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Breadwinners and caregivers: Examining the global relationship between gender norms and economic behavior

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Abstract

Gender norms are often emphasized to help explain gender gaps in the labor market. We examine global patterns of gender attitudes and norms toward the stereotypical gender roles of the *male breadwinner* and *female caregiver*, and broad support for *gender equality in opportunities*, and study their relationship with economic behavior. Using data collected via Facebook from 150,000 individuals across 111 countries the paper explores how gender beliefs and norms are related to labor supply, household production, and intra-household decision-making power within a country. We provide descriptive evidence that the more gender equitable or counter-stereotypical are beliefs and norms, the more likely women are to work, the more time men spend on household chores, and the higher the likelihood of joint decision-making among married couples. Our findings suggest an underestimation of the support for gender equality globally and the extent of underestimation varies by gender and region. The paper concludes with a discussion of potential entry points for policy to help address gender norms.

KEYWORDS

attitudes, gender, global, labor, norms

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1 | INTRODUCTION

Gender norms are often emphasized as key to help explain remaining gender gaps in the labor market (Bertrand, 2020; Goldin, 2021).[1] For example, the stereotypical gender roles that men should be the main income earners or "breadwinners" and women should primarily be responsible for the care of children and household chores or "caregivers" in the household are widely acknowledged normative constraints to women's economic empowerment (Jayachandran, 2021). Despite the recognition of the importance of social norms for gender equality among economists and policymakers, very little development funding is currently devoted to programs that directly influence norms related change.[2] In this paper, we collect and analyze data from 111 countries to characterize how gender beliefs and norms relate to economic behavior across the world. We use the findings to help highlight some potential entry points for policy to address gender norms.

Women's economic decisions may be constrained by a range of social norms that influence the types of roles and responsibilities that are acceptable for men and women and uphold widely shared conceptions of masculinity and femininity (Bicchieri, 2016; Marcus & Harper, 2014). Akerlof and Kranton (2000, 2002, 2010) translated theories of social identity into an economics framework and propose that social identity influences economic outcomes because deviating from the prescribed behavior is inherently costly. Norms (often subconsciously) encourage behaviors that are socially valued and discourage behaviors that elicit social sanctions and stigma (Bernhardt et al., 2018). Gender norms are likely to significantly constrain women's choices about whether and which types of work to pursue, and equally may prevent men from engaging in care and domestic chore activities.

Our interest in this paper is to contribute to a growing literature that examines societal norms as a barrier to female labor market outcomes (e.g., Bernhardt et al., 2018; Bursztyn & Yang, 2022; Giuliano, 2021; Jayachandran, 2021). While there is general acceptance that gender norms play a role in explaining gender differences in labor market outcomes, there is currently limited empirical evidence on the relationship between norms and economic outcomes (Field et al., 2021). Existing research has been concentrated in specific regions and countries, and persistent gaps in obtaining gender-disaggregated data have prevented research at scale. Studies also have relied on relatively small sample sizes and the majority of research has focused on how aggregate, country-level attitudes relate to rates of female labor supply. More recently, studies have emphasized the importance of complementing attitudes with measures of perceived norms (i.e., what individuals think others might approve or disapprove of), as perceptions are likely to matter for decision-making (see for example, Bernhardt et al., 2018; Bicchieri, 2016; Bursztyn & Yang, 2022).[3] An influential study by Bursztyn et al. (2020) documented that perceptions of peers' opinions toward female employment outside the home influenced behavior beyond an individual's own opinions.

In this paper, we fill data and knowledge gaps by leveraging a unique dataset that includes data both on personal attitudes and perceived norms and link them to individual-level employment outcomes on a global scale. We use data from over 150,000 individuals across 111 countries from all regions of the world collected through a survey implemented online via the Facebook platform, namely the Survey on Gender Equality at Home.[4] The

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[1]Gender norms, a subset of social norms, are defined as shared expectations about how women and men should behave in a particular social group or culture. The survey was administered on Facebook in July 2020 to a sample of Facebook general population users.

[2]For example, at the World Bank, social norms are not an operational focus and are often simply considered the "enabling environment" under which capital- or skill-related programs operate.

[3]Beliefs about what others do are referred to as *descriptive* norms and beliefs about what others approve of are referred to as *injunctive* norms in social norms theory (Cialdini et al., 1991; Heinicke et al., 2022). Here we are measuring the injunctive norm.

survey has a greater coverage of low- and middle-income countries than alternative global databases that measure gender attitudes.[5] We designed questions for the survey to capture an individual's personal belief and perception about others' beliefs around traditional gender roles to study how gender norms relate to specific behaviors for women and men. We complement two levels of beliefs—what individuals think and what they think their community thinks—and correlate them with labor market, time use, and decision-making behaviors. Specifically, this paper asks how do personal attitudes and perceived community norms toward a *broad norm on rights to equal opportunities*, and the stereotypical gender roles of the *male breadwinner* and *female caregiver* correlate with labor force participation, intra-household decision-making power, and time spent on paid work, care and domestic activities for both men and women?

The stereotypical roles of the male breadwinner and female caregiver are hypothesized to have been born between the mid-19th and mid-20th century in many countries as industrialization gave rise to the separation of home and work. In this model of the family men are responsible for economic provision through employment while women are responsible for home and family. However, Alesina et al. (2013) examine the historical origins of gender norms based on a theory proposed by Boserup (1970), and show that gender attitudes are more unequal among descendants of societies that practiced plow agriculture. As plow agriculture was much more capital-intensive and required greater upper-body strength, this led to a greater gender-based division of labor. The authors find historical plow use to be negatively associated with current attitudes toward gender equality, and female participation in labor, politics, and entrepreneurial activities. Therefore, the work of Alesina et al. (2013) suggests that norms around gender roles may have been established even earlier in the pre-industrial period.

Restrictive or conservative gender norms may translate into behaviors that disadvantage female labor supply and earnings, and/or discourage male engagement in childcare and household chores. Norms are expected to influence behavior through expectations of what others in your reference group do or approve of Gauri et al. (2019). In addition, when measuring gender beliefs, there may be expectations that men and women should play different roles in society (gender role beliefs) and that men and women are essentially different (gender category beliefs). The questions included in the Survey on Gender Equality at Home mainly capture measures of gender role beliefs rather than measures of beliefs in gender essentialism. Both genders may face norms' costs imposed by those community members who disapprove of certain behaviors that contradict the expectations of the roles of men and women in their society (Bernhardt et al., 2018). Women or men who defy stereotypical norms potentially do so at a personal cost. For example, Bertrand et al. (2015) show in the United States that it is relatively unlikely that a woman will earn more than her husband, and when she does, marital satisfaction is lower and divorce is more likely. Friedson-Ridenour and Pierotti (2019) find that some women in Ghana explicitly limit their business growth in order to reinforce their husband's role as a primary provider. In addition, for many men, engaging in care and housework is inconsistent with male gender roles and indicates weakness; and when men feel threatened in their role as providers, they may be even less inclined to engage in behavior associated with female gender roles (Munoz-Boudet et al., 2013).[6]

A first contribution of the paper is to provide global evidence on attitudes and norms concerning gender stereotypical roles reported by both men and women. In the paper, we begin by conducting cross-country comparisons of personal attitudes and perceived community norms with respect to a broad norm on gender equality in opportunities, and the male breadwinner norm and female caregiver norm. Descriptive findings suggest that gender attitudes and norms vary widely across countries and within countries. For instance, the proportion of respondents that agree with the male breadwinner norm statement ranges from 11% (in Denmark) to 78% (in the Arab

[5]See World Values Survey (WVS) for global data on gender beliefs and values and Bursztyn et al. (2023) for analysis of data on the rights of women to work outside the home and support for women in leadership positions from 60 countries in a 2020 Gallup World Poll survey.

[6]For instance, Bernhardt et al. (2018) find that the majority (70%) of married men in rural India perceive themselves to be the main recipient of social punishment if their wife was working for pay; whereas married women think the social cost is more evenly shared between spouses.

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Republic of Egypt).[7] This compares to a country average in the perceived community norm of 28% (in Denmark) and 69% (in Egypt).[8]

Next, we explore whether there is a general misperception of norms within the sampled countries. Misperceptions are defined by comparing perceived norms with aggregate attitudes of the sample that implies a degree of *pluralistic ignorance* as described in Bursztyn and Yang (2022).[9] We show that misperceptions of gender norms are widespread around the world but the extent of misperception varies by region-of-the-world and gender. Descriptive findings suggest that globally there is an underestimation of the support for gender equality. We explore demographic characteristics that are predictive of an individual over- or under-estimating community norms. Women are more likely to underestimate support for gender equality than men. More highly educated, younger and urban men are less likely to underestimate support for gender equality. Conversely, more highly educated and younger women are more likely to underestimate the support for gender equality in their community.

The main contribution of our paper is to provide novel evidence on the link between gender attitudes and norms to economic behaviors measured across the world. We use multivariate regression analysis to explore how beliefs and norms correlate with observed economic variables at the individual level. Overall, we find that women's own personal belief in a norm of equal opportunities and their perception of general community support for gender equality are independently correlated with whether women work. Individual beliefs do not have much of a relationship with male labor force participation; whereas for women, the more gender progressive her own beliefs on gender equality, the more likely she is to be working. Community norms show a similar story to individual beliefs for women's labor force participation: the more liberal she thinks her community is, the more she works.[10] For the more proximal norms (caregiver, breadwinner), her individual beliefs seem to matter more than her perceptions of the community norm. That is, women's perception of community support for the male breadwinner and female caregiver norms is not independently correlated with whether and how much they work, net of their own personal beliefs. In terms of intra-household bargaining power, we find that decisions are more likely to be made jointly when there is greater support for gender equality. Greater support for the female caregiver norm in the community is strongly associated with greater involvement in household activities by both men and women. Even after taking into account men's own beliefs, the perceived beliefs of those in the community matter for male engagement in household chores. We use these findings to highlight potential entry points for policy.

The remainder of this paper is organized as follows. Section 2 describes the data, sample, and variables, while Section 3 details the empirical strategy used for the analysis. Section 4 presents the results and Section 5 concludes where we discuss policy implications.

2 | DATA AND SAMPLE

2.1 | The Gender Equality at Home survey

Our analysis uses the individual-level data from the Gender Equality at Home survey that was administered on the Facebook platform in July 2020.[11] The Gender Equality at Home survey is a collaboration between Facebook, the

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[7]A lower average percentage represents more gender liberal beliefs in that country.

[8]This translates to Egyptian men and women in the sample perceiving that 69% of their community would agree with the male breadwinner norm.

[9]Pluralistic ignorance is the term used by psychologists to describe when people are inaccurate when estimating the prevailing attitude in their community.

[10]This correlation may simply be driven by experience where a woman who works has experienced her community as more accepting of gender equality (and, therefore, continues to work).

[11]See https://dataforgood.fb.com/tools/gendersurvey/. The survey was collected in July 2020.

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World Bank, and other development partners to survey individuals on Facebook on issues related to gender equality and women's empowerment. The partners developed a short survey questionnaire to collect data from Facebook's general population of users. The questionnaire was designed to measure employment, beliefs, and norms on gender, plus a number of key demographic questions (e.g., example, gender, age, and marital status of the respondent) as well as time spent on work and domestic and care responsibilities, decision-making, and resource allocation across household members.

As the survey was conducted in July 2020, additional questions pertaining to the impact of the coronavirus (COVID-19) pandemic were included, particularly those related to how the pandemic affected respondents' allocation of time across various activities such as work, household chores, and caregiving responsibilities. Now, it is also important to highlight that there are a few variables that should be examine a bit more carefully than others (i.e., the number of hours worked in the last 7 days was most likely more affected than the variable which measures the main status of the respondent, which was asked retrospectively and measures whether respondent was consider as working or no during the last 7 months prior to the survey date).

The survey employed a probability-based stratified cluster sampling technique, drawing a representative sample from Facebook's global user database, stratified by region, country, and gender. Respondents were selected randomly, and sample sizes for the survey ranged from 500 to 5000, tailored to reflect regional- and country-level demographics. The methodology incorporated rigorous probabilistic sampling methods and adjustments for nonresponse, ensuring enhanced representation across diverse online demographics. Calculations were conducted to maintain a 95% confidence level with a 3% error rate, and results were weighted to account for variations in internet access, thereby ensuring that the findings were indicative of the online population rather than the general public. Further detailed information on the dataset can be found in Appendix S1.2.

It is important to note that not all respondents completed every module of the survey. To mitigate survey fatigue, certain modules were randomized among participants, ensuring that no more than 30 questions were posed in total.

The survey was administered on the Facebook platform across 208 countries, territories, and islands. The sampling frame for this survey is the individual database of Facebook and it was administered to 461,748 respondents sampled across the globe from the target population. While 208 economies were surveyed, the sample considered in this paper is the 111 countries with sufficient sample size to conduct gender-disaggregated analysis as described further in Section 2.2. The dataset is designed to reflect the Facebook user base rather than any specific national population, focusing on countries where internet access is widely available.[12]

2.2 | Sample

In this paper, we report responses from the primary individual targeted by Facebook from a sample of general Facebook users. The analysis in this paper restricts the sample to the 111 countries with sufficient sample size to conduct gender-disaggregated analysis. Sample sizes by country, region, and gender are shown in Table S1.[13] The paper's dataset comprises 157,483 observations, encompassing all respondents who provided complete information on individual characteristics. However, the sample size varies when analyzing different outcomes, as detailed in S1.8. Questions posed later in the survey experienced higher rates of nonresponse.

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[12]To account for the sampling design, nonresponse, and online presence, advanced statistical weights were used. These weights reflect the number of persons each person in the sample represents and help calibrate the results to the target population which in this case is the online population within each country.

[13]The sample size calculation achieved a 95% confidence level for estimating regional as well as country level proportions with an average 3% error rate and an 80% power to detect differences across regions and by gender for the online population. Finite population correction was used for countries with smaller online populations. The targeted sample sizes per country ranged from 600 respondents to 5000 respondents.

The sample for the Gender Equality at Home survey is comprised of individuals who have access to the internet and personal Facebook accounts. As such, the results should not be viewed as representative of a general population in each country. Nevertheless, the survey's extensive geographic reach and substantial sample size provide a unique opportunity to explore the research questions on a global scale. Given the significant increase in internet bandwidth and Facebook's expanding user base, which stands at approximately 2.9 billion monthly active users at the time of this writing, this survey offers valuable insights despite its limitations.[14]

Table 1 outlines the demographic characteristics of our sample, split by gender of the respondent. The total sample comprises of 152,555 individuals, with 52% of the sample being women. The demographic characteristics are broadly similar across female and male respondents. On average, 58% of the individuals in our sample are in a long-term partnership or married. The majority, 73%, are over 25 years old. Education levels are high, with 60% possessing an education beyond secondary level. Additionally, 60% of respondents reside in urban areas. Notable gender-based differences in the sample include a 19% lower likelihood of women identifying as the head of the household compared to men, and a 7% lower likelihood of women owning land.

2.3 | Description of key variables

2.3.1 | Economic behaviors

The dependent variables in our study are categorized as follows: labor supply (employment status in the previous year and weekly hours worked), intra-household decision-making power (categorized as either solely female, solely male, jointly made, or none), and household production (identification as the primary caregiver for children, and the allocation of time to caregiving and domestic responsibilities).[15]

2.3.2 | Gender attitudes and norms

The survey collected data on individual personal beliefs and perceived community norms toward gender equality in opportunities, and the stereotypical roles of men and women. Each norm theme is asked as a set of personal beliefs (using a Likert scale) and perceived community norms (out of 10 of your neighbors how many do you think agree…). Below we define how the beliefs and norms are constructed in more detail:

1. *Broad norm on gender equality*: The survey elicited individual-level personal beliefs on gender equality by asking how much the respondent agrees with the following statement: "men and women should have equal opportunities" using a 5-point Likert scale from strongly disagree to strongly agree. The personal belief variable is coded as a dummy variable equal to 1 if the respondent agrees or strongly agrees that men and women should have equal opportunities; and 0 otherwise. Second, the survey measures perceptions of community norms, where respondents are asked to indicate out of 10 neighbors in their community, how many they think would agree that men and women should have equal opportunities.[16] These norm constructs give us a measure of individuals' perceptions of what others around them think, that is,

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[14]Total number of individuals on Facebook are estimated to be equal to the number of monthly active users worldwide as of fourth quarter 2018 that were using Facebook. *Source*: https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/.

[15]Details about these variables, including their construction, are elaborated in Appendix S1: Table S2. Additionally, Table S3 in the appendix provides a gender-based breakdown of the descriptive characteristics of the respondents.

[16]To simplify the question for respondents, the survey asked them to report a number out of 10. We then convert this number to a proportion, that is, out of 100%.

TABLE 1 Sample characteristics by respondent gender.

Variable	(1) Male Mean/SE	(2) Female	t-Test Difference (1)–(2)
Household composition: Having a long-term partner or a spouse	0.59 [0.00]	0.57 [0.00]	0.02***
Relationship with head of household			
Head of household	0.44 [0.00]	0.25 [0.00]	0.19***
Spouse or partner	0.16 [0.00]	0.37 [0.00]	−0.22***
Child or grandchild	0.26 [0.00]	0.24 [0.00]	0.02***
Other	0.15 [0.00]	0.13 [0.00]	0.01***
Number of people under same roof (excluding respondent]			
0, I live alone	0.09 [0.00]	0.07 [0.00]	0.02***
1 person	0.14 [0.00]	0.17 [0.00]	−0.03***
2–5 people	0.61 [0.00]	0.62 [0.00]	−0.01***
6–10 people	0.13 [0.00]	0.12 [0.00]	0.01***
11 or more	0.03 [0.00]	0.02 [0.00]	0.01***
Education			
Secondary or less	0.42 [0.00]	0.39 [0.00]	0.02***
More than secondary	0.58 [0.00]	0.61 [0.00]	−0.02***
Age			
24 or younger	0.26 [0.00]	0.28 [0.00]	−0.01***
25–64 years old	0.74 [0.00]	0.72 [0.00]	0.01***
Urbanicity			
City	0.60 [0.00]	0.61 [0.00]	−0.01***
Village, rural area, or other	0.40 [0.00]	0.39 [0.00]	0.01***

(Continues)

TABLE 1 (Continued)

Variable	(1) Male Mean/SE	(2) Female	t-Test Difference (1)–(2)
Own land	0.23 [0.00]	0.16 [0.00]	0.07***
Number of observations	73,535	79,020	152,555

***Indicates a statistical significance level of < 0.001.

the share of the community the respondent believes would agree with equal opportunities between the sexes. In the regression analysis the perceived community norm variable is rescaled to be a value between 0 and 1 in increments of 0.1 where 0 indicates the most conservative views toward gender equality in their community and 1 indicates the most liberal views toward gender equality perceived in their community.

2. *Male role as a breadwinner*: The individual personal belief for the male breadwinner norm asks the respondent how much they agree with the following statement: "household expenses are the responsibility of the man, even if his wife can help him," again using the 5-point Likert scale. The personal belief male breadwinner variable is coded as a dummy variable equal to 1 if the respondent agrees or strongly agrees that household expenses are the responsibility of the man, even if his wife can help him; and 0 otherwise. For the perceived community male breadwinner norm, respondents are asked to indicate out of 10 neighbors in their community, how many they think would agree that household expenses are the responsibility of the man, even if his wife can help him. In the regression analysis the perceived community norm variable is rescaled to be a value between 0 and 1 in increments of 0.1 where 0 indicates the most progressive or counter-stereotypical views and 1 indicates the most conservative or stereotypical views toward the male breadwinner norm.

3. *Female role as a caregiver*: The individual personal belief for the female caregiver norm asks the respondent how much they agree with the following statement: "a woman's most important role is to take care of her home and children" again using the 5-point Likert scale. The personal belief variable is coded as a dummy variable equal to 1 if the respondent agrees or strongly agrees that a woman's most important role is to take care of her home and children and 0 otherwise. For the community norm, respondents are asked to indicate out of 10 neighbors in their community, how many they think would agree that a woman's most important role is to take care of her home and children. In the analysis, the community norm variable is rescaled to be a value between 0 and 1 in 0.1 increments where 0 indicates the most progressive or counter-stereotypical views and 1 indicates the most conservative or stereotypical views toward the female caregiver norm.

2.3.3 | Misperceived norms

In the paper we analyze misperceptions of norms, that is, we quantify the gap between actual beliefs within our study sample (aggregate of individual beliefs in a country) and the perceptions of others' beliefs (community perceived norms). We present country-level aggregates of beliefs and individual responses as defined in Bursztyn and Yang (2022). A greater understanding of misperceived norms helps to identify scope for correcting pluralistic ignorance.

To evaluate misperceptions at the country level, the following has to be done.

1. Calculate the average perceived community belief as reported by individuals within a country (expressed as "out of 10 of your neighbors" by respondents) and convert this to a percentage scale (0%–100%).
2. Ascertain the actual percentage of participants (both men and women) in the sample who affirm agreement with the norm at the country level.
3. Determine the disparity between the average perceived community belief (1) and the actual agreement percentage (2), without gender specification due to the community norm's non-gendered reference: Community Belief minus Aggregate Individual Belief.

The patterns of misperceptions by region-of-the-world and country level are described in further detail in the results Section 4.1.3. In addition, following the method described in Bursztyn and Yang (2022), we establish an individual-level measure of misperception based on how individuals' perceptions compare to actual beliefs. The "true value" is determined by the average belief among respondents in a country who agree with a given norm. We assess the perceived community norm against this true value to calculate the proportion of "correct beliefs" among respondents. At the individual level, we can discern the fraction of the population that accurately assesses, overestimates, or underestimates the prevalence of a norm. Consequently, we report the proportion of respondents with accurate perceptions (those within 0.5 standard deviations of the truth); those who overestimate (respondents who hold beliefs that are at least 0.5 standard deviation greater than the truth); and those who underestimate (respondents who hold beliefs that are at least 0.5 standard deviation less than the truth).

We define $OverestimateNorm_{ij}$ as a binary indicator that equals 1 for individuals whose perceptions exceed the true average belief by at least 0.5 standard deviations. Similarly, $UnderestimatesNorm_{ij}$ equals 1 for individuals whose perceptions fall at least 0.5 standard deviations below the true average belief. The baseline category, $AroundNorm_{ij}$, includes individuals whose perceptions are within 0.5 standard deviations of the actual beliefs.

As the reference group in our norm constructs is deliberately broad (i.e., neighbors), this may not directly correlate with individuals' most influential social circles. The extent to which our behaviors are shaped by close personal connections versus the broader community remains an empirical question, hence our decision to keep a general reference group. Also since our norm constructs refer to "neighbors," a group not synonymous with the Facebook user base itself. Therefore, while our analysis is useful for establishing broad patterns, we caution that any observed misperceptions might be attributable to sample selection rather than pluralistic ignorance.

2.4 | Comparison of the Gender Equality at Home survey with other data sources

2.4.1 | Measuring norms

The Gender Equality at Home survey represents a general population of Facebook users and should not be considered representative of a country's population. For example, demographic characteristics of the respondents on Facebook might differ from the average characteristics of a representative individual in the same country; or they may have different gender attitudes.

While our sample is not nationally representative, we examine how closely the gender attitude statements from our data correlate with comparable attitude statements collected in nationally representative global data sources: the World Values Survey (WVS)[17] and Gallup World Poll 2020.[18] Overall, the correlation with our data is

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[17]For our analysis, we utilized data from Wave 7 of the World Value Survey, spanning from 2017 to 2021. Specifically, we selected the dataset year that most closely aligned with our collection of the Gender at Home data in 2020. These data are referenced as Haerpfer et al. (2022).

[18]Gallup world data were subtracted at the country level using the appendix of Bursztyn et al. (2023).

strong, assuring us that, at least in this vein, our sample is not unrepresentative. The WVS and Gallup World Poll have a lower coverage globally and include fewer countries in sub-Saharan Africa than the Gender Equality at Home survey on Facebook.[19] The WVS also does not include measures of community norms. However, the Gallup World Poll 2020 data capture both attitudes and norms.

We consider attitudes that address the male breadwinner-female caregiver theme in the WVS and a broad norm using Gallup World Poll 2020 data. We compare the attitudes on the male breadwinner norm with the WVS statement: "If a woman earns more money than her husband, it's almost certain to cause problems" and the female caregiver norm with the WVS statement: "When a mother works for pay, the children suffer"; and whether women should be allowed to work outside of the home from the Gallup World Poll. In the comparison, we use attitudinal responses disaggregated by gender, and compute averages at the country-level. We standardize the averages and assign a rank to each country within our sample and split into quintiles (i.e., from most progressive=1 to least progressive=5). We compare how the countries differ in rank across the two surveys. For those countries where the difference in rank is positive this indicates that the Facebook sample in that country is potentially more conservative or stereotypical than a respondent in the WVS. Conversely, if the rank is negative this indicates that the sample in the Facebook population is more gender progressive or counter-stereotypical than the more representative WVS. In Appendix S1: Tables S4 and S5, we show the country-level differences in quintile rank. The results vary depending on the norm in question and gender. For example, in Spain (ESP) men are equally gender progressive in both the Gender Equality at Home survey and the WVS (difference in rank is 0); whereas Spanish women are equally progressive in the male breadwinner norm (difference in rank is 0) but are ranked more progressive in our survey measure than the WVS (difference in rank 1). While in most countries there is little difference in the rank across the two surveys for the male breadwinner norm; for the female caregiver norm there are some discrepancies, for example, Tunisia and Uzbekistan have a difference of 4. Using the Gallup World Poll we present comparisons in Table S6 and show that in the majority of countries there is a less than 10 percentage point difference with our survey measure.

2.4.2 | Measuring labor force participation

This section evaluates labor force participation by comparing data from the Gender At Home survey with national representative estimates from the International Labour Organization (ILO).

The primary question from the Gender At Home survey, "Which of the following best describes your main status since January 1st, 2020?", categorizes respondents into wage or salary employment, business ownership or management, or participation in a family business. This question serves as a proxy to gauge labor force participation within our sample. In contrast, the ILO's labor force participation rate quantifies the proportion of the population aged 15 and above who are economically active, contributing labor to the production of goods and services during a specified period. The ILO data are sourced from its Modelled Estimates and Projections database (ILOEST).

Tables S7a–S7c provide a detailed comparison of these two measures of labor force participation, segmented by gender. A difference of zero indicates that the Gender At Home survey aligns with the ILO estimates, as observed in the Philippines for female labor force participation. Negative values, such as the −8 percentage points seen in Thailand, suggest that the Gender At Home survey underestimates participation compared to the ILO, while positive values, like the 3 percentage points difference in Japan, indicate an overestimation.

Furthermore, the end of each region's table presents averages of these differences, demonstrating varying accuracy across regions. For example, data from Europe and Central Asia closely align with ILO estimates,

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[19]The overlap in country coverage is 68% between the WVS and the Gender Equality at Home survey; and approximately 50% with the Gallup World Poll 2020.

whereas in sub-Saharan Africa, the disparities are more substantial. These variations could likely be attributed to sample selection biases from national representative samples and the inclusion of both formal and informal work sectors in our survey, whereas the ILO estimates are confined to formal employment only and cover a broader recall period.

While we recognize the limitations inherent in this comparison, the analysis provided in this section enhances our understanding of regional labor dynamics and the potential underestimation or overestimation of our data estimates.

3 | EMPIRICAL STRATEGY

In this paper, we are interested in the relationship between gender norms and economic behaviors disaggregated by the gender of the respondent. To study the relationship between gender norms and observed economic behaviors we conduct multivariate regression analysis and run the following analyses.

3.1 | Correlation of attitudes and norms with economic behaviors

$$Y_{ij} = \beta_0 + \beta_1 Female_{ij} + \beta_2 Belief_{ij} + \beta_3 Female \times Belief_{ij} + \gamma_1' X_{ij} + \delta_c + \epsilon_{ij} \tag{1}$$

$$Y_{ij} = \beta_0 + \beta_1 Female_{ij} + \beta_2 Norm_{ij} + \beta_3 Female \times Norm_{ij} + \gamma_1' X_{ij} + \delta_c + \epsilon_{ij} \tag{2}$$

where Y_{ij} is the outcome of interest for individual i in country j. Female is a dummy variable equal to 1 if the respondent is female; 0 if male. Equation (1) gives the correlation of an individual's own attitudes and the outcome of interest. Where $Belief_{ij}$ is a dummy variable equal to 1 if the respondent i personally agrees with a gender statement; and 0 if they disagree. Similarly, Equation (2) gives the correlation of the perceived community norm and the outcome of interest. $Norm_{ij}$ is a continuous variable that captures the perceived community norm (i.e., how many out of 10 neighbors) with respect to the gender role statement that has been standardized between 0 and 1. X_{ij} is a set of demographic controls of individual i, and γ_c indicates country fixed effects. Robust Eicker–Huber–White standard errors are used throughout. Equations (1) and (2) are estimated using ordinary least squares (OLS) estimation.

3.2 | Correlation of norms, conditional on individuals' attitudes

Equation (3) analyzes the question, conditional on one's own beliefs, how does perception of what the community thinks correlate with an individual's economic behaviors. We include individual belief as well as perceived community beliefs in the regressions.

$$Y_{ij} = \beta_0 + \beta_1 Female_{ij} + \beta_2 Belief_{ij} + \beta_3 Female \times Belief_{ij} +$$
$$\beta_4 Norm_{ij} + \beta_5 Female \times Norm_{ij} + \gamma_1' X_{ij} + \delta_c + \epsilon_{ij} \tag{3}$$

Equation (3) is estimated using ordinary least squares (OLS) estimation. The interpretation of the coefficients β_2 through β_5 is as follows. β_2 gives the marginal effect of the individual agreeing with the gender norm in question on the outcomes for men. β_3 represents the differential effect of agreeing with the norm in question for women relative to men, with $\beta_2 + \beta_3$ being the composite effect of agreeing with the norm in question for women. β_4 is

the marginal effect of the perceived community norm on the outcome of interest for men (i.e., at female=0), conditional on personal beliefs. β_5 is the differential effect of the community norms on the outcomes for women relative to men. As such, the sum of $\beta_4 + \beta_5$ gives the marginal effect of community norms on outcomes for women, conditional on personal beliefs.

4 | RESULTS

In this section, we delve into the analysis of our findings. We begin by conducting descriptive analysis to provide cross-country and cross-region comparisons. The analysis examines personal gender beliefs, perceived community norms, and misperceptions of these norms among both men and women. The results are presented graphically to understand patterns and variations across countries. We then proceed to examine the relationship between gender norms, as delineated by three specific norm-related questions detailed in Section 2.3.2, and a range of socioeconomic factors. These factors include the following: (1) labor market dynamics, capturing both labor force participation in the past year and the hours committed to paid work in the week preceding the survey (applicable only to those who were employed during that period); (2) the extent of decision-making autonomy regarding major financial expenditures; and (3) the distribution of time dedicated to caregiving duties and household chores.

4.1 | Global patterns of gender norms and misperceptions

In this section, we begin by analyzing gender attitudes and norms by region-of-the-world. We then examine the relationship between individual beliefs and community norms and examine correlations across countries, as well as their relationship with key macroeconomic indicators. Following this, we assess the nature and extent of misperceptions associated with these gender norms.

4.1.1 | Gender norms around the world

Figures 1–4 outline comparisons of aggregate attitudes and perceived community norms on a regional and country level. Figure 1 details the gender gaps in personal beliefs and norms by region-of-the-world. Personal beliefs are indicated by purple dots for females and green dots for males, in contrast to community norms indicated by red and yellow dots. A prominent finding is the global tendency of personal beliefs to be more progressive and counter-stereotypical than what individuals perceive as prevailing community norms, indicating a disconnect between personal beliefs and societal perceptions.

The measures for norms (red and yellow) differ from those for attitudes (purple and green). Notably, female personal beliefs (purple dots) are consistently more progressive than male beliefs (green dots) across all regions. This pattern holds true across East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), the Middle East and North Africa (MENA), North America, South Asia, and sub-Saharan Africa (SSA). Despite this, the perceived community norms for men and women within these regions do not differ greatly. For instance, in sub-Saharan Africa, 87% of women and 78% of men support gender equality in opportunities personally, but they perceive only 55% of their community does. With regard to the belief that expenses are a man's responsibility, 39% of women and 52% of men agree, while 60% of the community is perceived to agree. Personal beliefs and perceived community norms about the female caregiver role are closely matched at 69%.
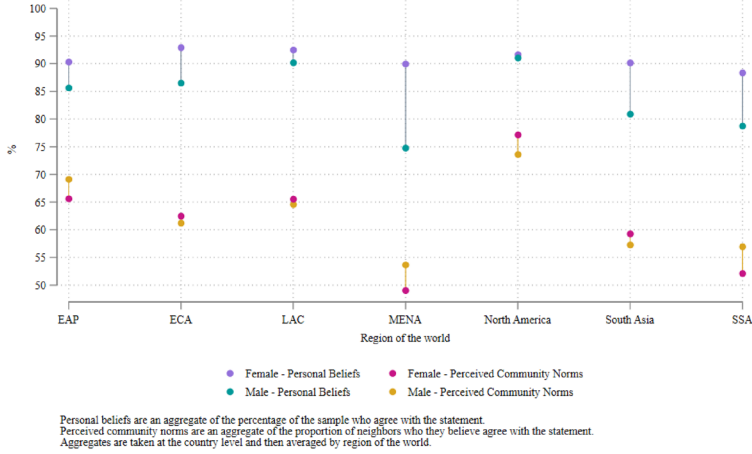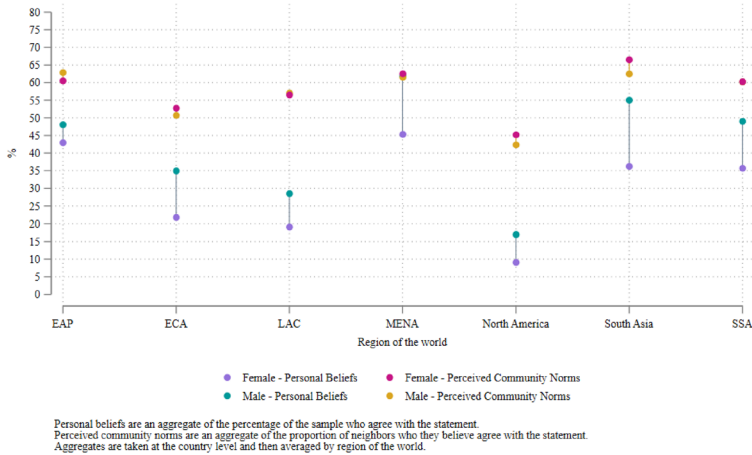
FIGURE 1   Gender gaps in personal beliefs and perceived community norms by region.

Broad Norm: Men and women should have equal opportunities

Personal Beliefs and Perceived Community Norms

FIGURE 2 Gender equality in opportunities.
Note: Pluralistic ignorance at the country level—gap in aggregate beliefs and perceived community norms.

Figures 2–4 present an analysis of gender attitudes and norms across countries.[20] These figures compare aggregate personal beliefs, represented by green dots, with the average perceived community norms, shown by purple dots, at the country level. The horizontal line within these figures quantifies the gap between personal beliefs and average perceived community norms, thereby illustrating the extent of norm misperception in each country. Countries in the figures are arranged based on the magnitude of this gap.

Figure 2 demonstrates the variance in the agreement with the norm that "men and women should have equal opportunities," which spans from 80.84% in Algeria to 97.69% in Portugal for personal beliefs. The perceived community norms for this statement range from a low of 41.25% in Iraq to a high of 81.44% in Denmark. Meanwhile,

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[20]Data by region and country are also provided in Tables S8a–S8c.

Breadwinner Norm: Expenses are a man's responsibility even if his wife can help him
Personal Beliefs and Perceived Community Norms
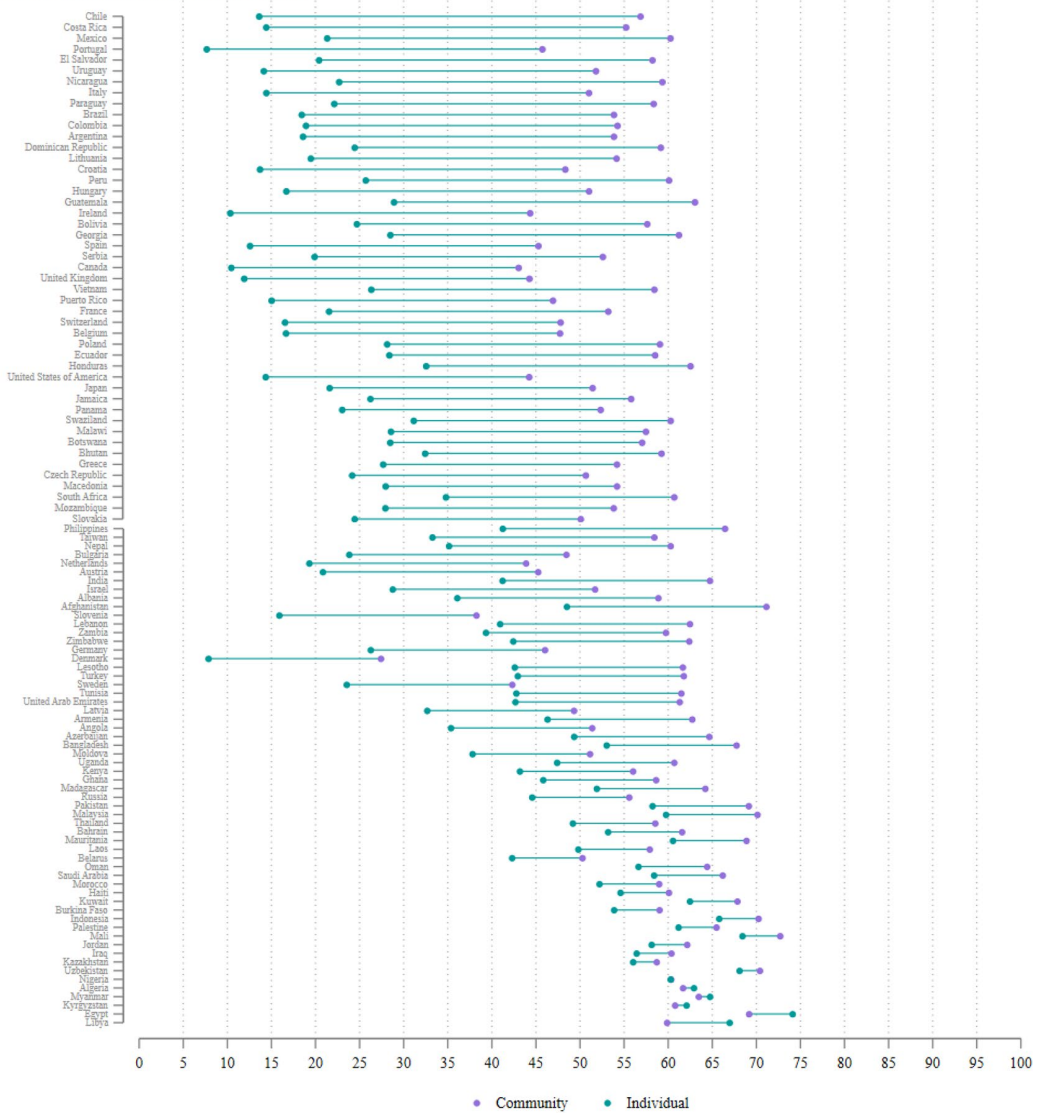
FIGURE 3 Male breadwinner norm.
Note: Pluralistic ignorance at the country level—gap in aggregate beliefs and perceived community norms.

Figure 3 depicts the belief that "household expenses should be the man's responsibility, even if his wife can help him," ranging from 10.99% in Denmark to 78.06% in Egypt, suggesting a wide spectrum of beliefs about the male breadwinner norm. The perceived community norm ranges from 29% in Denmark to 74.97% in Mali. Notably, Chile shows the largest misperception, with 20% of respondents personally subscribing to the male breadwinner norm, while 57% are perceived to do so by the community. In contrast, Nigeria displays close alignment between personal beliefs and perceived community norms at around 60%. Finally, in terms of the female caregiver norm, as shown in Figure 4, agreement levels vary significantly, from 13.63% in Denmark, indicating more progressive views, to 87.25% in Pakistan. Perceived community norms on this issue also exhibit a wide range, from 35.91% in Denmark to 80.75% in Bangladesh. Mexico shows the largest gap, with only 20% of respondents personally endorsing the norm that "a woman's primary role is to care for her home and children," compared to a perceived

Caregiver Norm: Women's most important role is to take care of her home and children
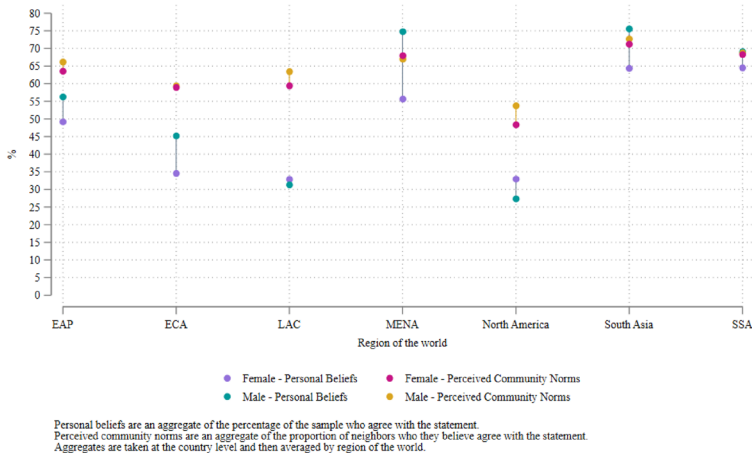*Personal Beliefs and Perceived Community Norms*

FIGURE 4 Female caregiver norm.
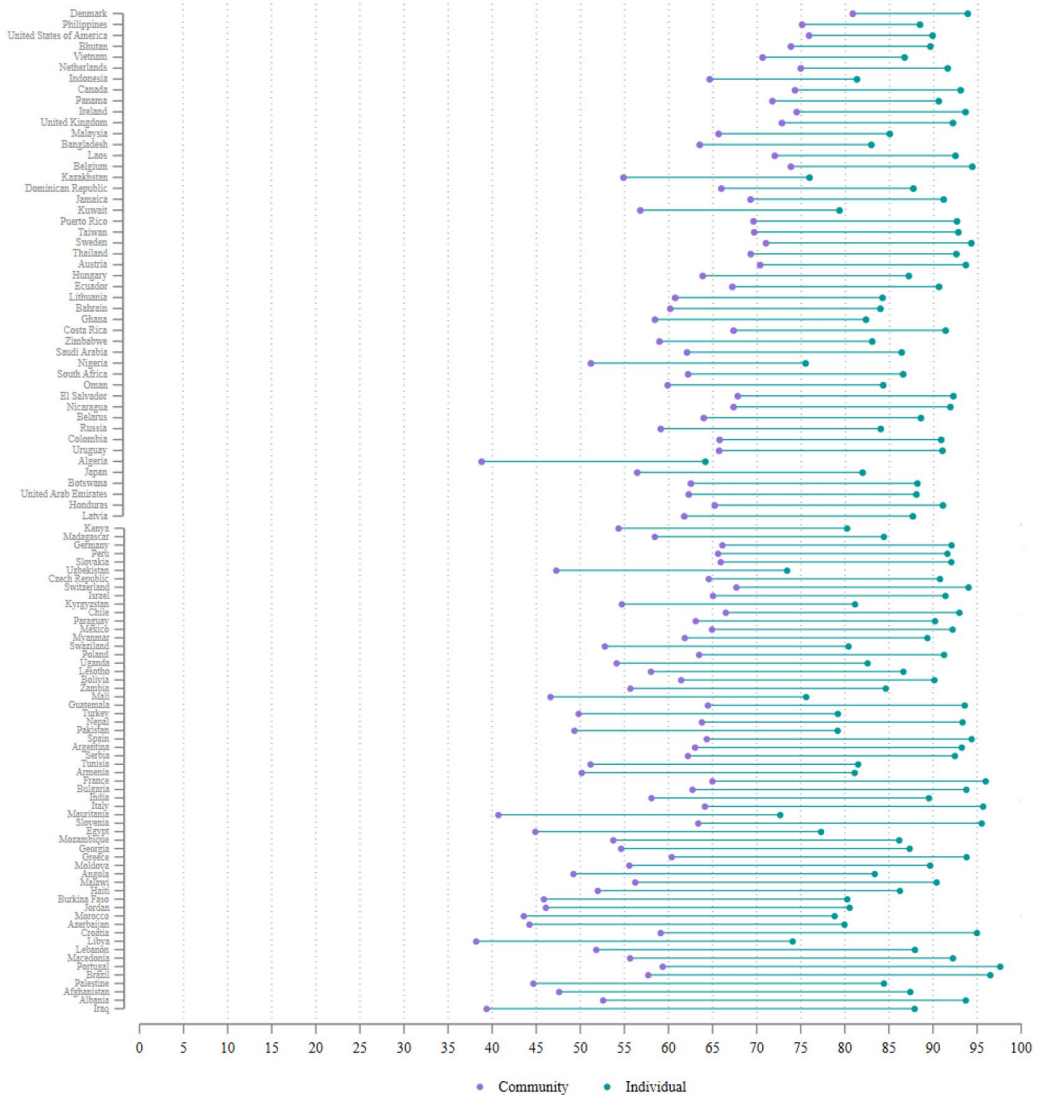Note: Pluralistic ignorance at the country level—gap in aggregate beliefs and perceived community norms.

community agreement of 66%. On the other hand, Nigeria presents an interesting contrast, where 78% of respondents personally agree with the norm, higher than the 68% they perceive as the community norm, reflecting a more conservative personal belief relative to the perceived community stance.

4.1.2 | Relationship between beliefs and perceived community norms

In Appendix S2: Figures S1–S3, we provide further data visualizations of the correlation between beliefs and norms at the country level. We split the analysis by gender and analyze the three norms: the broad norm of gender equality in opportunities, the male breadwinner norm, and the female caregiver norm separately.

Broad Norm: men and women should have equal opportunities
Misperception of the norm: |Perceived Community Norms – Personal Beliefs (%)|

Misperception is determined by the disparity between the Community perceived norm (on a 0-100 scale) and the Aggregate Level of Agreement with the norm within the country (on a 0-100 scale).
Here we present the absolute values of the misperception as all countries have a negative value suggesting a general misperception of the support for gender equality globally.
Darker shades of the map represent a greater misperception of the norm i.e. a greater underestimation in the level of support for gender equality in opportunities in the country.
Source: Gender Equality at Home Data, 2020.

FIGURE 5 Map of misperceptions of a broad norm on support for gender equality in opportunities.

For the broad norm regarding gender equality in opportunities, there is a significant difference by gender. Male respondents exhibit a very strong positive correlation, with a Pearson's correlation coefficient of 0.92, indicating that their personal beliefs are highly consistent with what they perceive their community thinks. Female respondents, on the other hand, show a much lower correlation coefficient of 0.41, suggesting a significant difference between their personal beliefs in support of gender equality and their perception of societal expectations. For the breadwinner norm, there is a strong relationship between individual beliefs and perceived community norms for both genders. Male respondents show a particularly robust correlation, with a coefficient of 0.92, indicating that their own beliefs about financial responsibility in marriage are almost identical to what they view as societal standards. Female respondents also demonstrate a positive correlation, with a coefficient of 0.74. Lastly, when examining the caregiver norm, both female and male respondents show strong positive correlations between their individual beliefs and perceived community norms. Females display a correlation coefficient of 0.73, while males a coefficient of 0.92. This similarity in correlation strength, especially among males, reflects a broad acknowledgment of traditional caregiver roles as the norm within communities.

Our findings indicate that for the broad norm of gender equality in opportunities, there is a noticeable gender disparity in how individual beliefs correlate with perceived community norms, with women showing greater support for gender equality than men. For the breadwinner norm, there is a strong correlation for both genders. Across all norms, men consistently demonstrate a stronger correlation, suggesting their own personal beliefs are more closely aligned with societal expectations. The caregiver norm analysis reinforces this pattern.

4.1.3 | Degree of norm misperception across the world

Figures 5–7 present maps of the degree of misperception across the globe with respect to the broad norm, the breadwinner norm, and the caregiver norm. These maps are color-coded to represent the varying degrees of

Breadwinner Norm: Expenses are a man's responsibility even if his wife can help him
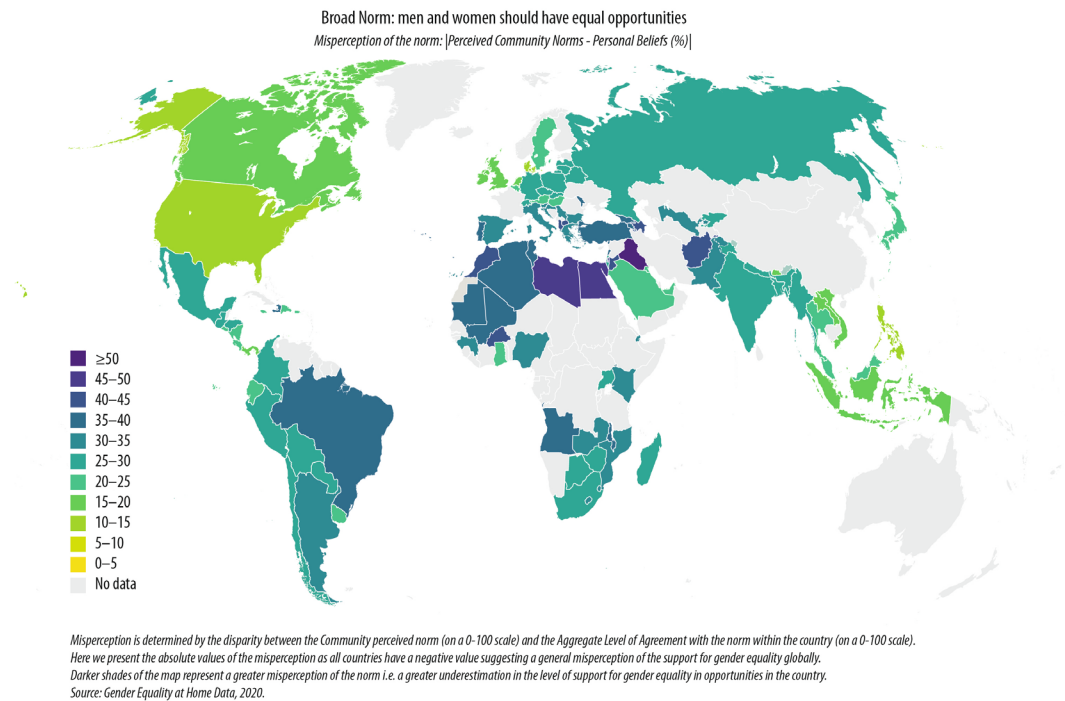
Misperception of the norm: Perceived Community Norms - Personal Beliefs (%)

Legend:
- 35–40
- 30–35
- 25–30
- 20–25
- 15–20
- 10–15
- 5–10
- 0–5
- -5–0
- -10– -5
- -15– -10
- No data

Misperception is determined by the disparity between the Community perceived norm (on a 0-100 scale) and the Aggregate Level of Agreement with the norm within the country (on a 0-100 scale).
Here we present the actual values of the misperception – some countries have a positive value (overestimation) and some a negative value (underestimation) suggesting varying degrees of misperception.
Darker shades of the map suggest an overestimation of the male breadwinner norm – individuals think their community is more gender conservative or stereotypical than actual beliefs in that country.
Lighter shades of the map suggest an underestimation of the male breadwinner norm – individuals think their community is more gender progressive or counter-stereotypical than actual beliefs in that country.
Source: Gender Equality at Home Data, 2020.

FIGURE 6 Map of misperceptions of a male breadwinner norm.

misperception across different countries, where darker shades indicate a greater disparity between personal beliefs and perceived community norms; and lighter shades suggest that norms are more closely aligned with actual beliefs.

In Figure 5, the map quantifies the misperception of the broad norm at the country level and presents the absolute value of the difference. We show a universal underestimation of support for gender equality. Figures 6 and 7 explore misperceptions around the gender role-specific norms. Here, positive values signify a perception that society is more traditional or gender-stereotypical than personal beliefs, while negative values indicate the opposite. Darker shades of blue highlight countries where the breadwinner norm is believed to be more conservative or stereotypical in society than actual beliefs held by the Facebook sample. Light blue and yellow-green shades demonstrate a closer match between perceived norms and beliefs or a slight underestimation of the norm, that is, they think their community is more gender progressive or counter-stereotypical than actual beliefs.

Collectively, these figures reveal regional patterns where certain areas consistently show misperceptions across all norm constructs, while others display varying degrees of misperception depending on the norm in question. To discern whether misperceptions regarding gender norms are more prevalent among men or women, we delve into a comprehensive analysis in Appendix S4. This examination leverages individual responses from our dataset to evaluate the discrepancies between perceived community norms and actual beliefs, dissected by gender and geographic region.

According to Table S10, the extent of misperception is substantial, with the frequency of under- and overestimation eclipsing the instances of accurate assessments of community beliefs. It is important to note that when evaluating the level of misperception (i.e., whether an individual overestimates or underestimates a norm), we juxtapose an individual's perception of their community norm against the aggregate beliefs within their country. The findings indicate that, on average, respondents perceive gender norms within their communities to be more

Caregiver Norm: Women's most important role is to take care of her home and children
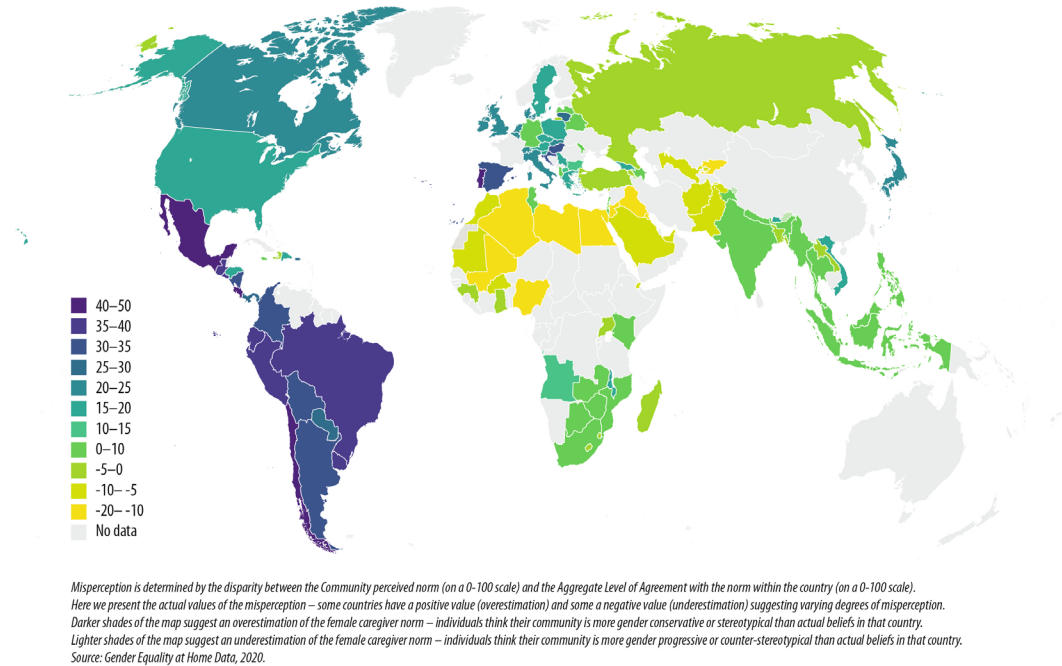*Misperception of the norm: Perceived Community Norms - Personal Beliefs (%)*

Misperception is determined by the disparity between the Community perceived norm (on a 0-100 scale) and the Aggregate Level of Agreement with the norm within the country (on a 0-100 scale).
Here we present the actual values of the misperception – some countries have a positive value (overestimation) and some a negative value (underestimation) suggesting varying degrees of misperception.
Darker shades of the map suggest an overestimation of the female caregiver norm – individuals think their community is more gender conservative or stereotypical than actual beliefs in that country.
Lighter shades of the map suggest an underestimation of the female caregiver norm – individuals think their community is more gender progressive or counter-stereotypical than actual beliefs in that country.
Source: Gender Equality at Home Data, 2020.

FIGURE 7 Map of misperceptions of a female caregiver norm.

traditional than what national averages indicate. Particularly, individuals in the Latin America and the Caribbean (LAC) and the Middle East and North Africa (MENA) regions exhibit the highest levels of misperception regarding the gender equality norm. Furthermore, the LAC region stands out with the most pronounced misperception concerning gender role norms.

Some of what we are labelling as "misperceptions" could in fact reflect sample selection whereby the respondents' neighbors are not necessarily the same as the average Facebook user. For instance, while 84% of the sample from Iraq personally support gender equality in opportunities, they think that, on average, only 41% of their community would be supportive. Respondents from Iraq on Facebook could be considered a group who are more gender liberal than the general population, or that there is an overall misperception of the norm, where respondents think their community is more conservative than what is actually true. In Table S11, we present analysis to examine whether certain demographic characteristics are correlated with an individual over- or under-estimating his or her community's norms, for example, are more educated individuals more aware or informed? In Table S11, Column 1 we show that, globally, underestimation of the support for gender equality norm varies by gender and specific characteristics. More highly educated men are less likely to underestimate support for gender equality, and men over 25 years and located in rural areas are more likely to underestimate support for gender equality. More highly educated women are more likely to underestimate the support for gender equality in their community. Women who are older than 25 are less likely to underestimate the gender equality norm. In Columns 3 and 5, for the gender roles norms, we show men who are more highly educated are more likely to overestimate the gender roles norms (i.e., think their community is more conservative than it actually is). The age of the female is predictive of the male breadwinner norm where women older than 25 are more likely to underestimate and less likely to overestimate the breadwinner norm. Married women are more likely to overestimate the caregiver norm.

4.2 | Gender beliefs, norms, and economic behaviors

In this section, we present the results of multivariate regression analysis to examine the relationship between gender norms and observed economic behaviors. In Tables 2a–7 the explanatory variables stay consistent throughout where *Personal Belief:Agree* is a dummy variable for an individual's personal attitude to the gender statement in question. *Community Norm* is a continuous variable between 0 and 1 in increments of 0.1 that indicates the proportion of the community that the respondent thinks agrees with the gender statement in question. We begin with the results for labor, then turn to decision-making power, and finally time spent on childcare and domestic responsibilities.

4.2.1 | Labor

Tables 2a–2c examine the relationship between the three norm constructs (broad norm on gender equality, male role as breadwinner, and female role as caregiver) and labor market behaviors. The dependent variables are a dummy variable for whether the respondent's main status is either working (=1) or not working (=0) in the past year; and the hours spent working for pay in the previous week, conditional on working in the past 7 days.[21]

Tables 2a–2c present the results for the three norm constructs in separate tables for ease for the reader. In Tables 2a–2c, Columns (1) through (4) show the relationship between personal beliefs and the outcomes of interest (Equation 1), while Columns (5) through (8) show the relationship between perceived community norms and the outcomes of interest (Equation 2). We estimate the model in turn without and with country-fixed effects (indicated at the bottom row of the table). In the models with country-fixed effects, the identified variation comes only from within-country variation.

There are clearly variations across countries in how societal beliefs correlate with labor force decisions. For example, in Table 2a, men who personally believe in gender equality (*Personal belief: Agree*) are 2 percentage points more likely to have worked in the past year in the model without country-fixed effects, though this effect disappears once we control for country fixed effects. That is, once we account for cross-country differences, men's personal beliefs toward gender equality has no correlation with men's participation in the labor market as we might expect. Interestingly, the results on labor supply of women are relatively similar for the models with and without country-fixed effects. In order to abstract from societal differences, which are likely to introduce an additional level of omitted variables and endogeneity, we focus the rest of our discussion on estimates with country-fixed effects.

Tables 2a–2c show a number of patterns. Starting with the individual beliefs, we can see that they do not have much of a relationship with male labor force participation. For women, they matter a lot: the more progressive her own beliefs, the more likely she is to be working.[22] Table 2a Column 2 suggests that when a woman personally agrees with gender equality in opportunities, she is 5 percentage points more likely to have worked in the past year (see p-value for test *Norms + Fem* at the bottom of Tables 2a–2c to read the composite effect for women). Similar results are found for the gender role specific norms in Tables 2b and 2c: women who personally agree with the male breadwinner norm are 7 percentage points less likely to be working; and women who agree with the

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[21]At the extensive margin participation in the labor market is given by "main status is work in the past year" and at the intensive margin "hours spent on paid work in the past week." As the survey was conducted in July 2020 which was when COVID-19 lockdowns started being mandated in some countries, the hours worked variable might have been affected by cases of temporary or recent unemployment during the COVID-19 pandemic. Descriptive statistics suggest that 40% of women and 52% of men in the sample were engaged in work in the past week (compared to 56% of women and 71% of men who report work over the past year). Responses to the main status of work in the past year are less likely to have been significantly influenced by the COVID-19 shock since the survey was conducted relatively early in the pandemic.

[22]The coefficient on *Female* shows that, in general, women are less likely to have worked in the past year than men and spend around 1 hour less at work conditional on having worked for pay in the last week.

TABLE 2A Labor outcomes—correlation with gender equality in opportunities attitudes and perceived norms.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)
Gender equality norm: Men and women should have equal opportunities								
Female	-0.18***	-0.20***	-0.86***	-0.96***	-0.13***	-0.16***	-0.91***	-1.06***
	[0.01]	[0.01]	[0.13]	[0.13]	[0.01]	[0.01]	[0.12]	[0.12]
Personal belief: Agree (No=0/Yes=1)	0.02***	-0.01	-0.15**	-0.22***				
	[0.01]	[0.01]	[0.07]	[0.07]				
Personal belief: Agree*Female	0.05***	0.06***	0.28**	0.30**				
	[0.01]	[0.01]	[0.13]	[0.13]				
Community norms (0/1)					0.05***	0.00	0.10	-0.07
					[0.01]	[0.01]	[0.11]	[0.12]
Community norms (0/1)*Female					0.02	0.04***	0.48***	0.56***
					[0.01]	[0.01]	[0.17]	[0.17]
Constant	0.83***	0.60***	8.73***	8.46***	0.85***	0.63***	8.46***	8.06***
	[0.01]	[0.02]	[0.10]	[0.32]	[0.01]	[0.03]	[0.12]	[0.40]
Observations	100,659	100,659	55,094	55,094	61,319	61,319	37,555	37,555
Adjusted R-squared	0.10	0.14	0.01	0.03	0.11	0.15	0.02	0.03
Mean female	0.56	0.56	7.54	7.54	0.59	0.59	7.51	7.51
Mean male	0.71	0.71	8.18	8.18	0.73	0.73	8.14	8.14
Norms+Fem (Coeff)	0.07	0.05	0.13	0.07	0.07	0.04	0.58	0.49
Norms+Fem (SE)	0.01	0.01	0.11	0.11	0.01	0.01	0.13	0.13
Norms+Fem (p-value)	0.00	0.00	0.25	0.52	0.00	0.00	0.00	0.00
Sample	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	NO	YES	NO	YES	NO	YES	NO	YES

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) The analysis presented in this table is conducted both with and without country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 2 B Labor outcomes—correlation with male breadwinner norm attitudes and perceived norms.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)
Male breadwinner norm: Expenses are a man's responsibility even if his wife can help him								
Female	-0.12***	-0.13***	-0.60***	-0.67***	-0.10***	-0.12***	-0.39***	-0.49***
	[0.00]	[0.00]	[0.07]	[0.07]	[0.01]	[0.01]	[0.12]	[0.12]
Personal belief: Agree (No=0/Yes=1)	-0.02***	-0.00	0.19**	0.28***				
	[0.01]	[0.01]	[0.07]	[0.08]				
Personal belief: Agree*Female	-0.07***	-0.07***	-0.34***	-0.30**				
	[0.01]	[0.01]	[0.12]	[0.12]				
Community norms (0/1)					-0.02*	0.01	0.39***	0.43***
					[0.01]	[0.01]	[0.13]	[0.13]
Community norms (0/1)*Female					-0.05***	-0.04***	-0.55***	-0.52***
					[0.01]	[0.01]	[0.19]	[0.19]
Constant	0.74***	0.62***	8.57***	7.95***	0.87***	0.61***	8.42***	7.93***
	[0.01]	[0.03]	[0.12]	[0.43]	[0.01]	[0.03]	[0.14]	[0.46]
Observations	51,369	51,369	27,286	27,286	44,173	44,173	25,682	25,682
Adjusted R-squared	0.11	0.15	0.02	0.03	0.11	0.15	0.02	0.03
Mean female	0.57	0.57	7.50	7.50	0.58	0.58	7.49	7.49
Mean male	0.72	0.72	8.24	8.24	0.73	0.73	8.22	8.22
Norms+Fem (Coeff)	-0.09	-0.07	-0.15	-0.01	-0.06	-0.03	-0.16	-0.09
Norms+Fem (SE)	0.01	0.01	0.09	0.10	0.01	0.01	0.14	0.14
Norms+Fem (p-value)	0.00	0.00	0.11	0.90	0.00	0.00	0.25	0.51
Sample	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	NO	YES	NO	YES	NO	YES	NO	YES

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) The analysis presented in this table is conducted both with and without country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 2C Labor outcomes—correlation with female caregiver norm attitudes and perceived norms.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)	Main status work (work=1/no work=0)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Hours spent at paid work last week (conditional)
Female caregiver norm: Woman's most important role is to take care of home and children								
Female	−0.11***	−0.12***	−0.35***	−0.46***	−0.10***	−0.11***	−0.22	−0.36***
	[0.01]	[0.01]	[0.07]	[0.07]	[0.01]	[0.01]	[0.14]	[0.14]
Personal belief: Agree (No=0/Yes=1)	−0.05***	−0.02***	−0.03	0.09				
	[0.01]	[0.01]	[0.07]	[0.08]				
Personal belief: Agree*Female	−0.07***	−0.07***	−0.46***	−0.41***				
	[0.01]	[0.01]	[0.11]	[0.11]				
Community norms (0/1)					−0.03**	0.01	0.20	0.33**
					[0.01]	[0.01]	[0.13]	[0.13]
Community norms (0/1)*Female					−0.04***	−0.05***	−0.45**	−0.40**
					[0.01]	[0.01]	[0.19]	[0.19]
Constant	0.86***	0.60***	8.58***	8.44***	0.87***	0.56***	8.46***	7.78***
	[0.01]	[0.03]	[0.12]	[0.46]	[0.01]	[0.03]	[0.14]	[0.45]
Observations	50,048	50,048	28,020	28,020	44,275	44,275	26,230	26,230
Adjusted R-squared	0.11	0.15	0.01	0.03	0.10	0.14	0.01	0.03
Mean female	0.56	0.56	7.58	7.58	0.56	0.56	7.57	7.57
Mean male	0.70	0.70	8.14	8.14	0.71	0.71	8.11	8.11
Norms+Fem (Coeff)	−0.12	−0.09	−0.49	−0.32	−0.07	−0.04	−0.25	−0.07
Norms+Fem (SE)	0.01	0.01	0.08	0.08	0.01	0.01	0.15	0.15
Norms+Fem (p-value)	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.63
Sample	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	NO	YES	NO	YES	NO	YES	NO	YES

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 percent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) The analysis presented in this table is conducted both with and without country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 3 Labor outcomes—correlation with perceived community norms, conditional on personal beliefs.

	(1)	(2)	(3)	(4)	(5)	(6)
	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)	Main status work (work=1/no work=0)	Hours spent at paid work last week (conditional)
	Gender equality norm		Male breadwinner norm		Female caregiver norm	
Female	-0.21***	-1.26***	-0.11***	-0.45***	-0.10***	-0.32**
	[0.01]	[0.18]	[0.01]	[0.12]	[0.01]	[0.14]
Personal belief: Agree (No=0/Yes=1)	-0.00	-0.18*	0.01	0.25***	-0.02***	0.01
	[0.01]	[0.09]	[0.01]	[0.08]	[0.01]	[0.08]
Personal belief: Agree*Female	0.05***	0.28*	-0.08***	-0.27***	-0.07***	-0.35***
	[0.01]	[0.17]	[0.01]	[0.13]	[0.01]	[0.12]
Community norms (0/1)	0.00	-0.01	0.01	0.34**	0.02*	0.31**
	[0.01]	[0.12]	[0.01]	[0.13]	[0.01]	[0.14]
Community norms (0/1)*Female	0.04***	0.49***	-0.02	-0.41**	-0.03*	-0.25
	[0.01]	[0.17]	[0.01]	[0.19]	[0.01]	[0.21]
Constant	0.63***	8.18***	0.61***	7.86***	0.58***	7.80***
	[0.03]	[0.40]	[0.03]	[0.46]	[0.03]	[0.45]
Observations	61,319	37,555	44,173	25,682	44,275	26,230
Adjusted R-squared	0.15	0.03	0.15	0.03	0.15	0.03
Mean female	0.59	7.51	0.58	7.49	0.56	7.57
Mean male	0.73	8.14	0.73	8.22	0.71	8.11
PersBelief+Fem (p-value)	0.00	0.47	0.00	0.84	0.00	0.00
ComNorms+Fem (p-value)	0.00	0.00	0.39	0.60	0.56	0.67
Mean VIF	3.51	3.62	2.26	2.29	2.51	2.56
Sample	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	YES	YES	YES	YES	YES	YES

Note: The value displayed for t-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 4A Decision-making power over large purchases—correlation with gender equality norm: attitudes and norms.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Female in HH has the power (Yes=1/No=0)	Male in HH has all the power (Yes=1/No=0)	Joint decision-making with spouse (Yes=1/No=0)	No power at all (Yes=1/No=0)	Female in HH has all the power (Yes=1/No=0)	Male in HH has all the power (Yes=1/No=0)	Joint decision-making with spouse (Yes=1/No=0)	No power at all (Yes=1/No=0)
Gender equality norm: Men and women should have equal opportunities								
Female	0.17***	−0.18***	0.03**	0.02	0.13***	−0.12***	0.00	0.03**
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Personal belief: Agree (No=0/Yes=1)	−0.00	−0.09***	0.10***	−0.00				
	[0.01]	[0.01]	[0.01]	[0.01]				
Personal belief: Agree*Female	−0.04***	0.09***	−0.06***	−0.02				
	[0.01]	[0.01]	[0.01]	[0.01]				
Community norms (0/1)					0.01	−0.07***	0.08***	−0.01
					[0.01]	[0.01]	[0.01]	[0.01]
Community norms (0/1)*Female					−0.01	0.05***	−0.05***	−0.05***
					[0.01]	[0.02]	[0.02]	[0.02]
Constant	0.24***	0.59***	0.12***	0.02	0.26***	0.48***	0.17***	0.00
	[0.02]	[0.03]	[0.03]	[0.03]	[0.03]	[0.04]	[0.05]	[0.04]
Observations	42,669	42,669	42,669	42,669	25,183	25,183	25,183	25,183
Adjusted R-squared	0.06	0.11	0.20	0.20	0.06	0.09	0.22	0.25
Mean female	0.17	0.09	0.56	0.19	0.15	0.07	0.57	0.19
Mean male	0.07	0.22	0.51	0.18	0.06	0.18	0.54	0.18
Norms+Fem (Coeff)	−0.04	−0.01	0.03	−0.02	0.00	−0.02	0.03	−0.05
Norms+Fem (SE)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Norms+Fem (p-value)	0.00	0.34	0.00	0.03	0.91	0.04	0.05	0.00
Sample	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	YES	YES	YES	YES	YES	YES	YES	YES

Note: The value displayed for t-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 4B Decision-making power over large purchases—correlation with male breadwinner norm: attitudes and norms.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Female in HH has all the power (Yes=1/No=0)	Male in HH has all the power (Yes=1/No=0)	Joint decision-making with spouse (Yes=1/No=0)	No power at all (Yes=1/No=0)	Female in HH has all the power (Yes=1/No=0)	Male in HH has all the power (Yes=1/No=0)	Joint decision-making with spouse (Yes=1/No=0)	No power at all (Yes=1/No=0)
Male breadwinner norm: Expenses are a man's responsibility even if his wife can help him								
Female	0.12***	-0.08***	-0.03***	-0.01***	0.11***	-0.09***	-0.02**	-0.02***
	[0.00]	[0.00]	[0.01]	[0.00]	[0.01]	[0.01]	[0.01]	[0.01]
Personal belief: Agree (No=0/Yes=1)	0.01***	0.09***	-0.08***	-0.01**				
	[0.00]	[0.01]	[0.01]	[0.01]				
Personal belief: Agree*Female	0.05***	-0.07***	0.02**	0.05***				
	[0.01]	[0.01]	[0.01]	[0.01]				
Community norms (0/1)					-0.01	0.03***	-0.03***	-0.01
					[0.01]	[0.01]	[0.01]	[0.01]
Community norms (0/1)*Female					0.04***	-0.03**	0.00	0.03**
					[0.01]	[0.01]	[0.02]	[0.01]
Constant	0.24***	0.46***	0.25***	0.03	0.22***	0.44***	0.26***	0.03
	[0.02]	[0.03]	[0.03]	[0.03]	[0.02]	[0.03]	[0.04]	[0.04]
Observations	43,053	43,053	43,053	43,053	36,433	36,433	36,433	36,433
Adjusted R-squared	0.06	0.11	0.20	0.20	0.06	0.09	0.20	0.21
Mean female	0.17	0.09	0.55	0.19	0.17	0.08	0.56	0.19
Mean male	0.07	0.22	0.50	0.18	0.07	0.21	0.52	0.18
Norms+Fem (Coeff)	0.06	0.02	-0.06	0.04	0.03	0.01	-0.03	0.02
Norms+Fem (SE)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Norms+Fem (p-value)	0.00	0.00	0.00	0.00	0.00	0.20	0.01	0.02
Sample	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Country FE	YES	YES	YES	YES	YES	YES	YES	YES

Note: The value displayed for t-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 5 Decision-making power over large purchases—correlation with perceived norms, conditional on personal beliefs.

	(1) Female in HH has all the power (Yes=1/No=0)	(2) Male in HH has all the power (Yes=1/No=0)	(3) Joint decision-making with spouse (Yes=1/No=0)	(4) No power at all (Yes=1/No=0)	(5) Female in HH has all the power (Yes=1/No=0)	(6) Male in HH has all the power (Yes=1/No=0)	(7) Joint decision-making with spouse (Yes=1/No=0)	(8) No power at all (Yes=1/No=0)
	Gender equality norm				Male breadwinner norm			
Female	0.15***	−0.15***	0.03	0.05***	0.11***	−0.08***	−0.03***	−0.02***
	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.01]	[0.01]
Personal belief: Agree (No=0/Yes=1)	−0.01	−0.08***	0.08***	−0.00	0.02***	0.09***	−0.08***	−0.01**
	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.01]	[0.01]	[0.01]
Personal belief: Agree*Female	−0.03*	0.06***	−0.05**	−0.03**	0.04***	−0.07***	0.02*	0.05***
	[0.01]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.01]	[0.01]
Community norms (0/1)	0.01	−0.05***	0.06***	−0.01	−0.01	0.00	−0.01	−0.00
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Community norms (0/1)*Female	−0.00	0.03**	−0.03	−0.04***	0.02*	0.00	−0.01	0.01
	[0.01]	[0.02]	[0.02]	[0.02]	[0.01]	[0.01]	[0.02]	[0.01]
Constant	0.26***	0.54***	0.11**	0.00	0.22***	0.42***	0.28***	0.04
	[0.03]	[0.04]	[0.05]	[0.04]	[0.02]	[0.03]	[0.04]	[0.04]
Observations	25,183	25,183	25,183	25,183	36,433	36,433	36,433	36,433
Adjusted R-squared	0.06	0.09	0.22	0.25	0.06	0.10	0.21	0.21
Mean female	0.15	0.07	0.57	0.19	0.17	0.08	0.56	0.19
Mean male	0.06	0.18	0.54	0.18	0.07	0.21	0.52	0.18
PersBelief+Fem (p-value)	0.01	0.03	0.02	0.01	0.00	0.00	0.00	0.00
ComNorms+Fem (p-value)	0.68	0.06	0.08	0.00	0.10	0.34	0.20	0.42
Mean VIF	4.50	4.50	4.50	4.50	3.21	3.21	3.21	3.21
Sample	All	All	All	All	All	All	All	ALL
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YES

Note: The value displayed for t-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 6A Care and domestic responsibilities—correlation with gender equality norm: attitudes and norms.

	(1) Main caregiver: preschool or school children	(2) Hours spend on care activities (main caregiver children)	(3) Hours spend on household chores (main caregiver children)	(4) Main caregiver: Preschool or school children	(5) Hours spend on care activities (main caregiver children)	(6) Hours spend on household chores (main caregiver children)
Gender equality norm: Men and women should have equal opportunities						
Female	0.07***	2.95***	1.52***	0.11***	1.89***	1.53***
	[0.02]	[0.43]	[0.15]	[0.02]	[0.38]	[0.13]
Personal belief: Agree (No=0/Yes=1)	0.00	−0.12	0.13			
	[0.01]	[0.21]	[0.08]			
Personal belief: Agree*Female	0.01	−0.24	−0.32**			
	[0.02]	[0.44]	[0.15]			
Community norms (0/1)				0.02	−0.07	0.35***
				[0.02]	[0.36]	[0.12]
Community norms (0/1)*Female				−0.04	1.44***	−0.44**
				[0.03]	[0.55]	[0.19]
Constant	0.31***	5.00***	3.84***	0.29***	4.09***	4.11***
	[0.05]	[0.95]	[0.35]	[0.07]	[0.98]	[0.50]
Observations	22,327	9564	10,131	15,506	6820	7162
Adjusted R-squared	0.21	0.15	0.17	0.23	0.17	0.18
Mean female	0.47	9.41	4.26	0.48	9.52	4.26
Mean male	0.41	6.20	2.94	0.42	6.17	2.93
Norms+Fem (Coeff)	0.02	−0.36	−0.20	−0.03	1.36	−0.08
Norms+Fem (SE)	0.02	0.39	0.13	0.02	0.43	0.15
Norms+Fem (p-value)	0.31	0.36	0.14	0.17	0.00	0.56
Sample	All	All	All	All	All	All
Country FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and *Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

TABLE 6B Care and domestic responsibilities—correlation with female caregiver norm: attitudes and norms.

	(1) Main caregiver: Preschool or school children	(2) Hours spend on care activities (main caregiver children)	(3) Hours spend on household chores (main caregiver children)	(4) Main caregiver: Preschool or school children	(5) Hours spend on care activities (main caregiver children)	(6) Hours spend on household chores (main caregiver children)
Female caregiver norm: Woman's most important role is to take care of home and children						
Female	0.07***	2.40***	1.12***	0.05***	2.27***	1.16***
	[0.01]	[0.18]	[0.06]	[0.01]	[0.33]	[0.11]
Personal belief: Agree (No=0/Yes=1)	0.03***	0.41**	0.14**			
	[0.01]	[0.16]	[0.06]			
Personal belief: Agree*Female	0.03**	0.64**	0.22**			
	[0.01]	[0.25]	[0.09]			
Community norms (0/1)				0.00	1.06***	0.43***
				[0.02]	[0.29]	[0.10]
Community norms (0/1)*Female				0.04**	0.63	0.07
				[0.02]	[0.47]	[0.16]
Constant	0.29***	4.59***	3.79***	0.28***	3.41***	3.54***
	[0.05]	[0.94]	[0.34]	[0.05]	[0.84]	[0.35]
Observations	22,381	9592	10,165	21,211	9180	9670
Adjusted R-squared	0.22	0.15	0.17	0.22	0.16	0.17
Mean female	0.47	9.40	4.26	0.47	9.42	4.27
Mean male	0.41	6.22	2.94	0.42	6.20	2.94
Norms+Fem (Coeff)	0.06	1.05	0.36	0.05	1.69	0.51
Norms+Fem (SE)	0.01	0.20	0.07	0.02	0.37	0.12
Norms+Fem (p-value)	0.00	0.00	0.00	0.00	0.00	0.00
Sample	All	All	All	All	All	All
Country FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and * Indicate significance at the 1, 5, and 10 per cent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

TABLE 7 Care and domestic responsibilities—correlation with perceived norms, conditional on personal beliefs.

	(1) Main caregiver:Preschool or school children	(2) Hours spend on care activities (Main caregiver children)	(3) Hours spend on household chores (Main caregiver children)	(4) Main caregiver:Preschool or school children	(5) Hours spend on care activities (Main caregiver children)	(6) Hours spend on household chores (Main caregiver children)
	Gender equality norm			Female caregiver norm		
Female	0.11***	2.21***	1.77***	0.05***	2.17***	1.13***
	[0.03]	[0.58]	[0.21]	[0.01]	[0.33]	[0.11]
Personal belief: Agree (No=0/Yes=1)	0.01	−0.21	0.07	0.03***	0.34*	0.09
	[0.02]	[0.27]	[0.10]	[0.01]	[0.18]	[0.06]
Personal belief: Agree*Female	−0.00	−0.31	−0.30	0.02*	0.49*	0.21**
	[0.02]	[0.53]	[0.19]	[0.01]	[0.27]	[0.09]
Community norms (0/1)	0.01	0.00	0.33**	−0.01	0.91***	0.39***
	[0.02]	[0.38]	[0.13]	[0.02]	[0.30]	[0.11]
Community norms (0/1)*Female	−0.04	1.41**	−0.39**	0.04*	0.46	−0.01
	[0.03]	[0.56]	[0.19]	[0.02]	[0.49]	[0.17]
Constant	0.29***	4.24***	4.07***	0.27***	3.23***	3.49***
	[0.07]	[0.99]	[0.51]	[0.05]	[0.85]	[0.35]
Observations	15,506	6820	7162	21,211	9180	9670
Adjusted R-squared	0.23	0.17	0.18	0.22	0.16	0.17
Mean female	0.48	9.52	4.26	0.47	9.42	4.27
Mean male	0.42	6.17	2.93	0.42	6.20	2.94
PersBelief+Fem (p-value)	0.80	0.26	0.16	0.00	0.00	0.00
ComNorms+Fem (p-value)	0.17	0.00	0.66	0.07	0.00	0.00
Mean VIF	3.65	4.79	4.62	2.60	3.80	3.65
Sample	All	All	All	All	All	All
Country FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: The value displayed for *t*-tests are the differences in the means across the groups. ***, **, and * Indicate significance at the 1, 5, and 10 percent critical levels. (1) OLS regressions incorporate covariates for marital status, age of the respondent, household composition, education level of the respondent, relationship to the household head, zone of residency (urban/rural), and an indicator for land ownership. (2) All regressions incorporate country fixed effects.

Abbreviation: FE, fixed effects.

female caregiver norm are 9 percentage points less likely to be working. We find no significant correlation between women's personal beliefs toward gender equality and hours worked.

For men, individual beliefs are more important at the intensive margin, where for both the male breadwinner norm and equal opportunities, a more liberal belief held by him is associated with him working fewer hours. For example, men with more egalitarian personal beliefs toward gender equality spend around 0.22 h less hours at work, conditional on working in the last week (Tables 2a and 2b Column 4). On the other hand, for women the only belief that is associated with her hours worked is around the female caregiver norm, which goes in the expected direction of 0.32 fewer hours spent working. That is, women who personally agree with the female caregiver norm are less likely to participate in the labor market at both the extensive and intensive margin.

Taken alone, community norms show a similar story to individual beliefs for women's labor force participation: the more liberal she thinks her community is, the more she works. For example, her perception of an additional 10 percent of persons showing support for gender equality in opportunities in the community translates into a 4 percentage point greater likelihood of a woman working over the past year, and an extra 0.49 h spent working per week. Overall, this pattern of results suggests that women's perception of greater support for gender equality in opportunities in their community is associated with a higher likelihood of women participating in the labor market at both the extensive and intensive margin. For the gender role specific norms (breadwinner and caregiver), community perceptions are similarly important for a woman's participation in the labor market, but there is no net significant effect for hours worked. In Tables 2a and 2c, among women, the perception of an additional 10 percent of persons agreeing with the male breadwinner/female caregiver norm in the community translates into a 3 and 4 percentage point lower likelihood of a woman working over the past year, respectively.

For men, again community beliefs are similar to individual beliefs for labor force participation, that is, what he perceives the community thinks has no relationship on whether he works or not. For the hours he works, gender equal opportunities does not matter, but the gender role norms indicate that men work more hours (conditional on working at all) when they think their community is more gender conservative.

These two levels of beliefs—what individuals think and what they think their community thinks, could be highly related and operating on the same decision simultaneously. In Table 3, we control for both types of beliefs in the same regression (as described for Equation 3). For labor force participation, we can see that for the more gender role specific norms (caregiver, breadwinner) controlling for the individual beliefs causes the community beliefs for women to be no longer significant. This suggests that for these more proximal norms, her individual beliefs matter more than those of her community—in contrast to the more distal gender equality norm. For male labor force participation, we see the earlier counterintuitive negative result on the female caregiver norms is offset by positive community effects, which suggests that any negative impacts on male labor supply may be driven by men who think they are at odds with their community.[23] At the intensive margin, controlling for the two levels of beliefs (individual or community) does not change our results at all.[24]

Taken together, we show that women's own personal belief in a norm of equal opportunities and their perception of general community support for gender equality are independently correlated with whether women work. On the other hand, women's perception of community support for male breadwinner and female caregiver norms is not independently correlated with whether and how much they work, net of their own personal beliefs.

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[23]For instance, men who personally agree with the female caregiver norm may reflect men who place greater weight on family values themselves or men who revert to more traditional masculinity roles when out of work.

[24]In Appendix S5, we conduct an analysis similar to that in Table 3, but we split the data by age and education group. The results remain robust, consistent with the main analysis.

4.2.2 | Decision-making power

In the following, we analyze intra-household decision-making power among married men and women. In Tables 4a, 4b, and 5, we examine correlations between beliefs and norms of broad gender equality and the male breadwinner on power within the household.[25] The dependent variables in Tables 4a–5 present four categories of decision-making power related to large purchases in the household: "female in the household has all the power," "male in the household has all the power," "joint decision-making with spouse," and "no power at all." The regression models shown include country fixed effects.[26]

Table 4a suggests that among men, a higher personal belief in support of gender equality (*Personal belief: Agree*) is associated with a significant shift away from sole decision-making power (male in HH has all the power), toward joint decision-making where men are 10 percentage points less likely to report sole decision power. This is the pattern we might expect when an individual agrees with gender equality in opportunities—that decisions made within the marital relationship are made jointly. Similarly, in Table 4b, the pattern for the male breadwinner norm is in the direction we would expect—personally agreeing with the male breadwinner norm is associated with higher male sole decision-making power (9 percentage points) and commensurate lower joint decision-making in the household.

Similarly, for women personally agreeing with the gender equality norm is associated with a shift from sole decision-making (Female in the HH has all the power) to joint decision-making power by 4 percentage points. A similar pattern is found for the male breadwinner norm—agreeing with the breadwinner norm is associated with a lower likelihood of joint power and higher likelihood of sole power (+4 percentage points for the female; +2 percentage points for the male in the household) and 4 percentage points higher likelihood of "no power at all." While the individual beliefs results for men and women follow similar patterns, the magnitudes of the associations are larger for men.

Turning to perceived community norms, Tables 4a and 4b Columns 5–8 (*Community Norms*) suggest a similar pattern to own beliefs. When men perceive that their community are more gender liberal then they are more likely to practice joint decision-making with their wife and move away from husband-centered decision-making. For example, an additional 10% in persons who support the gender equality norm is associated with 8 percentage points higher likelihood of men reporting joint decision-making; and an additional 10 percent in persons agreeing with the male breadwinner norm is associated with a decrease in joint decision-making of 3 percentage points. For women, greater perceived support for gender equality is associated with lower reports of "no power at all" by 5 percentage points and greater joint decision-making power. Higher perceived male breadwinner norms by women are associated with lower likelihood of joint decision-making, as well as higher sole decision-making power for women themselves and a higher probability of reporting "no power at all."

Taken together, these results suggest that men and women appear to be interacting with the norms differently. Men with more liberal beliefs report a transfer from sole decision-making power to joint decision-making power with his spouse. Whereas more liberal women report a transfer from spousal power toward both joint and sole.

In Table 5, we combine personal beliefs and perceived community beliefs in the same regression (as per Equation 3). Even after controlling for their personal beliefs, men's perception of greater acceptance of gender equality in their community continues to be associated with a shift away from husband-centric decision-making toward joint decision-making (perception of an additional 10% in persons agreeing with the norm is associated with −5 percentage points in sole husband and +6 percentage points in joint). For the male breadwinner norm, controlling for the individual beliefs causes the community beliefs to be no longer significant.

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[25]Separate survey modules were randomized and administered to a random subsample in order to minimize overall survey length. Therefore, some behaviors were paired with fewer norms questions.

[26]While the two models with and without county fixed effects differ slightly in magnitude of the coefficients, the level of statistical significance is consistent so we only show the specification with country fixed effects.

For women, after controlling for her personal beliefs, a higher perceived community support for gender equality is associated with a lower likelihood of her having "no power at all" (−5 percentage points), and a higher likelihood of joint decision-making in her household. However, we find a more counter-intuitive result for the male breadwinner norm where the community norm is positively correlated with greater sole decision-making power by the female. One possible explanation could be that women who are already engaging in counter-stereotypical behaviors such as making sole decisions around large purchases may face more social stigma from their community which could reinforce the existence of the stereotypical norm that men are breadwinners for these women.

4.2.3 | Childcare and domestic responsibilities

In this final set of behaviors, in Tables 6a, 6b, and 7 we examine the relationship between the gender equality norm and female caregiver norm with childcare and domestic responsibilities. There are three dependent variables presented: dummy variable for being the self-reported main caregiver for pre-school or children 6–18 years in the household, hours spent on care activities and hours spent on household chores, conditional on being the main caregiver.

In Tables 6a and 6b, again we present the regression model with country fixed effects as shown in Equations (1) and (2), first assessing personal beliefs and perceived norms separately. Across the board, women are more likely to report to be the main caregiver of children and spend more time on both care work and household chores (see positive coefficient on *Female*).

In Table 6a, we show that personal support for gender equality is not significantly associated with any of the care and household chores outcomes for men (see coefficient on *Personal belief: Agree*). Whereas in Table 6b for men who personally agree with the female caregiver norm we find a higher likelihood of him being the main caregiver of children (+3 percentage points), as well as an increase in hours spent on chores (+0.16 h), and care (+0.41 h). While this norm is intended to capture beliefs on *females* as caregivers it may also represent greater family values in general that are held by some men. If a man thinks a woman's most important role is to take care of her home and children then he may be putting a premium on family and care.[27]

Women, in contrast, who personally agree with gender equality in opportunities report spending marginally fewer hours on household chores (−0.24 h) with no observed relationship with care. For women, personal agreement with the female caregiver norm is strongly positively correlated with both the likelihood she is the main caregiver and the time she spends on care and chores. The composite effect suggests that women who personally agree with the female caregiver norm are 6 percentage points more likely to be main caregivers, and spend an additional 1.05 h on care work and 0.36 h on chores.

In terms of the perceived community norm, for men, the perception of an additional 10% in persons agreeing with the gender equality norm is associated with spending more time on household chores (+0.35 h). For women, greater perceptions of agreement with gender equality within the community is strongly associated with time spent on care activities, with an additional 1.36 additional hours on care work for a unit increase in the community norm. This result is surprising as perhaps one might expect redistribution of care work between the husband and wife as the community becomes more gender progressive and therefore a reduction in care activities by women. Interestingly, the perception of the female caregiver norm is strongly positively associated with the amount of care and domestic work done by both women and men. Men who perceive that an additional 10% of persons in their community agree with the female caregiver norm report spending 1.06 additional hours on care work and 0.43 additional hours on chores. This association is even more pronounced for women, who are 4 percentage

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[27]An alternative hypothesis might be a reverse causality explanation that the more men work on care-related activities, the more they are convinced it is their wife's job.

points more likely to be main caregivers, spend 1.69 h more on care work, and 0.51 additional hours on chores for every unit increase in the female caregiver norm.

In Table 7, we combine personal and perceived community norms in the same regression (as per Equation 3) and examine the relationship with domestic and care responsibilities, conditioning on the personally held belief. After controlling for personal beliefs, the correlations with the perceived community norms hold as was described earlier for Tables 6a and 6b. Greater support for the female caregiver norm in the community is strongly associated with greater involvement in care related activities by both men and women (for men, the result is significant on time spent on chores for the gender equality norm, and both time on care and chores for the female caregiver norm). This suggests that even after taking into account their own beliefs, the perceived beliefs of those in the community matter for time spent on activities within the household by men.

5 | DISCUSSION AND CONCLUDING THOUGHTS

Given the large and persistent gender inequality in labor force participation and earnings in many countries, it is important to better understand how social norms might constrain women's labor market choices and outcomes. In this paper we provide empirical evidence on the relationship between gender attitudes, norms, and economic behavior on a global scale. We examine norms with respect to gender equality in opportunities, and the stereotypical gender roles of the male breadwinner and female caregiver.

Persistent gaps in the accurate measurement of norms and obtaining gender-disaggregated data have prevented research at scale. For example, previous research has often relied on country-level aggregates of gender attitudes to proxy for norms. In this paper, we leverage a unique dataset that collected data on both personal attitudes and perceived norms on gender across 111 countries and link them to individual-level employment, decision-making, and time allocation variables. Our measures shed light on how norms are internalized and acted upon. Measurement of both social expectations and personal beliefs can reveal phenomena, such as pluralistic ignorance, which is an important insight for policies. Our findings suggest a difference between the aggregate country-level measure of personal beliefs and perceived norms across many countries of the world. The extent of the difference varies by region of the world, gender, and the particular norm in question.

Results suggest a general underestimation of the support for gender equality globally (men and women in general think their community is more conservative). We show that education and age are predictive of the degree of underestimation of the support for gender equality. In terms of linking attitudes and norms with behaviors, we show that men's beliefs and perceived norms about support for gender equality are not correlated with whether he works or not. However, the perceived beliefs of those in the community matter for male engagement in household productive activities. Greater perceived community support for gender equality is associated with greater involvement in care and household chores by married men and a greater likelihood of joint decision-making power with his wife. Women's own personal beliefs about support for gender equality and gender roles matter a lot for their decision to work. The more progressive her own beliefs, the more likely she is to participate in the labor force. Higher perceived community support for gender equality is also associated with married women having a higher likelihood of joint decision-making power.

Our findings, while descriptive in nature, suggest that our measures have important informational content and existing tools to measure social norms need to be improved and refined. For policy, additional data may be needed to be able to diagnose the specific norms at play that bind on behaviors we look to influence. Our findings highlight the entrenched nature of traditional gender roles in the collective consciousness and the varying degrees to which they are personally endorsed by men and women. In addition, identifying the reasons why people comply will help unpack the "black box" of how norms operate. Perhaps people comply because norms are hidden, or because they have a strong desire to conform, or because they gain benefits or fear sanctions for going against a norm.

Policy may encourage more gender progressive personal beliefs, support an updating of misperceived beliefs around gender equality, or encourage more gender progressive or counter-stereotypical behaviors, irrespective of norms. Existing gender norms programs in low- and middle-income contexts have typically focused on interventions among youth, community-level training programs, and low-touch behavioral or information campaigns. For example, recent gender norms programs in India (Dhar et al., 2022) and in Somalia (Brar et al., 2023) find an egalitarian shift in gender attitudes among young adolescents. Bursztyn et al. (2020) finds that Saudi men systematically overestimate their peers' disapproval of women's work and a simple information intervention that corrects misperceptions increased men's willingness to help their wife search for a job. In the Democratic Republic of Congo (DRC) training that engaged fathers in sessions of critical reflection on fatherhood and caregiving led to higher levels of male participation in childcare and household tasks, relative to a control group (Vaillant et al., 2020). In Nigeria, Banerjee et al. (2019) find that exposure to an edutainment intervention improved television viewers' attitudes toward violence against women. Bertrand (2020) proposes that direct and ongoing exposure to a proscribed counter-stereotypical behavior, such as women's work outside the home, may eventually reduce norm-related costs associated with the behavior and eventually help erode the norm.

Often the settings where we want to use policy to influence a norms change are in low-resource settings with low levels of human capital. In that sense, social norms interventions should not be considered standalone solutions but complementary to capital- or skill-related programming. There are a variety of channels through which policy could operate that may be norm-sensitive or norm-transformative. Below we provide ideas for a variety of potential entry points for policy interventions to address social norms either directly or indirectly (Munoz-Boudet et al., 2023).

- *Circumvent*: Work around the norm with behaviors that are more accepted (e.g., girls completing education before marriage, or women working from the homestead) or conduct interventions in locations/places where women are more likely to be present (e.g., in health centers, or collection of cash transfers).
- *Prevent*: Take actions for the norm to not be triggered by separating women (e.g., women's only transport, female-only workplaces, or self-help groups).
- *Eliminate sanctions "myth"*: Create default options that can bypass normative choices or use role models and social proof activities that show sanctions are not enacted in reality.
- *Tackle*: Engage in collective discussions on a norm, change or enact legislation, or change aspirations and influence younger generations prior to path dependence.
- *Create a new norm*: Promote early child development and involved parenting (behavioral discourse change). Introduce incentives (financial, legal) for new behaviors that break with the norm.

Government policy that embeds gender norms programming in school curricula can be a pathway to scale. To effect a real and lasting shift in norms may require a targeted policy approach that encourages and applauds deviation from the stereotypical gender roles and promotes gender equality. Policymakers that promote gender equality need to ensure greater investment is devoted toward programs that could affect norms. Governments and media can also play a more active role in challenging the social dialogue around the male breadwinner and female caregiver gender roles in the quest to support gender equality and promote economic growth.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Appendix S1.

Appendix S2.

Appendix S3.

Appendix S4.

Appendix S5.

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