with the division of housework between genders.

However, and in contrast to the abundance of research supporting this relationship at the individual level, very few studies have examined at the country level the distinctive effect of WLFP on division of housework, and the findings of these studies are mixed. Whereas some scholars did not find any equalizing effect of WLFP on the gender gap in housework provision (Fuwa 2004; Stier and Lewin-Epstein 2007), others found WLFP to have such an effect beyond the individual level (Geist and Cohen 2011; Hook 2006). Hook (2006) argues that women's employment opportunities enhance the bargaining power of all women-even nonemployed women-and thus helps foster a more egalitarian division of housework. Thus, she hypothesizes and demonstrates that men do more housework in contexts where the employment of married women is more commonplace. This effect, which holds even after compositional differences between countries have been taken into account, underscores the importance of contextual factors. It implies that the power of individual women who work for pay in negotiations over housework is not limited to their own family alone, but also empowers non-employed women in their negotiations regarding housework.

To sum, the division of housework between partners at the country level may merely reflect compositional differences (i.e., differences between countries in the share of economically active women) or it may be the outcome of a distinct contextual effect. In the case of the latter, as we suggested previously, in countries where WLFP is higher, nonemployed women too have more power to negotiate over housework. If such a contextual effect exists and the individual-level effect of paid work is measured without accounting for it, then the latter is most likely overestimated because it would conflate the effect of the context. Furthermore, it is also possible that societies in which more women are in paid work have other unique characteristics that relate to the allocation of housework, such as a more egalitarian gender-ideology orientation (Gershuny et al. 1994; Hook 2006, p. 642). In our analysis, and unlike Hook (2006), we therefore separate WLFP from country-level gender ideology in order to examine their net contextual effects.

#### **Gender Ideology and Division of Housework**

The effect of gender ideology on the division of labor is straightforward. In fact, many scholars argue that the division of housework is driven by cultural as well as economic forces, and thus it is linked to gender role ideology no less than to economic relations (see review: Davis and Greenstein 2009). According to this view, in order to adjust to the prevailing cultural and social norms, working wives do most of the housework—even if their time invested in paid work and their relative economic contribution to the household is the same as, or even higher than, their husbands' (Lachance-Grzela and Bouchard 2010). The gendered division of housework is, among other things, a reflection of the partners' gendered attitudes regarding the rigidity of feminine and masculine roles. Indeed, the association between an egalitarian gender ideology and an egalitarian division of housework is widely established at the individual level (Aassve et al. 2014; Davis et al. 2007).

When gender ideology is aggregated to the country level, again we expect that in countries where an egalitarian gender ideology orientation is prevalent, housework division will consequently be more egalitarian. The question is whether this correlation merely mirrors the aggregated effect at the individual level (i.e., is a compositional effect) or whether the context has a distinct effect. Greenstein (2000, 1041) argues in favor of the latter. He proposed that "national context provides a comparative referent for married women from which they might form their perceptions of justice relevant to the division of household labor." Women, he argues, "compare themselves to the more generalized conception of the level of support for gender equity in their nation."

Although the results of Geist and Cohen (2011) counter this claim, others confirm it (Fuwa 2004; Stier and Lewin-Epstein 2007). Stier and Lewin-Epstein (2007) found that in countries with a more egalitarian gender ideology orientation, the division of housework is more egalitarian even after controlling for gender ideology among individuals. Similarly, Fuwa (2004) found that in countries that rank high on average gender ideology, the division of housework is more egalitarian, even after controlling for gender ideology and other individual-level factors. However, none of these analyses simultaneously controlled for the two covariates at the country level. As we mentioned, because both are related and yet ensconced in different theoretical frameworks, the distinct effect of each can tell us whether cultural forces or economic forces or both affect the spousal dynamic at the country level.

## Trends over Time in WLFP and Gender Ideology

One of the most significant attributes of the shift toward a postindustrial labor market has been the growth in WLFP (Goldin 2006; Mosisa and Hipple 2006). This increase is associated with the shift toward service-based economies, the rise in women's educational attainments, technological and medical advances, and a decrease in fertility rates (see review in Blau and Kahn 2017, pp. 807–809; Nieuwenhuis et al.

2017). All these factors are also reciprocally related to more egalitarian gender attitudes, especially toward mothers in paid work (Fernández 2013; Fortin 2015) and to a greater commitment on the part of men to housework (Hook 2006).

Because the increase in women's paid employment has not only reinforced egalitarian ideals but was also motivated by them (Bolzendahl and Myers 2004; Inglehart and Norris 2003, pp. 49–71; Pampel 2011), changes in both WLFP and gender ideology are closely related. Nevertheless, even though the rise in both WLFP and egalitarian gender ideology is widespread (Dorius and Alwin 2010; Goldin 2006; Inglehart and Norris 2003; Pampel 2011), cross-country variations in the pace and the dynamic of the two processes are evident. In the following we briefly summarize cross-country variations in the development of the two processes.

Trends in WLFP over recent decades point to an overall convergence between countries, countries with relatively low WLFP in the 1970s experiencing large and continual increments relative to countries with high WLFP, which experienced stagnation and even moderate decreases in last decades. Specifically, countries in Central and Southern Europe, which historically embraced and encouraged a conservative male breadwinner model, experienced growth in participation rates of women in paid work during the 1980s and these rates continued to grow throughout the late 1990s and the 2000s (OECD 2019b). In contrast to this trend, countries with the highest WLFP in the 1970s and 1980s (i.e., the Scandinavian countries; Esping-Andersen 1990) slowly transitioned to deceleration in the 1980s and stagnation or even moderate decreases during the 1990s and 2000s (Euwals et al. 2011; Gehringer and Klasen 2017). The United States has gone through similar trends, albeit lagging behind the Scandinavian countries: After substantial growth in the 1970s and the 1980s, WLFP decelerated during the 1990s and finally stagnated or even declined in the 2000s, returning to rates of around 70%, last seen in the early 1990s (Toossi 2012). WLFP in Canada and the United Kingdom has also decelerated in the last three decades. However, unlike in the United States, it has not fully stagnated or declined in either country, thus edging closer to the Nordic countries than the United States, with WLFP of around 75% (OECD 2019b). WLFP rates in Eastern European countries, which were extremely high under Communist rule (but with no gender equality tradition), witnessed a steep decline in women's participation in paid work after the fall of state-sponsored Socialism (Crompton and Harris 1997; Voicu and Tufis 2012). Nevertheless, by the end of the 1990s, the trend started to shift again toward growing rates.

A good demonstration of this convergence is the case of Switzerland vis-à-vis Nordic and Anglo-Saxon countries. In 1985, 14 years after women's suffrage was achieved in Switzerland, only 37% of women aged 15+ participated in paid work (relative to 55% in the U.S. and 68% in Sweden). By the early 1990s, WLFP in Switzerland approached U.S. rates, and by the early 2000s they had already exceeded it. By 2012, WLFP rates in Switzerland were close to 80%, converging with the Scandinavian countries. Similar trends of continual substantial increases in WLFP have been identified in Austria, Germany, France, Netherlands, Israel, Portugal, and Spain (see also Gehringer and Klasen 2017)—all countries in which the traditional breadwinner model was prevalent in the 1980s (Esping-Andersen 1990).

That said, while WLFP rates have converged, differences among countries in the time women devote to paid work remain prominent (Gehringer and Klasen 2017; Van der Lippe 2010). Even in countries that have experienced similar continual increments in WLFP in recent decades, variation is still substantial. For example, in 2012 60% and 45% of working women were employed part-time in the Netherlands and Switzerland, respectively, whereas relatively few women worked part-time in Spain and France (around 23% in both) (OECD 2019a). In other words, it could be that WLFP per se is no longer a useful criterion for cross-country variation and that participation of women in full-time work—which still varies substantially across countries—provides a better explanation for the gendered division of housework.

While attitudes toward gender roles, and specifically mother's employment, became more gender egalitarian with the increase in WLFP, the rise in egalitarian gender attitudes also shifted to deceleration during the late 1980s, and in some countries the trend stagnated or even reversed during the 1990s (Cotter et al. 2011; Scott et al. 1996; Shorrocks 2018; Thornton and Young-DeMarco 2001). Cross-country differences in gender ideology trends are influenced by inter- and intra-cohort effects. The former, also termed the generational effect, refers to changes in overall ideology that are due to cohort replacement. Younger cohorts that were born into a social context that correlated with egalitarian gender ideology (e.g., higher rates of academic education, women's employment and divorce, lower rates of fertility and marriage) are found to be more egalitarian than older ones (Ciabattari 2001; Dorius and Alwin 2010; Lomazzi 2017; Scott et al. 1996; Shorrocks 2018).

The complementary component, the intra-cohort effect (i.e., the period effect when cohort is controlled for) refers to a change in attitudes of individuals within a cohort. A cohort may shift their attitudes over time due to autobiographical events (e.g., marriage, divorce, education) or as they experience social historical events, which may affect some cohorts more than others (Brooks and Bolzendahl 2004). As for intracohort trends in attitudes, the results are not as clear-cut and consistent (Dorius and Alwin 2010). In the United States, for example, individuals within cohorts, on average, tended toward egalitarianism during the 1970s and 1980s, but as they grew older in the 1990s, they became considerably more conservative; but in the 2000s the intra-cohort trend shifted back, embracing slightly more egalitarian attitudes (Cotter et al. 2011). Although not necessarily fluctuating as extremely as in the United States, countries in Central and Southern Europe, as well as other Anglo-Saxon countries (the U.K., Ireland and Australia) and some Eastern Europe countries have gone through similar ebbs and flows in the intra-cohort trend (Braun and Scott 2009; Lomazzi 2017; Scott 2006; Van Egmond et al. 2010). In contrast to this pattern, in other countries—such as Romania, Poland, Slovakia, East Germany, and the Scandinavian countries (perhaps excluding Sweden) —younger cohorts continued to drift toward egalitarianism (Guetto et al. 2015; Voicu and Tufiş 2012).

In sum, several countries which experienced a rapid shift toward egalitarianism decades ago are still trending in this direction, whereas in others the traditional ideology is proving to be much more persistent (Braun and Scott 2009; Scott et al. 1996). Therefore, although, in general, younger cohorts tend to hold more gender egalitarian ideological views, variations in the development of gender ideology are more complex so that a clear trend toward convergence is not apparent, as is the case with WLFP.

#### **The Present Study**

The contextual effect of both women's labor force participation rates (WLFP) and gender ideology may merely reflect compositional differences (i.e., differences between countries in the share of economically active women or in the share of the population holding egalitarian gender role views) or it may result from a distinct contextual effect. The latter suggests that the national context matters because it provides a comparative reference for all the population, not only for those who de facto adhere to it. Our first objective is to reveal the distinct effect of the context, above and beyond the aggregated compositional effect of individuals. We also aim to distinguish between economic and cultural effects (i.e., to examine the effect of each contextual variable net of the possible intervening effect of the other).

In contrast to the abundance of research on the individual level, very few studies have examined the contextual effects of both WLFP and of gender ideology on the division of housework. The results of the very few studies that have examined the contextual effect of WLFP are inconclusive, but based on the findings of Geist and Cohen (2011) and Hook (2006), we expect the gendered division of housework to be more egalitarian in countries with high WLFP rates, even after controlling for their economic dependency (Hypothesis 1a). However, the convergence in WLFP between countries leads us to expect that the effect will diminish over time (Hypothesis 1b).

As for gender ideology, based on the findings of Stier and Lewin-Epstein (2007) and Fuwa (2004), we expect the

gendered division of housework to be more egalitarian in countries with more gender egalitarian attitudes, even after controlling for the individual's own perceptions (Hypothesis 2a). Because younger cohorts across all countries hold a more egalitarian gender ideology, with time the allocation of housework between men and women should become more egalitarian. Nevertheless, different gender role models are still currently prevalent across Europe, especially among north, west, and east of Europe (Edlund and Öun 2016). Unlike trends in WLFP, the inconsistent fluctuations of the intra-cohort effect add diversity between countries in gender ideology trends and thus prevents us from concluding that cross-country variation is diminishing (as we concluded regarding WLFP). Furthermore, because variations between countries in gender ideology-in levels or in trends over time-are rather substantial (Fortin 2005; Guetto et al. 2015; Nordenmark 2004), we expect the effect of gender ideology to remain significant over time (Hypothesis 2b).

#### Method

#### **Data and Sample**

We used the 2002 and 2012 ISSP "Family and Changing Gender Roles" module datasets for both individual- and country-level variables. The ISSP is a cross-national database, characterized by high-quality comparative data on different sociopolitical topics. Although sampling procedures differ between countries (partly simple, partly multi-stage stratified random samples), all participating countries are bound by a questionnaire protocol and regulations which ensure that data are comparable. All country samples included in our analysis are representative of their respective populations (GESIS 2016). Despite known weaknesses of the ISSP "Family and Changing Gender Roles" module (e.g., the limitations of recollection questionnaires data relative to time-use diary data and other limitations described in the following), it is the only known database that provides information on the division of housework between partners, with accompanying information on gender role attitudes and income measures, across a large number of countries and at least two time-points. Thus, many important cross-country comparative studies have relied on these data (Davis et al. 2007; Fuwa 2004; Fuwa and Cohen 2007; Geist and Cohen 2011; Knudsen and Wærness 2008). We initially sought to use three time points, including 1994, but the lack of a measure of overall housework hours (our dependent variable) prevented us from doing so.

Our analytical sample include married or cohabiting respondents of prime working age (age 25–64 years), with at least one of the partners reporting a positive income, and one of the partners doing housework. (See Table 1s in the online supplement for numbers by country.) We include all 25 countries that participated in both waves and have valid data on our main in/dependent variables: East and West Germany (analyzed separately because they differ substantially in both the dependent and the independent variables), United Kingdom, Israel, Norway, Sweden, the Czech Republic, Spain, France, Denmark, Finland, Switzerland, Portugal, Bulgaria, Hungary, Latvia, Poland, Slovakia, Slovenia, Russia, Mexico, the Philippines, Taiwan, Austria, and the USA. Excluded countries are: Ireland, the Netherlands, and Belgium, because they did not include income measures in their 2002 questionnaire, and Australia, due to an extremely high percentage of respondents reporting no income (37.2%) in 2002 and poor income data quality in 2012 (GESIS 2016, p. 496). We excluded Japan because its data on the dependent variable for both years were extremely skewed and presented as an extreme outlier relative to all other countries (see also Batalova and Cohen 2002). Furthermore, its gender ideology results for both years appeared to be invalid when compared to previous findings (Dorius and Alwin 2010; Lee et al. 2010). Nonetheless, the results of the main analysis are similar when Japan and Australia are included, (See Table 2s in the online supplement for a complete analysis.)

#### **Dependent Variable: Housework Gap**

Our dependent variable, Housework Gap, is the average number of hours the woman spends on housework each week minus the average number of hours the man spends on housework each week, not including care. Unfortunately, ISSP sampled one respondent per household asking him/her to provide information regarding his/ her partner. Therefore, if men and women systematically varied in their evaluations of the amount of housework undertaken by their partner, the results could be biased (Kamo 2000). Our main concern was whether the respondent's gender caused differences in the estimation of the gendered housework gaps. To check this possible bias, we calculated mean housework hours by respondent's gender and whether the estimate referred to the respondent or to the respondent's partner. In our sample, however, women tend to report lower levels of housework for both genders, whereas the men tended to report higher levels of housework for both genders, hence, the difference between genders in housework gap estimation are very small (less than 1 h in both years). (See Table 3s in the online supplement.)

Furthermore, in recollection questionnaires (as used in the ISSP), women with a heavy housework burden tend to underestimate their housework, whwreas men doing relatively few hours tend to overestimate their housework (Kan 2008). Thus, our results may underestimate the gaps in such households. If these "large gap" households are more prevalent in conservative or low WLFP countries (Kan 2008), the underestimation would be more severe in more conservative/low WLFP countries. To mitigate this possibility, we controlled for the gender of respondent. However, it is vital to note that this bias may still lead to an underestimation (importantly though, not an overestimation) of contextual effects.

#### Individual-Level Independent Variables

The two focal independent variables at the individual level are "Woman's Economic Dependency and Gender Ideology. We compute the former using the following equation:

Woman's Economic Dependency

 $=\frac{(\operatorname{man}'s \operatorname{income-woman}'s \operatorname{income})}{(\operatorname{Total} \operatorname{income})}$ 

The numerator is the gap between the partners' average monthly income, and the denominator is the total average monthly income of the partners. The index ranges from (-1)where the woman is the sole breadwinner, through (0) where both partners contribute equality to the household income, to (1) where the man is the sole breadwinner. Because the ISSP module does not contain a distinct question on partner's income, partner's income is estimated by subtracting the respondent's income from the total household income (see also: Bittman et al. 2003; Fuwa and Cohen 2007). To check a potential bias due to additional adult(s) contributing to the total household income, we replicated our main analysis including only households with two adults. The results are very similar (see Table 4s in the online supplement). To enable a curvilinear relationship between woman's economic dependency and housework gap as predicted by cultural theories (see Hook 2017), we insert this variable also as a quadratic.

The second independent variable, Gender Ideology, is designed to capture attitudes toward gender roles, and it was calculated by averaging the individual's agreement, ranging from 1 (strongly agree) to 5 (strongly disagree) on five items (see also: Crompton and Lyonette 2005): "A pre-school child is likely to suffer if his or her mother works"; "All in all, family life suffers when the woman has a full-time job"; "A job is all right, but what most women really want is a home and children"; "A man's job is to earn money; a woman's job is to look after the home and family"; and "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work" (reverse scored). For Spain, which has a 4-value scale in all of these measures in the 2012 dataset, we rescaled the values to fit the rest of the sample using the formula X' = X/4\*5. The overall indices range from 1 (conservative gender attitudes) to 5 (liberal gender attitudes), with Cronbach's alphas of .75 in 2002 and .78 in 2012.

#### Country-Level Independent Variables

Our two independent variables at the country level are Women's Labor Force Participation (WLFP) Rate and mean Gender Ideology. The latter is the aggregated mean value of the gender ideology index described previously in each country in each year. The former is the percentage of women in the labor force of all working age (25–64) women in the country in each year calculated from the ISSP data. WLFP extrapolated from the ISSP data is not as highly correlated with data from the Organization for Economic Co-operation and Development (hereafter: OECD; r = .76 (2002); r = .72(2012) as we expected. Thus, we also used the OECD data to validate our results (OECD 2019b). In addition, because of substantial variations in part-time work rates across countries with similar WLFP rates (OECD 2019a) and because time availability is critical to the relationship between housework and paid work, we also reran the analysis replacing the WLFP measure with a measure of the percentage of women in fulltime employment (30+ hours). In the findings section, we report the results using all the three measures. We present descriptive statistics (Ms, SDs, and ranges) of all variables by year, disaggregated to their between (calculated across aggregated countries means) and within (deviation from country mean after adding grand mean) components in Table 5s of the online supplement.

#### **Control Variables**

Following prominent studies in the field (e.g., Fuwa 2004) we added individual-level controls to account for differences between countries in the distribution of these variables (termed throughout "compositional differences") and for possible confounders of our focal individual level relationships. Our controls include gender of respondent (1 = female); whether the respondent is married or cohabitating (1 = cohabitation); educational attainment based on highest completed degree (1 = attained an academic degree); having preschool-aged children (1 = yes), age of respondent (ranging from 25 to 64), and age<sup>2</sup> (a curvilinear effect of age on the housework gap is expected because housework increases up to a point and then decreases as couples grow older; see also Batalova and Cohen 2002); the numbers of hours the woman spends in paid work in an average week (top-coded at 96); and finally, we controlled for the prevalence of outsourcing, using the number of housework tasks done by a third person of the six major tasks explicitly mentioned in the survey (actual range = 0-1).

#### **Analytical Approach**

In order to separate the individual-level effects from the country-level effects, we used multilevel models to examine the net effect of our two key country-level determinants. The two-level model is formally defined by the set of equations in the following. The within-country equation (Eq. 1) models the housework gap as a function of individual characteristics:

$$Y_{ij} = \beta_{0j} + \beta_1 X_{1ij} + \ldots + \beta_k X_{kij} + r_{ij}$$

$$\tag{1}$$

where the dependent variable  $Y_{ij}$  is the housework gap of individual i in country j;  $\beta_{0j}$  is the intercept of country j; and  $\beta_1$  through  $\beta_k$  are coefficients of  $X_1$  to  $X_{kij}$  individual-level control variables, which, when continuous, are centered around their grand mean. The error term  $r_{ij}$  is assumed to be normally distributed with a mean of zero and variance  $\sigma^2$ . Because we are interested in explaining cross-country variation in the housework gap, the model allows the intercept  $\beta_{0j}$ to vary across countries. Eq. (2) models the intercept ( $\beta_{0j}$ ) as a function of the two country-level covariates:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (WLFP)_j + \gamma_{02} (mean \text{ gender ideology})_j + u_{0j}$$
(2)

The dependent variable  $\beta_{0j}$  (i.e., the intercept in Eq. (1) represents the housework gap of a household with average characteristics on all continuous variables and the reference category in all binary variables in Country j.  $\gamma_{01}$  and  $\gamma_{02}$  are the coefficients of our country-level covariates, both centered around the grand mean.

#### Results

#### **Descriptive Statistics**

We begin with a graphical description of the cross-country relationship between the mean housework gap and our two independent variables: women's labor force participation rate (WLFP) (see Fig. 1a) and mean gender ideology (see Fig. 1b) in 2002 and 2012. Country-specific values for both years, as well as the differences between the periods, are presented in Table 1s of the online supplement. As expected, in all countries, women do more housework than their partners, but the variation between countries is substantial. Starting with WLFP, the two dimensions are closely and negatively related, implying an economic exchange between housework and economic support; in countries where more women participate in paid work (i.e., women are less economically dependent), the average housework gap between the partners is smaller. In 2002, Denmark, for example-the country with the second highest WLFP-exhibited the lowest housework gap (around 5.5 h a week). In contrast to Denmark, in Spain, Hungary, and West Germany, with relatively modest rates of women in paid work in 2002, the housework gaps were 2.5 to 4 times higher.

This cross-country correlation between WLFP and the housework gap, however, declines over time from r = -.65



**Fig. 1** Country-level correlation of housework gap with (**a**) Women's labor force participation and (**b**) Mean Gender Ideology by year where AT = Austria, BG = Bulgaria, CH=Switzerland, CZ = Czech Republic, DK = Denmark, E-DE = East Germany, ES=Spain, FI=Finland, FR =

France, HU=Hungary, IL = Israel, LV = Latvia, MX = Mexico, NO=Norway, PH=Philippines, PL = Poland, PT = Portugal, RU = Russia, SE = Sweden, SI=Slovenia, SK=Slovakia, TW = Taiwan, UK=United Kingdom, US=United States, W-DE = West Germany

in 2002 to r = -.45 in 2012. Although this decline  $(r_1 - r_2 = .20)$  is not significant  $(z_d = .953)$ , it is a medium level change in correlation (q = .28), dropping explained variance by 21% (Cohen 1988, pp. 114–115). As we noted previously, WLFP grew more rapidly in countries that previously had relatively low levels of WLFP. Indeed, for Spain, Hungary, and West Germany—countries with high housework gaps in 2002 and with the lowest WLFP in the same year—the increase in WLFP is substantial (see Table 1s in the online supplement). Nonetheless, the increase in WLFP only modestly co-varies with a decrease in the housework gap. This asymmetric change accounts for the decline in the cross-country correlation between housework and paid work during the period 2002–2012.

As for our second covariate—mean Gender Ideology—the correlations again are negative, as we expected. In countries with a more egalitarian ideology, such as Denmark, East Germany, and Sweden, housework gaps are low; but in countries with a more conservative ideology, such as Hungary and Mexico, the housework gaps are high. However, and unlike the patterns noted previously, the cross-country correlation between mean gender ideology and the mean housework gap increased substantially over time—from r=-.46 to r=

-.65, in only 10 years. Although this change is again not significant (z = .9) with our relatively small sample of countries, it is a medium-level change in effect (q = .27) and a 20% increase in the shared variance of the two variables.

The opposing trends in the correlations over time between mean housework gaps and our two country-level covariates are intriguing because this change could be affected by both individual and contextual factors. The next section describes our use of multilevel analyses in order to distinguish between these different determinants.

#### **Multilevel Analysis**

As we mentioned at the outset, changes in individual attributes (e.g., an increase in women's economic independence or in egalitarian gender ideology) may have an effect on the intrahousehold dynamic and housework distribution. Because our goal here is to address country-level mechanisms, in the following we separate individual-level from country-level effects on the housework gaps.

Table 1 displays the unstandardized regression coefficients of a multilevel analysis in which individuals are nested within countries by year. Starting with individual-level control

#### Table 1 Multilevel models of housework gap by year

	2002		2012		2002		2012	
	Model 1	Model 2	Model 1	Model 2	OECD WLFP <sup>a</sup>	Full-time work <sup>b</sup>	OECD WLFP <sup>a</sup>	Full-time work <sup>b</sup>
Fixed								
Constant	11.36**	11.35**	11.16**	11.02**	11.36**	11.35**	11.04**	11.02**
Household Level								
Age [25,64]	.51**	.51**	.75**	.76**	.51**	.51**	.76**	.77**
Age <sup>2</sup> [625,4096]	01**	01**	01**	01**	01**	01**	01**	01**
Household has toddlers [No]	1.48**	1.48**	.81**	.81**	1.47**	1.47**	.81**	.81**
Respondent has academic degree [No]	-1.98**	-1.97**	-1.62**	-1.62**	-1.97**	-1.97**	-1.61**	-1.61**
Cohabitating [Married]	-1.84 * *	-1.83**	-2.02**	-2.00**	-1.82**	-1.82**	-2.01**	-2.00**
Woman [Man]	.98**	.98**	1.15**	1.14**	.98**	.98**	1.14**	1.15**
Outsourcing tasks [0,1]	-7.93**	-7.96**	-6.62**	-6.66**	-7.99**	-7.98**	-6.64**	-6.65**
Wife's paid work hours [0,96]	10**	10**	14**	14**	10**	10**	14**	14**
Wife's economic dependency [-1,1]	3.26**	3.29**	3.74**	3.74**	3.27**	3.27**	3.75**	3.75**
Wife's economic dependency <sup>2</sup> $[0,1]$	3.15**	3.13**	1.64*	1.65*	3.12**	3.13**	1.65*	1.63*
Gender ideology [1,5]	-1.75**	-1.73**	-1.43**	-1.38**	-1.73**	-1.73**	-1.38**	-1.38**
Country Level								
Mean gender ideology [2.6,4.2]		32		-4.62*	33	80	-3.08**	-3.37
WLFP [53.0,87.1]		18**		.22	13**	09	.09	.08
Random								
Constant variance	10.36**	8.40**	10.48**	7.83**	8.97**	9.17**	8.49**	9.04**
Residual variance	167.49**	167.49**	188.57**	188.56**	167.49**	167.49**	188.57**	188.57**
Model fit								
Deviance	102,851.5	102,845.7	87,844.4	87,835.2	102,847.6	102,848.1	87,837.8	87,840.0
BIC	102,984.1	102,997.2	87,974.5	87,983.9	102,999	102,999.6	87,986.5	87,988.7
$\chi^2$ of Wald test	199.25**	13.55**	736.93**	4.49*	7.22	5.15	6.07	4.95
n individuals (within 25 countries)	12,911		10,864		12,911		10,864	

*Note.* In brackets: [reference category for categorical variables or range of scale for continuous variables]; The dependent variable is the gap in weekly housework hours between the woman and her partner; presenting unstandardized regression coefficients; models weighted to balance countries' samples; all continuous variables are grand mean centered; WLFP = women's labor force participation rate

<sup>a</sup> OECD WLFP indicates that in this model, we used WLFP values estimated by OECD (2019b) rather than values derived from the ISSP dataset. <sup>b</sup> Fulltime work indicates that in this model, we used the percentage of women in full-time work rather than WLFP

\*p < .05. \*\*p < .025. (one tailed)

variables, presented in Models 1 of 2002 and 2012, we can see that in both periods, as expected, the housework gap decreases with academic education, cohabitation, woman's paid working hours, outsourcing of housework, and increases in the number of young children (Fan and Marini 2000; Gershuny and Sullivan 2003). When the respondent is female, the reported housework gap tends to be larger by almost an hour. In both years, housework gap increases with the age of the respondent, up to a certain point—between age 47 and 50 —when the children are older and at least some have left the household.

The effects of our two key covariates at the individual level operate as expected in both periods (Lachance-Grzela and Bouchard 2010). The woman's economic dependency is positively related to the housework gap, such that the more economically dependent a woman is on her partner, the more housework she tends to do relative to him. To demonstrate the effect size, the results predict a decrease of around 7 h per week in the housework gap between partners when moving from a sole male-breadwinner household to a sole femalebreadwinner household in both years. That said, as indicated by the positive quadratic term of the variable, and in line with cultural theories, the housework gaps are almost constant across households that challenge gender norms, whether the partners contribute equal incomes (index = 0), the woman is the main breadwinner (-1 < index < 0), or even when she is the sole provider (index = -1). This pattern means that there is a kind of threshold that women cannot cross, a quantum of housework that is "reserved" solely for them regardless of their economic contribution to the household.

Moving on to Gender Ideology, we find that the more gender egalitarian the respondent's perception, the lower the housework gap. More specifically, a unit increase (of four possible) in gender ideology toward egalitarianism is associated with a 1.75 (in 2002) and 1.43 (in 2012) decrease in hours of housework gap. Thus, across the scale, gender ideology is associated with a decrease of 7 (in 2002) and 6 (in 2012) hours in the housework gap between partners.

In Models 2 (2002 and 2012) of Table 1, the two main country-level covariates—WLFP and mean Gender

Ideology—were added to the equation together in order to estimate the distinctive effect of each. In accordance with our expectations in Hypotheses 1a and 1b, the net effect of women's labor force participation (WLFP) is negative and statistically significant in 2002, but becomes nonsignificant in 2012. In other words, in 2002, countries with high WLFP had smaller housework gaps, even after controlling for individual characteristics (including the relative earnings of the partners) and gender ideology at both levels. Ten years later, however, WLFP no longer has an effect on the housework gap beyond the effect of economic dependency at the individual level.

Figure 2a demonstrate this pattern by plotting the countrylevel predictions of the housework gap by year and based on three models. The solid black line presents predictions without any controls. The dotted gray line delineates predictions while controlling for individual-level characteristics (i.e., controlling for compositional differences between the countries on all individual-level variables included in Table 1). The long dashed black line shows predictions after adding a control for mean Gender Ideology. Finally, the size of the bubbles expresses the composition of women's economic dependency in each country measured by the proportion of women in each country that are ranked at the top quintile of economic dependency in the entire sample.

As can be seen in Fig. 2a, in 2002 the raw effect (solid black line) becomes only slightly smaller after adding controls (the other two lines), meaning that WLFP significantly affects the division of housework even after compositional differences between countries and mean gender ideology are held constant. Indeed, WLFP accounts for 19% of the remaining unexplained country-level variance ( $f^2 = .19$ ) (see Cohen 1988, pp. 410–414 and Lorah 2018), and its effect size can be illustrated by the predicted housework gap between the country with the lowest (Hungary) and the country with the highest WLFP (Sweden), which is 5.8 weekly hours. In 2012, even though the differences between the three models are striking, WLFP is not significant in any of them.

As we suggested earlier, the disappearance of the effect of WLFP relates to the convergence between countries in this measure. Four of the five countries with the largest incremental increases in WLFP (i.e., West Germany, Austria, Spain, and Hungary) are countries that had low WLFP rates in 2002 (the exception is Norway). In contrast to this pattern, most of countries in which WLFP rates increased moderately or not at all had above-average levels of women in the labor force in 2002. The noticeable change in the distribution of countries in WLFP is also evident in the relatively moderate correlation of WLFP between the 2 years (r = .53), in contrast to the stability of mean gender ideology between the periods (r = .95).

The effect of mean Gender Ideology, our second countrylevel covariate, exhibits the opposite trend between 2002 and 2012. Starting with 2002, unlike our expectation in Hypothesis 2a and the findings of Stier and Lewin-Epstein (2007) and Fuwa (2004), mean Gender Ideology has no significant effect on the housework gap. Indeed, we found the effect size to be very small ( $f^2 = .002$ ), meaning that this variable added to the explained country-level variance in housework gaps only .2% over and above the other variables in the model.

Contrasting this prior finding with the correlation found in Fig. 1b (r = -.46, which translates to a slope coefficient of b = -4.9), we conclude that the gross effect in Fig. 1b results from two possible sources. First, compositional differences between countries in all covariates, including gender ideology itself (i.e., the fact that countries in which egalitarian views are more prevalent have more households that espouse an egalitarian gender ideology) along with other compositional differences between the countries, explains a substantial amount of the country-level relationship between mean Gender Ideology and the Housework Gap. Second, the confounding effect of WLFP, for which we controlled in this model.

Figure 2b demonstrates the effect of mean Gender Ideology without controls (solid black line), with compositional controls (gray dotted line), and with all controls (dashed black line). Compositional differences among countries in gender ideology are illustrated by the different size of the bubbles, which represent the proportion of people in the country who hold the most egalitarian gender ideology (ranked at the top quintile of the index across the entire sample). As can be seen, in Denmark, East Germany, Sweden, and Norway (the four countries with the largest mean Gender Ideology), the proportion of men and women holding egalitarian gender ideology views is the largest; in Mexico, Russia, and Bulgaria (the three countries with the lowest mean gender ideology), it is among the smallest. Overall, the analysis indicates that in 2002 the correlation at the country level shown in Fig. 1 results mainly from an aggregation of individual-level effects (i.e., education, age, marital and children status, gender ideology, outsourcing, gender, and woman's working hours) (see Fig. 2b). After controlling for compositional differences between countries, the negative correlation becomes nonsignificant (i.e., we found no distinctive country-level effect with regard to ideology).

In contrast to the nonsignificant effect in 2002, variation in gender ideology between countries in 2012 is negatively and significantly tied to the housework gap (see Fig. 2b). This finding follows our expectation in Hypothesis 2a, theorizing that in more gender-egalitarian countries the gender gaps in housework are smaller, even after accounting for the compositional effect in gender-egalitarianism and for WLFP. To demonstrate the effect size, the predicted net housework gap decreased by 7.5 h a week when moving from the most gender-conservative (Philippines) to the most gender-egalitarian country (Denmark). Unlike the very small effect size found in 2002 ( $f^2 = .002$ ), in 2012 this effect explains 33% ( $f^2 = .33$ ) of the unexplained country level variance remaining after adding all other variables. In Fig. 2b we can indeed see that the raw effect (black solid line) and the net



**Fig. 2** Predictions of housework gap by (**a**) Women's labor force participation and (**b**) by Mean Gender Ideology by year and model specification. Solid black lines = predictions of housework gap without any controls. Dotted gray lines = predictions while controlling for all individual-level characteristics included in model 1 of Table 1. Long dashed black lines = predictions derived from a model with all controls (model 2 of Table 1). The size of the bubble represents: (**a**) the proportion of women in the country who are ranked at the top quintile of the economic dependency index across the entire sample; (**b**) the proportion of

respondents in the country who are ranked at the top quintile of the gender ideology index across the entire sample. Countries represented are AT = Austria, BG = Bulgaria, CH=Switzerland, CZ = Czech Republic, DK = Denmark, E-DE = East Germany, ES=Spain, FI=Finland, FR = France, HU=Hungary, IL = Israel, LV = Latvia, MX = Mexico, NO=Norway, PH=Philippines, PL = Poland, PT = Portugal, RU = Russia, SE = Sweden, SI=Slovenia, SK=Slovakia, TW = Taiwan, UK=United Kingdom, US=United States, W-DE = West Germany

effect (black dashed line) of mean Gender Ideology are very similar. The significant effect at both specifications confirms the importance of the societal-cultural context, as Greenstein (2000) has argued.

As we mentioned earlier, our measure of WLFP, derived from the ISSP data, is not as highly correlated with data from the OECD as expected (r = .76 in 2002; r = .72 in 2012). Because WLFP is a key variable in our study, and in order to check the validity of our results, we re-estimated our models using the OECD values (obtained from OECD 2019b, and presented in Table 1s of the online supplement). Models OECD WLFP (2002 and 2012) in the right panel of Table 1 are therefore identical to Model 2 in the left panel, except for the measure of WLFP. Although the coefficients are not identical, the results are the same: WLFP significantly affects the housework gap in 2002, but has no significant effect in 2012 after controlling for individual-level effects. The effect of ideology is also stable under the OECD WLFP specification; it is nonsignificant in 2002 and significant in 2012, beyond individual-level effects.

The convergence between countries in WLFP does not necessarily mean that the economic dependency of woman on their partners is similar across countries. Rather, it may indicate that in the new millennium, WLFP per se is no longer sensitive enough to distinguish between countries with regard to women's economic activities. As the dual and "one and a half" earner models became prevalent in many OECD countries, the entry of women into the labor force in some countries was mainly into part-time jobs. Thus, the convergence between countries in WLFP per se conceals substantial differences in the amount of time women devote to paid work—and consequently to unpaid work. Women in part-time work are expected to be more economically dependent on their partners than women in full-time work and consequently to perform more housework.

The "full-time work" models in Table 1 test this possibility by replacing "WLFP" with "women's full-time employment rate" (values are presented in Table 1s of the online supplement). All other variables are identical to Model 2. As can be seen, the results of both covariates are stable across specifications in both years, even though the coefficient of full-time work is not significant (p < .075). However, note that the effect of full-time work is net of compositional differences between countries, including with regard to the working hours of women. Here too, we see that in line with our expectations, and contrary to the negative effects in 2002 (Hypothesis 1a), by 2012 variations across countries in full-time employment rates no longer serve to explain the housework gap (Hypothesis 1b), whereas variations in gender ideology do (Hypothesis 2b).

#### Discussion

Although the persistence of the unequal gendered division of housework is universal, it varies substantially in degree between countries (Kan et al. 2011; Sayer 2010). Seeking to contribute to this body of literature, our first objective in the present study was to examine whether cross-country variations in women's labor force participation rates (WLFP) and mean gender ideology affect the division of housework, beyond their well-documented effect at the individual level (Lachance-Grzela and Bouchard 2010). We also sought to distinguish between the effects of the two contextual variables themselves in order to understand the relationship between economic and cultural forces and their effects on the division of housework, especially in times of social change. Our second objective, then, was to consider whether and how the distinct contextual effects change over time with crosscountry fluctuations in WLFP and in gender ideology.

Our findings confirmed most of our expectations. As predicted by Hypothesis 1a, we found a distinct effect of WLFP on the division of housework in 2002: The higher the rates of WLFP, the more egalitarian the division of housework, even after accounting for compositional differences between countries and their levels of gender ideology. However, following the convergence in WLFP between countries—where levels of WLFP in several gender-conservative countries (e.g., Spain and Austria) exceeded those in countries with a more egalitarian gender ideology (e.g., U.S.)—by 2012, even the gross effect of WLFP on the housework gap had become nonsignificant, as predicted by Hypothesis 1b. These results remain stable when using OECD WLFP data, and also when participation per se was substituted with the percentage of women in full-time employment as an alternative measure. In contrast to this pattern, the effect of a country's gender ideology—which in 2002 was nonsignificant once WLFP and the differences between countries' composition had been accounted for became an important determinant of housework division by 2012. That is, whereas our expectation (Hypothesis 2a) that higher mean gender ideology will be related to a more egalitarian housework division was not supported in 2002, it was supported in 2012 (Hypotheses 2a and 2b).

Our findings bear important implications for understanding gender inequality, as well as the barriers to alleviating it. Primarily, our findings show that the context itself affects inequality within the household. Taking the effect of WLFP in 2002, for example, in countries with high levels of WLFP, more women appear empowered by their own economic autonomy, and thus they do less housework. However, the power of women's autonomy in housework negotiation is not restricted to their own family; it also empowers other women, even those who do not have economic autonomy in their own families (Hook 2006). If this is the case, then the effect of the context cannot be reduced to the aggregated individual effect; thus, studies that focus solely on individual effects (in fact, the majority of studies on the topic) underestimate the total effect. Theoretically speaking, it is important to keep this additional layer of potential effects in mind when examining the relationship between potential factors as part of any attempt to decipher variability in housework division.

Furthermore, given the importance of the context, it is important to identify the exact factors at play and how they influence housework division. In the present study, we focused on the contrast between economic and cultural factors. WLFP affects the division of housework through the power of economic independence, which empowers women when negotiating housework. Gender ideology, by way of contrast, affects housework division by determining the prevailing cultural and social norms that shape gender relations.

The tradeoff between paid and unpaid work suggested by economic theories is evident at both levels. At the individual level, the more a woman is economically dependent on her partner, the more housework she tends to do. However, the effect of economic dependency on the division of housework persists only up to a certain point, but not beyond. As our results show, in households that do challenge gender norms (i.e., households in which the woman earns more than her partner), the housework gap is not affected by economic considerations because women who earn only a little more than their partners do the same amount of housework as women who are the sole earners. In other words, there is a "threshold" that women cannot cross, that is, an amount of housework that is "reserved" solely for them regardless of their economic contribution to the household. The same is true at the country level; the effect of economic forces have a limit, and in our 2012 sample they reach this limit as WLFP lost its potency. While this effect diminished, the cultural climate in which the partners are embedded became more significant. In 2012, partners in a more egalitarian context divided housework more equally than those in less egalitarian contexts, even when compared to couples with similar individual characteristics (including gender ideology itself) living in a country with similar WLFP rates.

#### **Limitations and Future Research**

As far as we know, the ISSP "Family and Changing Gender Roles" module is the only available and suitable dataset for examining the questions we asked here. Nevertheless, it is not free of limitations. A recognized limitation of the data is its reliance on recollection questions with regard to time allocation as opposed to time-diary collection methods. Past research demonstrates that such questionnaires suffer from a bias in time reporting; this bias may have limited our statistical power and may have led us to underestimate the contextual effects examined (Kan 2008). If time series, cross-country, time diary-based data incorporating the relevant measures becomes available, a re-examination of our results may produce stronger support for our findings.

Incompatibility between all datasets available in this module, specifically, the 1988 and the 1994 datasets (which are incompatible with the 2002 and 2012 datasets in key variables in our study) limited the period covered in the study. Because changes over-time in economic and especially in cultural forces take a relatively long time to manifest fully, our comparison would very likely have been more salient if conducted across a lengthier period. We therefore urge future researchers to examine whether the cultural climate in the more conservative countries will turn more egalitarian with the rise in WLFP and whether a change toward egalitarianism could lead to a decrease in housework gaps in these countries.

#### **Practice Implications**

Our findings bear practice implications for policymakers and all those who seek to mitigate gender inequality. First, they show that the effect of the context may exceed the aggregated individual effect and thus when such contextual effects are ignored, the overall effect is underestimated. Estimation of the full contextual effect is valuable for policymakers seeking to make an informed decision on whether or not to earmark economic resources to a policy program intended to mitigate gender inequality in the division of labor. These could include polices targeted at increasing women's employment and economic independence, legislation encouraging men to participate in household tasks, legislation targeting the equalization of men's and women's labor market working hours, or legislation and programs combating inflexible gender roles ideologically.

Second, our findings show that although economic incentives are useful tools, a change in gender perceptions is essential in order to support a full evolution. Policymakers should therefore acknowledge that policy reforms (e.g., supportive family policies directed toward reconciling women's paid and unpaid work) may have indeed accomplished their goal of increasing women's employment in many countries and this change, in turn, played a major role in equalizing housework. However, as we noted, the increase in women's economic gains is only effective in equalizing housework up to a certain point, not beyond. From this point onward, cultural change in gender perceptions is a necessary condition for equalizing housework.

This finding means that in order to advance gender equality within households, family-work reconciliation polices need to be anchored in an ideological climate of gender equality or, alternatively, such a climate needs to be fostered. When this grounding is not the case, when women's paid work is driven by functional, economic forces alone, as may be the case in former male-breadwinner countries (Fleckenstein and Lee 2014), its equalizing effect is mitigated by the conservative gender ideology (Fortin 2005). Policymakers could expedite ideological change via educational programs highlighting egalitarian gender relations and more flexible perceptions of gender roles, which may change the social norms and beliefs of both genders regarding "proper" motherhood and "proper" fatherhood-thus enabling women to do less, and obligating men to do more, household labor (for a similar call see Dotti Sani and Quaranta 2017).

Beyond education, policymakers can advance policies that change ideals of gender roles, thus widening the range of women's and men's legitimate choices. One example is the "daddy quota," which challenges prevalent gender norms by seeking to reconcile care and paid work among men rather than among women. The "use it or lose it" system, pioneered by Iceland and Sweden and currently implemented in several historically conservative countries, shows that when states offer strong incentives to men to participate in care work, they are able to powerfully influence their actions (Patnaik 2019). Our findings imply that further steps in this direction should be taken, accompanied by further research directly examining the effectiveness of such policies to foster change, especially in countries that have only recently adopted them.

#### Conclusion

The economic dependency of women on their partner's resources has long been considered a cardinal factor of the gendered division of housework, meaning that equalizing women's economic resources to those of men should help alleviate housework inequality. After decades of concerted effort, many countries have succeeded in doing just that. Yet, our results show that the increase in women's economic resources will not be sufficient without ideological transformation toward a context of gender egalitarianism. Such a context fosters equality in housework by changing underlying "national standards" (Greenstein 2000); it shifts the standard of what constitutes a fair division and pushes the boundaries of what is considered an inequitable division of housework toward equality. It follows, then, that policies aimed at making the labor market friendlier to women, by recognizing their special needs as wives and mothers, have reached their limit. Policymakers in the new millennium should therefore recognize the need to bring men into the household rather than pulling women out; they can do this shift by designing policies and practices with the potential to undermine the prevailing gender order.

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#### **Compliance with Ethical Standards**

The authors declare that they have no conflict of interest.

The research was approved by an IRB committee and uses anonyms public use data from surveys administered and disseminated by the International Social Survey Programme (http://w.issp.org/menu-top/ home/). Therefore, the consent of participants was not adhered by the authors.

The study did not involve animals.

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