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**Reverting to Traditional Views of Gender
During Times of Relative Deprivation**

An Experimental Study in Nepal

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Notices

¹ Author order is alphabetical. The experiment on which this paper is based is registered in the American Economic Association's registry for randomized controlled trials as AEARCTR-0006361. This project received clearance from Makerere University's School of Social Sciences Research Ethics Committee (08.20.436/PR1) as well as from the International Food Policy Research Institute's Institutional Review Board (DSGD-20-0829). The research was also registered at the Ugandan National Commission for Science and Technology (SS603ES).

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Abstract

Do individuals' perceptions of their relative economic status affect their attitudes regarding gender roles in patriarchal societies? What role does hearing messages designed to increase support for women's empowerment play in moderating these effects? Leveraging an original survey experiment in Nepal, we find that a prime conferring feelings of relative deprivation causes women to revert to traditional views of gender in economic decision-making; they become less supportive of women having equal control over household income, sharing household chores with men, and working outside the home. Women's empowerment messaging does not attenuate these effects. Priming men to feel relatively deprived causes declines in gender-equitable economic and political views, but women's empowerment messaging nullifies these effects. The results suggest that among populations feeling relatively deprived, regressive gender norms may take hold. However, light-touch efforts to spur support for women's empowerment may counter some reversion to traditional views of gender.

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Globally, income inequality has been increasing within many developing countries—a process recently exacerbated by the COVID-19 pandemic (Ravallion, 2014; Ferreira, 2021). Simultaneously, since 2020, achievement of the United Nations (UN) Sustainable Development Goal of gender equality (SDG 5) has been set back by 40 years (UNCTAD, 2021). The UN identifies three dimensions of gender equality: economic, social, and political (United Nations, 2022). The UN’s 2030 Agenda for Sustainable Development emphasizes the urgency of investments protecting all three dimensions, highlighting that women and girls currently do not enjoy “equal opportunities with men and boys for employment, leadership, and decision-making at all levels” (United Nations, 2016, Item 21). These co-occurring trends raise the question: does income inequality affect gender inequality, and if so, how?

Extant research has shown that individuals evaluate their economic conditions in relation to other people (Kahneman and Tversky, 1979; Levy, 2003; Bendor, 2016). People’s judgement of their circumstances and wealth are in relative terms rather than absolute terms, and as such, studies have shown that those with lower economic status often perceive that they are relatively deprived (Chen, 2015; Gurr, 1970), defined as “the judgment that one is worse off compared to some standard accompanied by feelings of anger and resentment” (Smith et al., 2012) This is particularly likely today given the *salience* of inequality due to the proliferation of information communication technology (e.g., social media) and increased migration (McAuliffe and , eds). There is a psychological cost of inequality; feelings of relative deprivation are more likely to take hold when there are high levels of inequality (Bernstein and Crosby, 1980; Melita, Willis and Rodriguez-Bailon, 2021). Such feelings have implications for the values of the mass public (Payne, 2017). For example, those with low economic standing exhibit less social tolerance than those with high economic standing (Andersen and Fetner, 2008). Additionally, inequality degrades social trust, which in turn leads to lower tolerance levels (Uslaner, 2002). Indeed, cash transfer programs, which blunt inequality and feelings of relative deprivation, increase trust (e.g., Kosec and Mo, 2023). We build on this work by exploring whether feeling relatively deprived affects gender attitudes—and whether any effects differ for women compared to men. Gender attitudes are important as they influence a host of outcomes such as economic roles within households and women’s opportunities for political participation (De Giusti and Kambhampati, 2016; Cheema et al., 2022).

The impacts of relative deprivation, and the economic and status anxieties that accompany it (Melita, Willis and Rodriguez-Bailon, 2021), on support for gender equality in patriarchal societies are theoretically ambiguous and empirically not well understood. For instance, a woman who feels economically worried may not feel that she is able to advocate for women’s decision-making authority. Women may revert to traditional views of gender roles in marriage and society, fearful of their husband’s and/or societal backlash if they do not defer to men on key decisions and reserve limited economic and leadership opportunities for men. They may seek to ease men’s economic stress through increased domestic work and yield space for men’s economic advancement and influence. For example, married women in China who lost their jobs during the Covid-19 pandemic were often pushed back into traditional family roles rather than pursuing other economic opportunities (Yueping et al., 2021). Unmarried women facing economic insecurity may similarly accept traditional gender roles, seeing marriage—a financial safety net—as more probable if they adhere to traditional gender roles. Yet a lack of economic opportunity may instead make women *more* supportive of gender equality, particularly opportunities for women’s economic participation, with a motive of increasing economic resources for their households to alleviate economic anxieties (Kosec et al., 2021). Similarly, it is unclear whether experiencing economic anxiety increases demand for and perceived benefits from women’s leadership and political participation (e.g., vulnerable women are especially keen to have their interests represented) or reduces demand for it (e.g., due to stereotypes that men are better at resolving crises (Rudman et al., 2012)).

Understanding the microfoundations of gender equality is economically, socially, and politically important. When spouses have equal access to assets and productive resources, their household is more productive and enjoys higher income (e.g., Deere and Doss, 2006; Goldstein and Udry, 2008; Doss, 2013; Seymour, 2017; Dillon and Voena, 2018). Furthermore, promoting gender equality in political representation increases public expenditures on goods and services women prefer, including childcare (Bratton and Ray, 2002), education (Svaleryd, 2009; Beaman et al., 2012), public health (Clayton and Zetterberg, 2018), and drinking water (Chattopadhyay and Duflo, 2004). Gender equality also helps women develop an identity beyond that of wife and mother, which increases their mobility and political participation (Chhibber, 2002).

We conducted an original survey experiment in Nepal from February to April 2019 (here-

after referred to as the 2019 Nepal Household Survey) to examine whether being subtly primed to feel relatively deprived affects the gender attitudes of 2,011 individuals (1,046 women and 965 men). To generate exogenous variation in individuals' perceptions of their relative economic status, we employed a relative deprivation priming experiment. Half of respondents were randomly assigned to receive a prime designed to cause them to feel relatively economically worse off and half were not, permitting causal interpretations. We exploit this variation to assess how feeling economically insecure, or that one's household is not doing well compared to other households, alters their attitudes toward their role within and outside the household. Our outcomes comprise five gender inequality indices capturing three facets of gender attitudes—economic, social, and political—obtained from a factor analysis of our pre-registered outcome measures. The first index, “gendered economic decisions within the household,” is an economic gender attitudes measure and includes questions on the extent to which women should have control over household income, share household chores, and be able to work outside the home. The second index, “economic scarcity,” is also an economic gender attitudes measure and captures attitudes regarding whether men or women should be prioritized for jobs and education opportunities during times of economic scarcity. The third index, “gendered norms in society,” is a social gender attitudes measure and includes questions about the perceived value of women obeying their husband, supporting his opinions, and following traditions. The fourth index, “ideal age for marriage,” is also a social gender attitudes measure and captures individuals' perceptions of whether a woman should get married at a younger age compared to a man. The last index, “women in leadership and politics,” is a political gender attitudes measure and includes questions on whether there should be more women in leadership positions and elected office.

We further cross-randomized whether or not respondents were exposed to a brief message read aloud that conveys the need to address gender inequality and the value of egalitarian gender norms—aimed at engendering support for women's empowerment. This second experiment was designed to examine the extent to which a light-touch empowerment narrative might offset or amplify any observable effects of the relative deprivation prime. If we observe that economic status anxiety stemming from subtle shifts in perceptions of relative deprivation negatively influences gender attitudes, might equally subtle messaging in support of gender equality counteract

this effect? There is mixed evidence on the potential to boost support for women’s empowerment by exposing individuals to egalitarian attitudes and perspectives. For example, [Dhar, Jain and Jayachandran \(2022\)](#) find that engaging adolescent girls and boys in classroom discussions about gender equality in India increased their support for gender equality. But another study in India found that an intervention to empower women and encourage households to have women work outside the home was ineffectual in building support for expanding economic opportunities for women ([McKelway, 2021](#)). It remains an empirical question if women’s empowerment messaging can counteract any negative effects of experiencing relative deprivation.

We find that feeling relatively deprived (i.e., receipt of the relative poverty prime) has a regressive effect on gender attitudes of both women and men. Feeling relatively deprived makes women significantly less likely to support egalitarian economic decision-making within the household. However, we do not observe robust changes in their social or political gender attitudes. These effects are concentrated among married women, suggesting the importance of marital dynamics when considering beliefs and views on gender. They are also driven by women engaged in paid work, which—as [Kandiyoti \(1988\)](#) argues—may be working women’s attempt to compensate for violating a gender norm (that men but not women work outside the home). Our women’s empowerment message does little to alter women’s beliefs regarding traditional gender roles or to attenuate the negative effects of the relative deprivation prime on support for egalitarian economic decision-making within the household. Among men, the relative deprivation prime reduces men’s support for providing more jobs and education opportunities for women over men in times of economic insecurity. However, women’s empowerment message offsets these effects among men. Light-touch intervention such as messaging can help counteract the deleterious effects of economic inequality on men’s support for women’s empowerment, but more intensive, institutional arrangements are necessary to reduce (both real and perceived) risks women face in times of economic uncertainty.

Relative Deprivation and Gender Attitudes

We use “relative deprivation” and “relative poverty” interchangeably to reference an individual’s perception that their economic standing is lower than that of others in their community ([Kosec and Mo, 2023](#)). Theories pertaining to relative deprivation show that comparison to oth-

ers affects individuals' perceptions of their income and achievements (Crosby, 1976; Walker and Smith, 2002). Perceptions of relative deprivation influence risk tolerance, political engagement, and attitudes towards government performance (Fair et al., 2018; Healy, Kosec and Mo, 2017; Mo, 2018). Our study builds on this literature by considering as outcomes an expansive set of gender equality attitudes, with critical implications for women's voice and influence at all levels.

Among women in patriarchal societies, there are several possible affective responses to perceived relative deprivation. Women may believe that feeling relatively deprived could trigger a status threat to men in their household (Inglehart and Flanagan, 1987; Andersen and Fetner, 2008; Morgan and Buice, 2013), and that this may increase men's competitiveness, frustration, or violence. In response, women may revert to traditional views of gender roles out of fear of backlash from male members of their household. For example, women may feel that increasing their domestic work load can help keep the peace, by easing men's stress and yielding space for men to generate income. This evokes the "patriarchal bargain" described by (Kandiyoti, 1988)—the strategies women employ to gain security and autonomy in a patriarchal system. Additionally, women may value women's access to opportunities less when opportunities are scarcer because this triggers the salience of men losing out to women. Women can also be more susceptible to self-doubt (Vaughn, Taasoobshirazi and Johnson, 2020); this could lead them, in times of economic anxiety and thus higher stakes, to prefer traditional gender roles whereby their husbands specialize in income generation and decision-making. Such behaviors are costly, as household welfare improves when deferring to the most knowledgeable person to make a decision, rather than allowing gender norms to dictate the decision-maker (Bernard et al., 2020).

Men in patriarchal systems may experience a status threat in response to relative deprivation, which may translate into more regressive gender attitudes. This affective response is rooted in discomfort from perceived loss of control or prestige. It could lead them to exploit existing power asymmetries (e.g., their greater physical strength or social capital) to combat gender equality and reserve limited economic opportunities for men. Because of this, some scholars argue that women risk domestic violence when they participate economically in a context of limited opportunities, or assert their autonomy in a socially conservative context (Koenig et al., 2003; Krishnan et al., 2010).

At the same time, a lack of economic opportunity may simultaneously make both women and men in patriarchal systems *more* inclined to support women’s equal economic participation—one facet of gender equality—in order to increase economic resources and alleviate economic anxieties (Kosec et al., 2021). Household income increases when women add to it.

How women respond in times of relative deprivation may depend upon whether they have experience earning income. Iversen, Rosenbluth and Rosenbluth (2010) note that being more educated and living in an area with higher demand for female labor make a woman better able to pass housework onto her husband. Blaydes and Linzer (2008), studying drivers of support for fundamental Islam, similarly underscore how providing women with access to economic opportunities allows women to have financial security outside marriage, thus making women less likely to embrace conservative values (embracing them usually improves marriage prospects).

There is similarly theoretical ambiguity about the effects of experiencing relative economic deprivation on support for women’s participation in leadership and politics. On the one hand, it may increase the perceived benefits for women, for whom economic anxiety raises the stakes and increases the desire to have their interests represented. On the other hand, economic anxiety might reduce demand for female leadership if it triggers preferences for male leadership amid stereotypes favoring male leaders (e.g., perceptions that men are stronger leaders and better-versed in the economy and finances) (Huddy and Terkildsen, 1993). This ambiguity motivates our experimental design and analysis.

The Case of Nepal

Economic, social, and political gender inequalities are deeply rooted in Nepal’s laws, and in the norms and practices of Nepali society. Nepal’s 2015 Constitution guarantees gender equality in all spheres of life, including in education, work, and wages. Quotas guarantee female political representation at various levels of government (Asian Development Bank, 2020). Yet a number of formal policies pose significant obstacles to gender equality. For instance, the Constitution only allows *men* to pass citizenship on to their children or foreign-born spouses (Grossman-Thompson and Dennis, 2017, 802). Nepali laws also discriminate against women in terms of inheritance rights, property ownership, and legal claims-making (Kunreuther, 2009). By some accounts, this situation is worsening over time (Grossman-Thompson, 2019).

Beyond formal laws, Nepal is a patriarchal society with pervasive economic, social, and political gender inequality and discriminatory norms. Women are discouraged from engaging in wage-earning activities, and urged to focus their attention on child-rearing and household chores (Asian Development Bank, 2020). They are perceived to be temporary members of their families of origin, joining their husband's family upon marriage (Bennett, 1983). In contrast, sons are considered permanent family members—often making them the targets of family investments (Grossman-Thompson and Dennis, 2017, 800). Menstruation is deeply stigmatized, and in some parts of the country, menstruating women are (illegally) sequestered in an isolated shed (Adhikari, 2020).

Viewed comparatively, Nepal ranks low in the 2020 Global Gender Gap Index rankings (101st out of 153 countries) (World Economic Forum, 2020). They have worse health (Gurung, Pradhan and Shakya, 2020, 157), literacy (while 10% of men are illiterate, 33% of women are) (Asian Development Bank, 2020, 9), and employment outcomes (for every 100 employed men, there are only 59 employed women, and the average monthly income for a woman is about 30% lower than that of a man) (Gurung, Pradhan and Shakya, 2020, 76). Gender-based violence is also a serious problem in Nepal. Indeed, 48% of Nepali women report having experienced violence, and 27% report having experienced physical violence (Khatri Chhetri, 2020). These are likely underestimates given stigmatization of reporting abuse (Asian Development Bank, 2020). Men and women also hold regressive expectations about women's submission to authority and modesty, with only about 27% of people harboring gender egalitarian standards in this regard (Gurung, Pradhan and Shakya, 2020, 137-139).

In the home, women in Nepal participate less in decision-making than men, have limited control over resources, and experience limits to their freedom of movement (Gurung, Pradhan and Shakya, 2020, 142; Asian Development Bank, 2020, 7). Alarming, women's decision-making power in these realms appears to have decreased from 2011 to 2016 (International Organisation for Migration, 2019, 107). In line with these findings, the NSIS (Nepal Social Inclusion Survey) found a decline in women's participation in economic decision-making, such as women who can decide on disposal of self-earned income (76% in 2012 versus 60% in 2018) and women who can decide on selling their own land and other assets (25% in 2012 and 11% in 2018) (Gurung, Pradhan and Shakya, 2020, xxii).

By some measures, Nepalis hold relatively gender egalitarian views about economic roles. Over 70% of men and women disagree with the following three statements: women should not pursue outside employment if the household economic conditions are better; when women work (outside the home for cash), they are taking jobs away from men; and it is shameful if a wife earns more than her husband (Gurung, Pradhan and Shakya, 2020, 137). Further, Nepal has a gender parity index, the ratio of the number of female students enrolled in school to the number of male students, of 0.95 for school and college attendance (Gurung, Pradhan and Shakya, 2020, 136). Women are also more involved in local organizations than men (Gurung, Pradhan and Shakya, 2020) (Shah, 2004; Pradhan, 2011). Women have also become more likely to be: consulted on (or decide on) their marriage (61% in 2012; 75% in 2018); consulted on the number of children to have (53% in 2012; 86% in 2018); allowed to go to the local market without permission (64% in 2012; 87% in 2018); allowed to go to their parents' home without permission (47% in 2012; 79% in 2018); and allowed to attend formal meetings without permission (37% in 2012; 67% in 2018) (Gurung, Pradhan and Shakya, 2020, xxi). Amid this picture of major strides in gender attitudes despite large gaps in women's empowerment, Nepal is a prime location in which to explore how gender attitudes in patriarchal systems may be altered in response to growing feelings of relative economic deprivation.

Data and Research Design

Data Description

We conducted a household survey in Nepal between February 9, 2019 and April 1, 2019; study participants were randomly selected to be representative of eight districts clustered around Kathmandu in the Central Development Region (one of seven provinces in Nepal): Bhaktapur, Chitwan, Dhading, Dolakha, Kavrepalanchok, Makwanpur, Sarlahi, and Sidhupalchok.¹ The survey comprises 2,011 individuals. Table 1 displays the sampling distribution by district.²

¹Nepal is divided into 77 districts.

²The survey employed tablets using SurveyToGo, and took approximately 1.5 hours per person to complete. It was round 3 of a longitudinal study which targeted all respondents who completed the first two rounds. More information regarding the sampling for rounds 1 and 2 can be found here: <https://www.iese.org/Research-and-Insights/Publications/DFG-Vanderbilt-Publication>. The study design was pre-registered.

Table 1: Sample Distribution by District

District	Frequency	Percent
Bhaktapur	249	12.38
Chitwan	268	13.33
Dhading	252	12.53
Dolakha	233	11.59
Kavrepalanchok	256	12.73
Makwanpur	259	12.88
Sarlahi	254	12.63
Sindhupalchok	240	11.93
Total	2,011	100.00

Source: 2019 Nepal Household Survey

Relative Deprivation Prime

To assess the effects of relative deprivation, we leverage a relative poverty prime that [Mo \(2018\)](#) employed to study the effects of perceived relative deprivation on political and economic attitudes and behavior. This prime has also been studied in Pakistan ([Healy, Kosec and Mo, 2017](#); [Fair et al., 2018](#)) and Papua New Guinea ([Kosec et al., 2021](#)). Half of respondents were randomly assigned to receive a question priming them to feel relatively poor—hereafter, the “relative poverty prime” group.³ The remainder received an alternative priming question, designed to frame their household’s income comparatively neutrally or positively—hereafter, the “no poverty prime” group. Specifically, we asked all respondents the following question: “Income is the amount of cash income you earn from all agricultural and non-agricultural activities, the cash value of any crops you produced, and money you receive from governmental or non-governmental programs. How much income did your family earn last month?” We then randomly assigned respondents to receive one of two sets of response options (see [Table 2](#)).

The logic of this prime derives from previous research showing that response options cue respondents about what are expected, or typical responses (e.g. [Courneya et al., 2003](#); [Menon, Raghuram and Schwarz, 1997](#); [Rockwood, Sangster and Dillman, 1997](#); [Schwarz et al., 1985](#)). In this case, respondents would generally assume that the five response options were purposely created so that the middle option (i.e., response option 3) is most typical. Thus, receipt of the

³Randomization was automated at the individual level by the SurveyToGo program.

Table 2: Relative Poverty Prime

<i>Response Option</i>	<i>No Poverty Prime</i>	<i>Relative Poverty Prime</i>
1	Less than NRs 3,000	Less than NRs 25,000
2	NRs 3,000 – 6,000	NRs 25,000 – 50,000
3	NRs 6,000 – 9,000	NRs 50,000 – 100,000
4	NRs 9,000 – 12,000	NRs 100,000 – 200,000
5	More than NRs 12,000	More than NRs 200,000

Source: 2019 Nepal Household Survey

relative poverty prime should induce respondents to feel as if their income is relatively low, and those assigned to the no poverty prime condition to feel it is typical or higher. For instance, someone whose family makes NRs 7,000 per month would choose response option 1 if assigned to the relative poverty prime condition, but response option 3 if not, affecting how they perceive their relative income status.⁴

Gender Egalitarian Messages & Perceptions of Threat

Additionally, we conducted a cross-randomized messaging experiment where respondents were randomly assigned to one of four message conditions. A control group was not read any message. A “pure treatment group” was read a statement that both describes the disadvantages women face and underscores that many people want to bring about gender equality. Two additional groups received the same message as the pure treatment group, in addition to one more sentence. For the “less threatening treatment condition group,” the additional sentence was designed to make respondents feel that women’s advancement can also benefit men. For the “more threatening treatment condition group,” the additional sentence noted that many people support employers in Nepal using policies and programs to remove barriers to women’s employment and “leveling the playing field.” This message was designed to make gender equality more threatening to men by evoking competition. Table 3 shares these narratives.

⁴The prime worked as intended from the perspective of income bin choice. In our sample of 2,011 respondents, 1,047 (52.1%) were assigned to the relative poverty prime group. Among individuals assigned to the no poverty prime group, 9.02% selected response option 1, 14.21% selected option 2, 5.60% selected option 3, 14.94% selected option 4, 53.63% selected option 5, and 2.59% did not respond. Among individuals assigned to the relative poverty prime group, 60.55% selected option 1, 27.41% selected option 2, 6.97% selected option 3, 1.62% selected option 4, 1.24% selected option 5, and 2.19% did not respond.

Table 3: Gender Egalitarian Messages

<i>Condition</i>	<i>Message</i>
Control Condition	No narrative
Pure Treatment Condition	“We are now going to discuss some questions regarding your world view. Note that there are no right or wrong answers, and we value your perspective. Some people say that women are often treated as inferior to men in Nepal, both within the home and by their community. Women are taught to defer to men. They are also taught to put their needs and wishes behind those of others at home and in the workplace, which reduces their self-worth and limits their ability to progress in life. Some people say this standard of behavior should change and women should have the same rights and opportunities as men. They say that women should belong in all places where decisions are being made, and that their involvement will benefit society. They say that girls should grow up being told that they are valuable and powerful and deserving of every chance and opportunity given to men. This is important for a society to advance.”
Less Threatening Treatment Condition	Text in the “pure treatment condition” narrative + “They also say that gender equality is good for both men and women in Nepal, as it can ease the economic burden felt by men to support their families, can bring more money and prosperity to the household and community, and removes gender stereotypes that rob men of opportunities to participate in family life.”
More Threatening Treatment Condition	Text in the “pure treatment condition” narrative + “They also say that employers in Nepal should level the playing field, and initiate policies and programs that better support women, remove barriers for women, and encourage women to apply for employment.”

Source: 2019 Nepal Household Survey

Summary of Measures

Outcome Measures

Our main outcome measures capture economic, social, and political gender equality. They comprise five indices constructed using principal components factor analyses. First, we conducted a principal components factor analysis using five questions capturing gender attitudes on the economic dimension; this resulted in two factors with eigenvalues higher than 1 (a common threshold (Kaiser, 1960)). We then conducted a principal components factor analysis using nine questions capturing non-economic dimensions of gender attitudes (social and political); this resulted in three factors with eigenvalues higher than 1.⁵

As noted, questions related to the economic domain yielded two factors. We refer to the

⁵For further simplification, we used a promax oblique rotation in order to allow the factors to be correlated with each other and formed factor scores that are linear composites based on the rotation results (Hamilton, 2012; DeVellis and Thorpe, 2021).

first as a measure of “gendered economic decisions within the household;” three measures load most heavily on it, including whether women should be able to work outside the home (factor loading = 0.707), have equal control over income that her household earns (factor loading = 0.717), and share household chores equally with men (factor loading = 0.706).⁶ We refer to the second factor as a measure of “economic scarcity,” as it measures gender attitudes in times of economic scarcity. Two measures load most heavily on it: beliefs that men should be prioritized over women when jobs are scarce (factor loading = 0.852) and beliefs that boys should have more education than girls when money is scarce (factor loading = 0.855).⁷

Questions related to the non-economic domain yielded three factors. For the first of these, hereafter referred to as a measure of “gendered norms in society,” the measures that load most heavily include perceptions regarding whether unfair treatment of women is a problem in Nepal (factor loading = 0.253); whether a woman should support her husband’s opinions (factor loading = 0.424), follow tradition (factor loading = 0.735), and do what he asks even if she disagrees with him (factor loading = 0.715); whether young women need to follow tradition and behave like their mothers’ generation (factor loading = 0.524); and the ideal number of children (factor loading = 0.389).⁸ The second of these, hereafter referred to as “ideal age for

⁶Exact question wordings of the measures that load most highly on this factor are: (1) To what extent do you agree or disagree with the following statement? Women should be able to work outside the home if they want to. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; (2) To what extent do you agree or disagree with the following statement? Women and men should have equal control over income their household earns. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; and (3) To what extent do you agree or disagree with the following statement? Men and women should share household chores. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree].

⁷Exact question wordings of the measures that load most heavily on this factor are: (4) In your opinion, if jobs are scarce, to what extent should they be reserved for men rather than women? (1=A great deal, 2=A lot, 3=Moderately, 4= A little, 5=Not at all); (5) In your opinion, when money is scarce, to what extent should boys have more education than girls? (1=A great deal, 2=A lot, 3=Moderately, 4= A little, 5=Not at all).

⁸Exact question wordings of the measures that load most heavily on this factor are: (6) To what extent is unfair treatment of women a problem in Nepal? (1=A great deal, 2=A lot, 3=Moderately, 4= A little, 5=Not at all); (7) To what extent do you agree or disagree with the following statement? A good woman always supports her husband’s opinions. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; (8) To what extent do you agree or disagree with the following statement? Every individual should follow tradition, especially women. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; (9) To what extent do you agree or disagree with the following statement? It is important for a woman to do what her husband asks, even if she disagrees with

marriage,” has only one measure that loads heavily: individuals’ perceptions on the extent to which women should marry at a younger age compared to men (factor loading = 0.771).⁹ For the last factor, referred to as “women in leadership and politics,” two measures load heavily: whether there should be more women in leadership (factor loading = 0.794) and elected office (factor loading = 0.822) to represent women’s interests.¹⁰

Our primary outcomes are these five indices rather than the 14 individual measures, as this mitigates against false positives and nets out measurement error (Ansolabehere, Rodden and Snyder, 2008). However, we also show results using the individual measures. All outcome variables are recoded such that higher values represent more gender egalitarian viewpoints and responses range between 0 and 1, for ease of interpretation. We used these recoded outcomes when conducting factor analysis, and again recoded the factors to range between 0 and 1.¹¹

Table 4 summarizes outcomes for men and women separately. Men report slightly more gender egalitarian attitudes than women with respect to gendered norms in society ($p = 0.050$). Women report more gender egalitarian attitudes for outcomes regarding economic decisions within the household ($p = 0.000$). Women also report more gender egalitarian responses for outcomes related to support for women in leadership positions and politics ($p = 0.000$).

Demographic Characteristics

Table 5 summarizes demographic characteristics for our sample. Individuals are, on average, 36 years old, their household earns 26,092 NPR per month, and their household spends

him. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; (10) In your opinion, to what extent is it important for young women to abide by traditions, and behave like their mothers’ generation? (1=A great deal, 2=A lot, 3=Moderately, 4= A little, 5=Not at all); and (11) In your opinion, what is the ideal number of children for a woman to have? [(1=0; 2=1; 3=2; 4=3; 5=4; 6=5; 7=6; 8=7 or more)].

⁹This measure is the difference between the values of the following question when asked for women vs. for men: In your opinion, what is the ideal age of marriage for a woman (man)? [1=15 and under, 2=16 to 17, 3=18 to 20, 4=21 to 24, 5=25 and over].

¹⁰Exact question wordings of the measures that load most heavily on this factor are: (13) “There should be more women with leadership positions to represent women’s interests. [1=Strongly agree, 2=Moderately agree, 3=Neither agree nor disagree, 4=Slightly disagree, 5=Strongly disagree]; and (14) “There should be more women in elected office in government to represent the women of Nepal.” [1=A great deal, 2=A lot, 3=Moderately, 4=A little, 5=Not at all].

¹¹In our pre-analysis plan, we included two additional measures. We excluded these two questions as they were translated poorly, as described in Appendix A.1.

Table 4: Summary statistics for outcome measures for all individuals

<i>Outcome Measures</i>	Male		Female		T-test
	Mean (μ_{Male})	SD	Mean (μ_{Female})	SD	$\mu_{Male}-\mu_{Female}$
Gendered economic decisions within the HH*	0.874	0.143	0.907	0.129	0.000
Work outside home	0.900	0.159	0.935	0.130	0.000
Income	0.895	0.163	0.914	0.157	0.006
Household chores	0.947	0.103	0.960	0.087	0.002
Economic scarcity	0.514	0.210	0.511	0.211	0.731
When jobs are scarce	0.515	0.266	0.516	0.261	0.915
When money is scarce	0.575	0.308	0.564	0.314	0.401
Gendered norms in society	0.488	0.166	0.473	0.169	0.050
Unfair treatment of women	0.658	0.233	0.697	0.221	0.000
Support husband's opinions	0.189	0.260	0.210	0.277	0.084
Women follow tradition	0.383	0.345	0.347	0.341	0.021
Do what husband asks	0.657	0.354	0.582	0.389	0.000
Young women should follow traditions	0.506	0.284	0.498	0.277	0.529
Ideal number of children	0.654	0.142	0.661	0.104	0.248
Ideal age for marriage	0.502	0.135	0.479	0.132	0.000
Ideal age for marriage (female - male)	0.480	0.128	0.460	0.133	0.001
Support for women in politics	0.758	0.163	0.811	0.131	0.000
More women in leadership positions	0.812	0.226	0.880	0.180	0.000
More women in elected office	0.804	0.242	0.876	0.191	0.000
Manipulation Check Measures					
Subjective relative economic status	4.808	1.541	4.948	1.578	0.045
Women have same opportunities as men	0.479	0.191	0.484	0.184	0.545
Observations	965		1,046		2,011

Notes: * HH is an abbreviation for household. All measures are coded to be between 0 and 1. Bolded measures are indices.

Source: 2019 Nepal Household Survey

10,019 NPR per month. Respondents are 52% women and 78% married. Considering their religion, 74.6% identify as Hindus, and 22.7% identify as Buddhists. Additionally, about 26% have no education, 23% have only a primary education, and only 1.4% have at least a bachelor’s degree. A majority (80.06%) responded that their household always had enough food to eat in the last month.

Table 5: Summary statistics

	N	Mean	SD	Min	Max
Female	2,011	0.520	0.500	0	1
Married	2,011	0.782	0.413	0	1
Age	2,011	35.998	13.514	16	69
Education: none	2005	0.260	0.439	0	1
Education: primary	2005	0.231	0.422	0	1
Education: lower secondary	2005	0.181	0.385	0	1
Education: secondary	2005	0.100	0.300	0	1
Education: school leaving certificate	2005	0.139	0.346	0	1
Education: higher secondary	2005	0.076	0.265	0	1
Education: BA/Masters degree	2005	0.013	0.115	0	1
Religion: Hindu	2,011	0.746	0.435	0	1
Religion: Buddhist	2,011	0.227	0.419	0	1
Ethnicity: Chhetri	2,011	0.224	0.417	0	1
Ethnicity: Tamang	2,011	0.253	0.435	0	1
Ethnicity: Braham	2,011	0.157	0.364	0	1
Ethnicity: Newar	2,011	0.094	0.292	0	1
Number of Children	2,011	0.355	0.829	0	6
Have enough food to eat	2,011	1.276	0.595	1	3
Monthly HH income (NPR)	2,011	26,092.128	42,919.602	0	1,000,000
Monthly HH expenditure (NPR)	1,963	10,018.856	21,620.649	15	900,000

Source: 2019 Nepal Household Survey

Manipulation Check Measures

To assess whether the treatments had their intended effects, we developed a set of manipulation check questions; summary statistics for these questions appear in Table 4. For the relative poverty prime, this was straightforward: we expected that those who received the relative poverty prime would feel poorer compared to those who did not. To capture whether we achieved this aim, we asked all respondents: “In your opinion, compared to others in your community, how poor or rich is your household?” [1=Much poorer, 2=Moderately poorer, 3=Slightly poorer, 4=Neither poorer nor richer, 5=Slightly richer, 6=Moderately richer, 7=Much richer].

For the gender egalitarian message treatment, this was more complicated. On the one hand, all messages start by describing Nepal as a country where women *do not* have the same economic and social opportunities as men (e.g., “Women are often treated as inferior to men in Nepal,

both within the home and by their community”). On the other hand, the latter parts of the messages, aimed at arousing support for women’s empowerment within and beyond the home, suggest that there are gender champions and feminists in Nepal, offering a positive outlook (e.g., “Some people say this standard of behavior should change”). While overall, we would expect the messages—if they have any significant impacts on gender attitudes—to increase support for women’s empowerment, it is less clear how they would influence perceptions of the status quo for women’s empowerment in Nepal. We pre-specified that we expected that respondents would emerge from the narratives feeling that women do not have the same economic and social opportunities as men. Specifically, we proposed to analyze the question: “To what extent do women in Nepal have the same economic and social opportunities as men?” [1=A great deal, 2=A lot, 3=Moderately, 4=A little, 5=Not at all]—where we re-coded responses to range from 0 to 1. However, we realized after registering our pre-analysis plan that it is very hard to identify a “manipulation check” for a treatment whose singular purpose is to shift gender attitudes, and which likely has an ambiguous impact on perceptions of prevailing gender norms. Thus, while it makes sense to check for effects of receiving the women’s empowerment narrative on gender attitudes, it is unclear what other impacts it should have. We accordingly analyze effects of the women’s empowerment narrative on our pre-registered manipulation check question, but underscore the theoretical ambiguity regarding how it might be affected.

Estimation Strategy

We used ordinary least squares (OLS) regression to estimate the effect of being exposed to a narrative espousing gender egalitarian views, the effect of the relative poverty prime, and their interactive effects. When testing for treatment effects, we tested the following fully-saturated, “long” model (Muralidharan, Romero and Wüthrich, 2023):

$$A_{ijk} = \alpha + \beta P_{ijk} + \gamma M_{ijk} + \delta P_{ijk}M_{ijk} + \sigma \mathbf{X}_{ijk} + \phi E_j + \rho V_k + \epsilon_{ijk}, \quad (1)$$

where i indexes individuals, k index the Village Development Committee (hereafter VDC), and j indexes the enumerator. P_{ijk} is an indicator for respondent i receiving the poverty prime and M_{ijk} is an indicator for respondent i receiving a gender egalitarian message.¹² X_{ijk} is a

¹²This consists of the “pure” gender egalitarian message, the “less threatening” gender egalitarian message, and

vector of individual-level controls to improve the precision of estimates.¹³ E_j are enumerator fixed effects for enumerator j , V_k are VDC fixed effects, and ϵ_{ijk} is the error term. We consider specifications with and without controls (X_{ijk} , E_j , and V_k). The outcome, A_{ijk} , is as described in the sub-section on Outcome Measures. Given the possibility that women and men will respond differently to our treatments, we estimate specifications for the full population and for men and women separately.

Results

Balance Tests and Manipulation Checks

We find that pre-treatment demographic characteristics are balanced across experimental conditions (see Appendix A.2). Across all of the individual- and household-level characteristics we consider (gender, age, education level, religion, ethnicity, number of children, household income level, food security level, household expenditure level, and marital status), means are statistically indistinguishable for those who received and did not receive the relative poverty prime (Table A.1).¹⁴ We also see balance across our gender egalitarian message conditions—whether we pool all messages (Table A.2) or consider them separately and compute the p-value from a joint orthogonality test on all four message conditions (Table A.3).

Two tests reveal that our relative deprivation treatment worked as intended. First, the relative deprivation prime caused individuals to choose a lower income bracket to describe their household income (brackets range from 1 through 5, and are increasing with income). Whether we omit or include our control set (see columns 1 and 3 of Table 6, respectively), the relative deprivation prime translates into the respondent being over two brackets ($\beta = 2.40$) lower—a result that is statistically significant at the 0.01 level in both cases. We find no evidence that the prime affects women differently than men, whether controls are excluded ($\beta = 0.005$; $p =$

the “more threatening” gender egalitarian message. We registered in the pre-analysis plan that we will pool the conditions if there is no evidence of each of the messages having differential effects—which was the case.

¹³These are specified in our pre-analysis plan: age, education, ethnicity, religious identification (Hindu and Buddhist), number of children, household income, access to food, and household expenditures.

¹⁴We pre-registered all of the variables for which we expected to achieve balance. Information on respondents’ monthly household income, ethnicity, religion, and educational level are taken from the first round of the longitudinal data, as they were not asked again in this round of data collection.

0.959; see column 2 of Table 6) or included ($\beta = -0.114$; $p = 0.219$; see column 4 of Table 6).

Table 6: The effect of poverty prime on income bracket selected for all respondents

Outcome: Income bracket selected				
	(1)	(2)	(3)	(4)
Deprivation Prime	-2.400*** (0.053)	-2.403*** (0.076)	-2.401*** (0.047)	-2.342*** (0.068)
Women		0.032 (0.093)	0.010 (0.050)	0.070 (0.084)
Deprivation Prime \times Women		0.005 (0.106)		-0.114 (0.093)
Constant	3.923*** (0.046)	3.907*** (0.068)	4.830*** (0.284)	4.792*** (0.285)
Covariates	No	No	Yes	Yes
Observations	1,963	1,963	1,914	1,914

Notes: Standard errors are in parentheses. We control for empowerment messages alongside individual-level characteristics (see footnote¹³ for a full list of all control measures). All standard errors are heteroskedasticity robust. * $p < 0.1$, ** $p < .05$, *** $p < .01$

Source: 2019 Nepal Household Survey

Second, the relative deprivation prime depressed individuals' subjective sense of their relative economic status in their community (see Table 7). Specifically, we observe a 0.153 unit (about a 0.098 standard deviation (S.D.)) decline in our measure of subjective economic status when we do not include controls ($p = 0.029$; see column 1) and a 0.162 (or 0.104 S.D.) decline when we do ($p = 0.014$; see column 3). Moreover, with or without controls, we cannot reject the null hypothesis that the prime had the same impact on women and men (in columns 2 and 4, p -values on the interaction between the prime and gender are 0.276 and 0.407, respectively).

None of the messages led to thinking that women currently have worse economic and social opportunities than men (see bottom panel of Table A.4 in Appendix B); similar findings hold when we pool the three messaging treatment conditions together (see top panel). If anything, we find evidence—driven primarily by women respondents—that the messages actually led people to be more likely to believe that women in Nepal have the same economic and social opportunities as men. This suggests that, at least for women, the more salient aspects of the empowerment narratives were the positive comments in the latter half, indicating that there exist many people who want to overturn the poor existing conditions of women and give them equal rights and opportunities. This finding contextualizes the empowerment narrative as not

Table 7: The effect of poverty prime on subjective status for all respondents

Outcome: Subjective sense of relative economic status				
	(1)	(2)	(3)	(4)
Deprivation Prime	-0.153** (0.070)	-0.232** (0.099)	-0.162** (0.066)	-0.219** (0.095)
Women		0.061 (0.101)	0.112 (0.074)	0.054 (0.103)
Deprivation Prime × Women		0.152 (0.139)		0.110 (0.132)
Constant	4.961*** (0.050)	4.929*** (0.072)	4.282*** (0.408)	4.319*** (0.413)
Covariates	No	No	Yes	Yes
Observations	2,010	2,010	1,957	1,957

Notes: Standard errors are in parentheses. We control for empowerment messages alongside individual-level characteristics (see footnote¹³ for a full list of all control measures). All standard errors are heteroskedasticity robust. * $p < 0.1$, ** $p < .05$, *** $p < .01$

Source: 2019 Nepal Household Survey

only a text aimed at reducing regressive gender norms (which we test later in this session), but one which, at least for women, evokes perceptions that conditions for women are better.

Main Effects of the Relative Poverty Prime and Messages

We begin by assessing the effect of feelings of relative deprivation on economic gender equality. Analyzing our gendered economic decisions within the household index, we observe a 3.5–4.5 percentage point ($p = 0.004 - 0.029$) decline among women who received the relative deprivation prime (see the second panel of columns (1)-(2) of Table 8). This effect reflects a 0.270–0.346 S.D.¹⁵ decline in the degree to which women’s attitudes with respect to women’s economic empowerment within the household are egalitarian. We see no such pattern among men ($\beta_{Prime} = -0.003 - 0.013$, $p = 0.448 - 0.863$; see the bottom panel of columns (1)-(2) of Table 8).¹⁶ In other words, while women revert to more traditional views of gender roles in the

¹⁵Specifically, 0.035 (0.045) is 27% (34.6%) of 0.129, the standard deviation (S.D.) of the index on gendered economic decisions for our sample of women respondents. All of the effect sizes in S.D. presented in this section are calculated by dividing the coefficient by the S.D. of the sample considered in each respective regression model.

¹⁶For results with individual component measures of the gendered economic decisions within the household index, see Table A.5.

household in response to the relative deprivation prime, men’s attitudes do not shift.

The effect of women’s empowerment messaging on those who have not been poverty primed has no effects on gendered views related to economic decision-making within the household for either women ($\beta_{Message} = -0.004 - 0.001$, $p = 0.672 - 0.928$; see the second panel of columns (1)-(2) of Table 8) or men ($\beta_{Message} = -0.003 - 0.023$, $p = 0.136 - 0.840$; see the bottom panel, columns (1)-(2) of Table 8). Further, receipt of the message neither attenuates nor buttresses the negative effect of the relative deprivation prime on women ($\beta_{PrimeXMessage} = 0.008 - 0.016$, $p = 0.374 - 0.686$; see the second panel of columns (1)-(2) of Table 8) and on men ($\beta_{PrimeXMessage} = -0.011 - 0.016$, $p = 0.452 - 0.603$; see the bottom panel of columns (1)-(2) of Table 8).

Considering the economic scarcity index, we observe that the relative deprivation prime has no effect on this measure among women who did not receive the empowerment message.¹⁷ In other words, the prime does not affect *all* aspects of gendered economic attitudes for women; their views on whether labor and education opportunities should prioritize men and boys are not affected by the prime ($\beta_{Prime} = -0.020 - 0.002$, $p = 0.423 - 0.918$; see the second panel of columns (3)-(4) of Table 8), and nor are the effects of the prime moderated by the women’s empowerment messaging.¹⁸

In contrast, the relative poverty prime affects men’s views on our economic scarcity measure, and these effects also vary with whether or not men are read the empowerment message. The relative deprivation prime has a regressive effect on the economic scarcity index among men. We observe a 4.5 - 5.8 percentage point shift ($p = 0.019 - 0.064$; see the bottom panel of columns (3)-(4) of Table 8). While feelings of relative deprivation cause women to revert to traditional views of gender with regards to how decisions should be made within the household, feelings of relative deprivation cause men to revert to traditional views of gender with regards to how scarce economic opportunities should be allocated. For men, receipt of a message absent receipt of the deprivation prime translates to null effects on the economic scarcity index ($\beta_{PrimeXMessage} = -0.027 - -0.010$, $p = 0.183 - 0.592$; see the bottom panel of columns (3)-(4) of Table 8). However, receipt of a message emphasizing the importance of gender equality

¹⁷To see the effect of the prime on each of the three component measures of the index, see Table A.6.

¹⁸For results with individual component measures of the economic scarcity index, see Table A.6.

Table 8: Attitudes toward gendered economic decisions within the household & economic scarcity

	Economic decisions within HH		Economic scarcity	
	(1)	(2)	(3)	(4)
All				
Deprivation Prime	-0.024* (0.012)	-0.012 (0.012)	-0.039** (0.017)	-0.022 (0.016)
Message	-0.003 (0.010)	0.007 (0.010)	0.000 (0.015)	0.009 (0.014)
Deprivation Prime × Message	0.015 (0.014)	0.001 (0.014)	0.033 (0.021)	0.023 (0.019)
Constant	0.900*** (0.008)	0.811*** (0.045)	0.520*** (0.013)	0.517*** (0.063)
Covariates	No	Yes	No	Yes
Observations	1998	1946	1998	1946
Women				
Deprivation Prime	-0.045*** (0.016)	-0.035** (0.016)	-0.020 (0.025)	0.002 (0.024)
Message	-0.004 (0.011)	-0.001 (0.012)	0.027 (0.022)	0.026 (0.020)
Deprivation Prime × Message	0.016 (0.018)	0.008 (0.019)	0.013 (0.029)	-0.006 (0.027)
Constant	0.927*** (0.009)	0.915*** (0.060)	0.497*** (0.019)	0.494*** (0.074)
Covariates	No	Yes	No	Yes
Observations	1040	1008	1040	1008
Men				
Deprivation Prime	-0.003 (0.019)	0.013 (0.017)	-0.058** (0.024)	-0.045* (0.024)
Message	-0.003 (0.016)	0.023 (0.016)	-0.027 (0.020)	-0.010 (0.019)
Deprivation Prime × Message	0.016 (0.022)	-0.011 (0.020)	0.053* (0.029)	0.051* (0.028)
Constant	0.872*** (0.014)	0.760*** (0.069)	0.544*** (0.017)	0.600*** (0.117)
Covariates	No	Yes	No	Yes
Observations	958	938	958	938

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics in models 2 and 4 (see footnote 13 for a list of all covariates). All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01
Source: 2019 Nepal Household Survey

attenuates the negative effect stemming from the relative deprivation on the economic scarcity index ($\beta_{Prime \times Message} = 0.051 - 0.053$, $p = 0.074$; see the bottom panel of columns (3)-(4) of Table 8). In other words, we observe no shift in attitudes regarding economic scarcity among men who received both the relative deprivation prime and a gender egalitarian message; whereas, we observe a negative shift among men who received only the relative deprivation prime.

For both men and women, the relative deprivation prime and the message have null effects on our gendered norms in society index (Table 9, columns (1)-(2)) and on our ideal age for marriage index (Table 9, columns (3)-(4)). Here, we observe null effects of the prime and the message, as well as their interaction. Thus, impacts we observe in the economic domain do not appear to extend to the social domain.¹⁹

Finally, when we look at impacts on our women in leadership and politics index, among women, we observe no substantive or statistically significant shift in their support due to receiving the relative deprivation prime ($p = 0.825 - 0.946$; see columns (5)-(6) of the second panel of Table 9).²⁰ We similarly see a negligible shift stemming from the message ($p = 0.659 - 0.775$; see columns (5)-(6) of the second panel of Table 9); in short, for women, neither the prime, nor the message, nor their interaction matter for their views of women in leadership and politics.

Among men, however, we observe a different pattern. We see a 2.8 - 3.3 percentage point decline in support for women in leadership and politics due to the relative deprivation prime ($p = 0.094 - 0.165$; see columns (5)-(6) of the bottom panel of Table 9). As observed with our economic scarcity measure, while receipt of our gender egalitarian message has no effect in the absence of the relative deprivation prime ($p = 0.456 - 0.785$; see columns (5)-(6) of the second panel of Table 9), the message does attenuate the negative effect of the relative deprivation prime ($p = 0.078 - 0.104$; see columns (5)-(6) of the bottom panel of Table 9). While these noted effects are statistically meaningful only when we include covariates, as the inclusion of covariates adjust for treatment imbalance and helps with statistical precision, the observed patterns remain noteworthy.

¹⁹For results with individual component measures of the gendered norms in society index and ideal age for marriage index, see Tables A.8 and A.9, respectively.

²⁰For results with individual component measures of the women in leadership and politics index, see Table A.10.

Table 9: Norms, Marriage, and Leadership

	Norms		Marriage		Leadership	
	(1)	(2)	(3)	(4)	(5)	(6)
All						
Deprivation Prime	-0.000 (0.015)	0.005 (0.013)	-0.004 (0.012)	-0.004 (0.012)	-0.009 (0.013)	-0.014 (0.013)
Message	0.007 (0.013)	0.004 (0.012)	0.005 (0.010)	0.001 (0.010)	-0.007 (0.011)	-0.010 (0.011)
Deprivation Prime × Message	-0.003 (0.017)	-0.009 (0.016)	-0.004 (0.014)	-0.005 (0.014)	0.013 (0.015)	0.020 (0.015)
Constant	0.476*** (0.012)	0.394*** (0.043)	0.490*** (0.009)	0.505*** (0.042)	0.791*** (0.009)	0.833*** (0.041)
Covariates	No	Yes	No	Yes	No	Yes
Observations	1995	1943	1995	1943	1995	1943
Women						
Deprivation Prime	-0.006 (0.021)	-0.015 (0.019)	-0.001 (0.016)	0.003 (0.017)	0.003 (0.016)	0.001 (0.017)
Message	0.004 (0.019)	-0.008 (0.017)	0.010 (0.014)	0.002 (0.014)	-0.004 (0.014)	-0.007 (0.015)
Deprivation Prime × Message	0.001 (0.024)	0.003 (0.023)	-0.007 (0.019)	-0.010 (0.019)	-0.005 (0.018)	0.003 (0.020)
Constant	0.473*** (0.016)	0.475*** (0.055)	0.475*** (0.012)	0.537*** (0.057)	0.814*** (0.012)	0.844*** (0.055)
Covariates	No	Yes	No	Yes	No	Yes
Observations	1036	1004	1036	1004	1036	1004
Men						
Deprivation Prime	0.007 (0.021)	0.016 (0.019)	-0.005 (0.017)	-0.011 (0.018)	-0.028 (0.020)	-0.033* (0.020)
Message	0.011 (0.019)	0.017 (0.017)	0.002 (0.015)	-0.009 (0.015)	-0.012 (0.017)	-0.005 (0.017)
Deprivation Prime × Message	-0.009 (0.025)	-0.017 (0.023)	-0.003 (0.020)	0.001 (0.021)	0.038 (0.023)	0.042* (0.024)
Constant	0.480*** (0.016)	0.329*** (0.070)	0.505*** (0.013)	0.439*** (0.068)	0.767*** (0.014)	0.905*** (0.058)
Covariates	No	Yes	No	Yes	No	Yes
Observations	959	939	959	939	959	939

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics in models 2, 4, and 6 (see footnote 13 for a list of all covariates). All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Exploring Heterogeneous Treatment Effects

Given the observed treatment effects of the relative deprivation prime on measures pertaining to economic decisions within the household, economic scarcity, and support for women in leadership and politics, we focus on these three measures in our assessment of whether there may be heterogeneous treatment effects. We consider whether treatment effects on these measures differ by marital status, engagement in paid work, and age.²¹ We find that the main effects that we documented above are more pronounced among married individuals and those engaged in paid work. With regards to age, the effects we documented above among women are stronger among younger women, and the effects we documented above among men are stronger among older men.

We observed that the deprivation prime had a regressive effect on women’s views on decision-making within the household. The decision-making autonomy of married women (80.31% of our female sample) may differ from that of unmarried women given the very different relationships between women and men that marriage brings on. We observe that—even when we control for age and a number of demographic characteristics—married women are more sensitive to the relative deprivation prime than are unmarried women (see columns (1)-(2) of Table 10). Married women experience statistically significant negative impacts of the prime on the degree to which they express egalitarian views of women’s roles in decision-making within the household ($\beta = -0.038$; $p = 0.044$; see top panel column 1 of Table 10); in contrast, these effects are statistically insignificant, positive, and near zero for unmarried women ($\beta = -0.008$; $p = 0.853$; see top panel column 2 of Table 10).²² When assessing the effect of the relative poverty prime among married men (75.85% of our male sample), as opposed to unmarried men, we observe no heterogeneity (see column (1) and (2) in the bottom panel of Table 10).

Next, we examine whether there is heterogeneity in the effect of the deprivation prime on the economic decisions within the household index by work status. In our sample, 64.72%

²¹While we pre-registered our intent to look at heterogeneous treatment effects by age, we did not pre-register that we will examine heterogeneous treatment effects by marital status or work status. However, we include these results, as they are theoretically relevant and can inform future research.

²²The difference in the treatment effect of the deprivation prime for married and unmarried women is not statistically significant ($\beta = -0.046$; $p = 0.257$; see column 1 of Table A.11 in Appendix D). While we are powered to detect overall treatment effects, we are not statistically powered to detect heterogeneous treatment effects.

Table 10: Attitudes toward gendered economic decisions within the household

	Marital status		Engaged in paid work		Age group	
	(1) Married	(2) Unmarried	(3) Working	(4) Not working	(5) Older	(6) Younger
Women						
Deprivation Prime	-0.038** (0.019)	0.008 (0.044)	-0.039* (0.020)	-0.011 (0.030)	-0.014 (0.027)	-0.046** (0.023)
Message	0.008 (0.014)	0.016 (0.038)	-0.010 (0.014)	0.028 (0.025)	0.024 (0.019)	-0.006 (0.017)
Deprivation Prime × Message	-0.001 (0.022)	-0.008 (0.046)	0.007 (0.023)	-0.012 (0.034)	-0.014 (0.032)	0.009 (0.026)
Constant	0.897*** (0.075)	0.947*** (0.107)	1.012*** (0.049)	0.615*** (0.137)	0.851*** (0.126)	0.923*** (0.057)
Observations	816	192	657	351	401	607
Men						
Deprivation Prime	0.017 (0.022)	-0.002 (0.040)	0.020 (0.020)	-0.032 (0.048)	0.016 (0.022)	0.051* (0.029)
Message	0.021 (0.020)	0.023 (0.033)	0.025 (0.018)	0.015 (0.049)	0.027 (0.020)	0.043* (0.025)
Deprivation Prime × Message	-0.005 (0.025)	-0.028 (0.049)	-0.009 (0.023)	-0.023 (0.069)	-0.021 (0.027)	-0.038 (0.033)
Constant	0.688*** (0.085)	1.031*** (0.118)	0.732*** (0.076)	1.024*** (0.175)	0.778*** (0.081)	0.825*** (0.079)
Observations	719	219	796	142	493	445

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all covariates). All standard errors are heteroskedasticity robust. * $p < .10$, ** $p < .05$, *** $p < .01$

Source: 2019 Nepal Household Survey

of women are engaged in paid work, defined as working full-time or part-time for pay, being self-employed, or working as wage laborers (as opposed to being a student, homemaker, retired, unemployed, or disabled/incapacitated). When we consider women who engage in paid work, we see that the poverty prime causes a statistically significant decline in the index among this group ($\beta = -0.039$, $p = 0.055$; see top panel column (3) of Table 10). In contrast, we find that the effects are null among women who are not earning income ($\beta = -0.011$, $p = 0.715$; see top panel column (4) of Table 10)—indicating that, if anything, working women are driving the observed results. These results provide some suggestive evidence that rather than making non-working women become more deferential to men with respect to economic decisions within the household, the deprivation prime is making women who are already violating a gendered norm (by working outside of the home for pay) feel the need to cede economic power in the household. This is theoretically consistent with [Kandiyoti \(1988, p.283\)](#)'s argument that working women in patriarchal settings will be more likely to adopt intense traditional modesty markers, such as veiling, to signal that they are worthy of protection. With that said, we fail to reject the null that the relative deprivation prime has the same effect on women who are working and

not working.²³ The relative deprivation prime does not have statistically meaningful effects on either working or non-working men’s views regarding gendered economic decisions within the household (see bottom panel columns (3)-(4) in Table 10).

Table 11: Attitudes toward economic scarcity views

	Marital status		Engaged in paid work		Age group	
	(1) Married	(2) Unmarried	(3) Working	(4) Not working	(5) Older	(6) Younger
Women						
Deprivation Prime	0.004 (0.026)	-0.059 (0.097)	-0.003 (0.029)	0.024 (0.055)	0.038 (0.040)	-0.025 (0.033)
Message	0.035 (0.022)	-0.058 (0.089)	0.030 (0.025)	0.006 (0.042)	0.075** (0.031)	-0.007 (0.028)
Deprivation Prime × Message	-0.017 (0.030)	0.089 (0.112)	0.010 (0.033)	-0.038 (0.058)	-0.063 (0.046)	0.031 (0.037)
Constant	0.451*** (0.074)	0.383* (0.222)	0.477*** (0.098)	0.633*** (0.168)	0.748*** (0.093)	0.505*** (0.087)
Observations	816	192	657	351	401	607
Men						
Deprivation Prime	-0.059** (0.026)	-0.048 (0.063)	-0.046* (0.027)	-0.002 (0.102)	-0.047 (0.033)	-0.041 (0.035)
Message	-0.044** (0.021)	0.023 (0.050)	-0.009 (0.021)	-0.048 (0.078)	-0.048* (0.025)	0.020 (0.030)
Deprivation Prime × Message	0.076** (0.032)	0.024 (0.075)	0.047 (0.031)	0.018 (0.114)	0.071* (0.039)	0.043 (0.042)
Constant	0.416*** (0.128)	1.099*** (0.228)	0.548*** (0.135)	0.937*** (0.291)	0.735*** (0.136)	0.469*** (0.172)
Observations	719	219	796	142	493	445

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all covariates). All standard errors are heteroskedasticity robust. * $p < .10$, ** $p < .05$, *** $p < .01$
Source: 2019 Nepal Household Survey

Finally, we turn to age considerations. We see suggestive evidence that the effect of the relative deprivation prime on views on gendered economic decisions within the household are concentrated among younger women. We consider those below and above the sample average age (36). The deprivation prime leads to a 4.6 percentage point ($p = 0.043$; see top panel column (6) of Table 10) decline in support for egalitarian views on this measure among younger women, and only a 1.4 percentage point decline among women who are at least 36 ($p = 0.589$; see top panel column (5) of Table 10). This difference, however, is not statistically meaningful ($p = 0.359$; see column (7) of Table A.11 in Appendix D). When we consider men, we do see a difference by age, where younger men are actually more supportive of more egalitarian gender roles with regards to economic decision-making in the household in the face of feeling relatively

²³The difference in the effect of the relative deprivation prime for women who are and who are not engaging in paid work is not statistically significant ($p = 0.430$; see column (4) of Table A.11 in Appendix D).

deprived (see bottom panel column (6) of Table 10). We see no such effect among older men (see bottom panel column (5) of Table 10). However, as we observed with women, this difference is not statistically meaningful ($p = 0.336$; see column (7) of Table A.12 in Appendix D).

Now, we turn to the second economic measure: views on how to allocate education and labor opportunities when those opportunities are scarce (Table 11). We observe that the effect of the relative deprivation prime and the attenuating effect of the message we observed with the full male sample is more robust in our married male sample ($\beta_{prime,marriedmen} = -0.059$, $p = 0.023$; $\beta_{primexmessage,marriedmen} = 0.076$, $p = 0.017$; $\beta_{prime,unmarriedmen} = -0.048$, $p = 0.454$; $\beta_{primexmessage,unmarriedmen} = 0.024$, $p = 0.744$; see bottom panel columns (1)-(2) of Table 11). However, the differences in the effects of the prime and the interaction were not statistically significant across the two sub-populations ($p_{prime} = 0.845$ and $p_{primexmessage} = 0.472$; see column (2) of Table A.12 in Appendix D). We observe a similar pattern when we compare men engaged in paid work with men who are not. The effect of the deprivation prime and the attenuating effect of the message we observed with the full male sample are more robust among men engaging in paid work ($\beta_{prime,workingmen} = -0.046$, $p = 0.088$; $\beta_{primexmessage,workingmen} = 0.047$, $p = 0.138$; $\beta_{prime,non-workingmen} = -0.002$, $p = 0.985$; $\beta_{primexmessage,non-workingmen} = 0.018$, $p = 0.874$; see columns (3)-(4) in the bottom panel of Table 11). However, the differences between the two samples are, again, not statistically meaningful ($p_{prime} = 0.594$ and $p_{primexmessage} = 0.762$; see column (5) of Table A.12 in Appendix D). When we consider men by age group, we do not observe any differences in the effect of the deprivation prime by age; however, the attenuating effect of the message ($\beta_{primexmessage} = 0.071$, $p = 0.069$; see column (5) of Table 11) is more pronounced among older men than among younger men (though the difference is not statistically meaningful).

Lastly, we examine whether there are any heterogeneous treatment effects by marital status, working status, and age group in regards to attitudes toward women in leadership and politics. Results are presented in Table 12. We highlight a few findings. Among men, we find that the negative effect of the deprivation prime on support for women in leadership and politics we observed among men in the full sample is driven by men who are engaged in paid work. These men reduce their support for women in leadership by 4.7 percentage points upon receipt of the prime ($p = 0.025$; see bottom panel column (3) of Table 12). The difference in effect between

Table 12: Attitudes toward women in leadership and politics

	Marital status		Engaged in paid work		Age group	
	(1) Married	(2) Unmarried	(3) Working	(4) Not working	(5) Older	(6) Younger
Women						
Deprivation Prime	-0.006 (0.018)	0.085* (0.051)	-0.001 (0.021)	0.028 (0.033)	-0.002 (0.029)	0.012 (0.023)
Message	-0.011 (0.016)	0.078 (0.049)	-0.014 (0.017)	0.010 (0.032)	-0.009 (0.019)	0.001 (0.022)
Deprivation Prime × Message	0.008 (0.022)	-0.084 (0.057)	0.009 (0.024)	-0.024 (0.039)	0.012 (0.034)	-0.014 (0.027)
Constant	0.866*** (0.072)	0.807*** (0.103)	0.900*** (0.052)	0.657*** (0.128)	0.800*** (0.127)	0.875*** (0.047)
Observations	813	191	656	348	400	604
Men						
Deprivation Prime	-0.025 (0.021)	-0.045 (0.061)	-0.047** (0.021)	0.060 (0.066)	-0.035 (0.023)	0.003 (0.035)
Message	-0.008 (0.019)	-0.003 (0.045)	-0.014 (0.019)	0.047 (0.059)	-0.019 (0.020)	0.025 (0.032)
Deprivation Prime × Message	0.050* (0.027)	0.040 (0.068)	0.066** (0.026)	-0.065 (0.072)	0.067** (0.029)	-0.008 (0.041)
Constant	0.901*** (0.071)	1.156*** (0.207)	0.938*** (0.062)	0.782*** (0.188)	0.860*** (0.082)	1.094*** (0.094)
Observations	720	219	798	141	495	444

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all covariates). All standard errors are heteroskedasticity robust. * $p < .10$, ** $p < .05$, *** $p < .01$

Source: 2019 Nepal Household Survey

working men and non-working men is statistically meaningful ($p = 0.053$; see column (6) of Table A.12 in Appendix D). Importantly, we also find that women’s empowerment messaging counteracts this effect among men engaged in paid work ($\beta = 0.066$; $p = 0.011$; see bottom panel column (3) of Table 12). We also see that the attenuating effect of the message is more pronounced among married men and older men (see columns (1) and (5) of Table 12).

Discussion

This study contributes novel experimental evidence from 2,011 adults in Nepal on how perceptions of one’s relative economic status influence economic, social, and political aspects of gender attitudes. It leverages a priming experiment intended to subtly lead half of respondents to feel that their household’s income is relatively low, which we refer to as priming relative deprivation, while others are left feeling their income is relatively typical or above-average. We find that increased feelings of relative deprivation make women significantly less likely to support gender egalitarian attitudes with respect to economic decisions within the household. Women decrease their support for women making decisions over household expenditures, hav-

ing equal control over household income, sharing household chores, and women working outside the home. However, there are no meaningful changes in views regarding prioritizing economic opportunities for girls and women, societal gender norms, or support for greater leadership and political representation of women—indicating that feelings of relative deprivation do not necessarily shift attitudes with regards to gender equality in all domains. Randomized statements read to respondents and aiming to increase support for women’s empowerment (i.e., women’s empowerment messaging) does not attenuate these negative effects on women’s support for women’s involvement in economic decision-making. Men primed to feel relatively deprived are unmoved when it comes to economic decisions within the household, but become more protective of securing jobs for men and prioritizing education for boys over girls and less supportive of women in positions of leadership. However, for men, women’s empowerment messaging nullifies these effects, signifying that messages can help deter the negative effects of the salience of inequality among men.

Our findings are particularly important because feelings of relative deprivation are not rare events. For example, [Krishna \(2007\)](#) highlights how absolute measures of the share of the population living in poverty mask the dynamism of poverty, whereby at any given time, large numbers of people are escaping from poverty and falling into it simultaneously. With such income volatility and the fact that one need not be impoverished to feel relatively deprived, changes in perceptions of relative income like those our priming experiment elicits are likely to be common. Our results provide suggestive evidence that among populations feeling relatively deprived, regressive gender norms may take hold; light-touch efforts to spur support for women’s empowerment may counter these attitudes among men, while women may require more intensive interventions (e.g., potentially trainings focused on increasing women’s aspirations beyond the home, or directly improving their economic opportunities or education levels, along with safeguards against violence and other forms of backlash that may arise against women when they are seen as violating existing norms).

That the shifts in gender attitudes of women are confined to women’s roles pertaining to economic decisions within the home suggests that these results stem from what women suspect will be the effect of relative deprivation on their husbands or other men in their household. Concerns around efficiency gains—thoughts on how best to save money—might be driving

women to revert to traditional views of household division of labor. Affective considerations—women’s willingness to take on more in the home in order to reduce the stress levels of men in their household tied to economic insecurity—may also be driving such reversions. Regardless of the possible mechanisms driving this backsliding, we find strong evidence showing that women appear to be willing to cede more economic decision-making power to men in their household in times of economic stress. Furthermore, we find that these effects are primarily driven by married women and women engaging in the labor force. A possible implication of this is that rising inequality, and subsequent feelings of relative deprivation, may cause a further setback in women’s economic empowerment.

Interestingly, men’s gender norms in multiple domains (i.e., not only economic, but also political) may be affected by feelings of relative deprivation. However, it is very interesting that the creep of regressive gender norms among men is so responsive to a light-touch intervention aimed at bringing about support for gender equality (i.e., the women’s empowerment messages). This suggests that women’s attitudes, as opposed to men’s attitudes may be hardest to influence positively amid economic setbacks which result in feelings of relative deprivation. However, one cannot rule out the possibility that men may be more prone to social desirability bias after hearing messages of women’s empowerment. As such, further research is needed to assess whether the attenuating effect of the messages is real.

Our results provide a valuable contribution to the extensive literature on the drivers of women’s equality and advancement and the drivers of greater gender inequality. Positive drivers include, for example, providing women with useful information and resources (Roy et al., 2015; Valdivia, 2015), creating new educational opportunities for girls (Geddes and Lueck, 2002; Spohr, 2003), raising women’s aspirations (Kosec et al., 2022), and enacting legal reforms that strengthen women’s inheritance rights and reserve political seats for them (Beaman et al., 2012; Bhalotra, Brulé and Roy, 2020; Bose and Das, 2017). Family coaching (Ismayilova et al., 2018) and couples’ training (Gupta et al., 2013; O’Sullivan, Jones and Ambler, 2019) programs focused on gender equality have also proven effective at shifting harmful gender norms. Our results reveal that beyond programs and policies, feelings of relative deprivation can lead women to cede power over economic decisions within the household, thereby undoing some of the progress due to programmatic and policy investments. And they can further lead men to wish to be

less supportive of women in politics and public life. Future research is needed about what programming outside of the laboratory can effectively promote gender-egalitarian attitudes amid economic setbacks.

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Online Appendix:

Reverting to Traditional Views of Gender During Times of Relative Deprivation: An Experimental Study in Nepal

Table of Contents

A Other Outcome Variables Registered in Pre-Analysis Plan	i
A.1 Question Wording of Other Outcome Measures	i
A.2 Balance Tests	i
B Manipulation Checks	iii
C Effects of the Prime and Gender Egalitarian Messages	iv
D Heterogeneous Effects of Relative Deprivation Prime by Gender	x

A Other Outcome Variables Registered in Pre-Analysis Plan

A.1 Question Wording of Other Outcome Measures

Below we describe the two measures we pre-registered that are excluded from the main text. Our rationale for excluding these measures is the fact that “should” was translated to “do.” As such, while we were attempting to measure attitudes regarding how women and men should behave, the questions that were asked were about how women and men actually behave.

1. Perceptions of gender equity and norms pertaining to women’s decision-making authority:

- In your opinion, to what extent should men have the final word about decisions affecting the community? [1=A great deal, 2=A lot, 3=Moderately, 4=A little, 5=Not at all]
- In your opinion, to what extent should women and men have equal ability to decide how to spend the money their household earns from farming and other work? [1=A great deal, 2=A lot, 3=Moderately, 4=A little, 5=Not at all]

A.2 Balance Tests

Table A.1: Summary statistics & balance test of the poverty prime for all respondents

	N	Mean	SD	Min	Max	No Poverty Prime	Relative Poverty Prime	P-value
Female	2,011	0.520	0.500	0	1	0.520	0.521	0.970
Age	2,011	36	14	16	69	36	36	0.226
Educational level	2,005	2.908	1.678	1	7	2.925	2.893	0.670
Religion: Hindu	2,011	0.746	0.435	0	1	0.732	0.759	0.165
Religion: Buddhist	2,011	0.227	0.419	0	1	0.242	0.213	0.125
Ethnicity: Chhetri	2,011	0.224	0.417	0	1	0.218	0.229	0.541
Ethnicity: Tamang	2,011	0.253	0.435	0	1	0.271	0.236	0.073
Ethnicity: Braham	2,011	0.157	0.364	0	1	0.159	0.156	0.852
Ethnicity: Newar	2,011	0.094	0.292	0	1	0.093	0.095	0.927
Number of Children	2,011	0.355	0.829	0	6	0.323	0.385	0.092
Household income	2,011	26092	42920	0	1,000,000	25,661	26,489	0.666
Have enough food to eat	2,011	1.276	0.595	1	3	1.271	1.282	0.679
Household expenditure	1,963	10,019	21,621	15	900,000	10,637	9,450	0.224
Married	2,011	0.782	0.413	0	1	0.773	0.790	0.355

Notes: Not shown above: Of the 23 enumerator and 64 VDCs, there was balance with the exception of 1 enumerator.
Source: 2019 Nepal Household Survey

Table A.2: Balance test of gender egalitarian messages pooled for all respondents

	No message	Message	P-value
Female	0.524	0.519	0.848
Age	36.241	35.911	0.630
Educational level	2.882	2.918	0.676
Religion: Hindu	0.755	0.743	0.588
Religion: Buddhist	0.207	0.234	0.204
Ethnicity: Chhetri	0.216	0.226	0.633
Ethnicity: Tamang	0.239	0.257	0.406
Ethnicity: Braham	0.171	0.152	0.317
Ethnicity: Newar	0.112	0.088	0.100
Number of Children	0.347	0.358	0.802
Household income	26,717.160	25,870.166	0.697
Have enough food to eat	1.231	1.292	0.043
Household expenditure	9,570.817	10,177.788	0.585
Married	0.801	0.775	0.218
Proportion	0.262	0.738	

Notes: The *p-value* noted in the last column is the p-value from a t-test of the differences of the means of each of the listed variables across each treatment arm. What is not listed above is enumerator assignment and VDC assignment. Of the 64 VDCs, balance was not achieved for 4 VDCs (p-value < 0.05). Of the 23 enumerators, balance was not achieved for 4 enumerators.

Source: 2019 Nepal Household Survey

Table A.3: Balance test of individual gender egalitarian messages for all respondents

	No message	Pure	Less threatening	More threatening	P-value
Female	0.524	0.544	0.513	0.499	0.541
Age	36.241	35.960	35.596	36.176	0.874
Educational level	2.882	2.836	2.898	3.018	0.366
Religion: Hindu	0.755	0.735	0.761	0.734	0.689
Religion: Buddhist	0.207	0.245	0.211	0.245	0.282
Ethnicity: Chhetri	0.216	0.237	0.207	0.235	0.604
Ethnicity: Tamang	0.239	0.259	0.245	0.268	0.717
Ethnicity: Braham	0.171	0.169	0.152	0.136	0.390
Ethnicity: Newar	0.112	0.084	0.095	0.083	0.358
Number of Children	0.347	0.363	0.351	0.359	0.989
Household income	26,717.160	23,465.998	26,575.219	27,593.666	0.450
Have enough food to eat	1.231	1.333	1.298	1.245	0.023
Household expenditure	9,570.817	11,873.846	9,473.347	9,174.375	0.185
Married	0.801	0.773	0.777	0.775	0.673
Proportion	0.262	0.248	0.245	0.245	

Notes: The *p-value* noted in the last column is the p-value from a t-test of the differences of the means of each of the listed variables across each treatment arm. What is not listed above is enumerator assignment and VDC assignment. Of the 23 enumerators and 64 VDCs, balance was achieved with the exception of 3 enumerators and 4 VDCs (p < 0.05).

Source: 2019 Nepal Household Survey

B Manipulation Checks

Table A.4: Manipulation check for the gender egalitarian messages for all respondents

Outcome: To what extent do women in Nepal have the same economic and social opportunities as men? (0 “A great deal” → 1 “Not at all”)						
	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	Women	Women	Men	Men
Effects of Messages Pooled						
Message	-0.013 (0.010)	-0.016* (0.010)	-0.022* (0.013)	-0.031** (0.013)	-0.003 (0.014)	-0.000 (0.015)
Constant	0.491*** (0.008)	0.340*** (0.058)	0.500*** (0.011)	0.369*** (0.081)	0.481*** (0.013)	0.334*** (0.088)
Covariates	No	Yes	No	Yes	No	Yes
Observations	2,005	1,952	1,045	1,012	960	940
Effects of Individual Messages						
Pure message	-0.004 (0.012)	-0.007 (0.012)	-0.018 (0.016)	-0.026 (0.016)	0.011 (0.017)	0.018 (0.018)
Less threatening	-0.017 (0.012)	-0.020* (0.012)	-0.025 (0.016)	-0.033** (0.016)	-0.008 (0.018)	-0.007 (0.019)
More threatening	-0.017 (0.012)	-0.022* (0.012)	-0.023 (0.016)	-0.035** (0.016)	-0.010 (0.017)	-0.010 (0.019)
Constant	0.491*** (0.008)	0.340*** (0.058)	0.500*** (0.011)	0.369*** (0.081)	0.481*** (0.013)	0.331*** (0.087)
Covariates	No	Yes	No	Yes	No	Yes
Observations	2,005	1,952	1,045	1,012	960	940

Notes: Higher values indicate that respondents do not perceive women to have the same opportunities as men. Standard errors are in parentheses. We control for empowerment messages alongside individual-level controls (see footnote 13). All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

C Effects of the Prime and Gender Egalitarian Messages

Table A.5: The effect of prime and messages on economic decision-making within the household

Index: Gendered economic decisions within the HH								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Factor: Gendered economic deci- sions w/in HH	Factor: Gendered economic deci- sions w/in HH	Work outside home	Work outside home	Income	Income	Chores	Chores
All								
Deprivation Prime	-0.012 (0.012)	-0.011* (0.006)	-0.001 (0.013)	-0.002 (0.006)	-0.010 (0.013)	-0.014** (0.007)	-0.008 (0.009)	-0.006 (0.004)
Message	0.007 (0.010)	0.008 (0.007)	0.004 (0.011)	0.003 (0.008)	0.007 (0.011)	0.004 (0.008)	0.005 (0.007)	0.006 (0.005)
Deprivation Prime × Message	0.001 (0.014)		-0.002 (0.015)		-0.006 (0.016)		0.003 (0.010)	
Constant	0.811*** (0.045)	0.810*** (0.044)	0.821*** (0.046)	0.822*** (0.045)	0.812*** (0.057)	0.814*** (0.057)	0.946*** (0.026)	0.945*** (0.025)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,946	1,946	1,958	1,958	1,957	1,957	1,958	1,958
Women								
Deprivation Prime	-0.035** (0.016)	-0.029*** (0.008)	-0.011 (0.016)	-0.020*** (0.007)	-0.021 (0.020)	-0.021** (0.010)	-0.029** (0.012)	-0.017*** (0.005)
Message	-0.001 (0.012)	0.003 (0.010)	0.009 (0.014)	0.003 (0.010)	-0.002 (0.017)	-0.002 (0.012)	-0.006 (0.007)	0.003 (0.007)
Deprivation Prime × Message	0.008 (0.019)		-0.012 (0.019)		-0.000 (0.023)		0.016 (0.013)	
Constant	0.915*** (0.060)	0.911*** (0.059)	0.933*** (0.046)	0.939*** (0.046)	0.894*** (0.083)	0.895*** (0.082)	0.988*** (0.034)	0.981*** (0.033)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,008	1,008	1,013	1,013	1,013	1,013	1,013	1,013
Men								
Deprivation Prime	0.013 (0.017)	0.005 (0.009)	0.010 (0.022)	0.012 (0.011)	0.001 (0.018)	-0.011 (0.011)	0.014 (0.013)	0.005 (0.006)
Message	0.023 (0.016)	0.018* (0.011)	0.001 (0.018)	0.002 (0.012)	0.027* (0.015)	0.019 (0.012)	0.019 (0.013)	0.013 (0.008)
Deprivation Prime × Message	-0.011 (0.020)		0.003 (0.025)		-0.016 (0.023)		-0.013 (0.015)	
Constant	0.760*** (0.069)	0.766*** (0.067)	0.729*** (0.091)	0.728*** (0.089)	0.779*** (0.081)	0.787*** (0.079)	0.925*** (0.040)	0.931*** (0.038)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	938	938	945	945	944	944	945	945

Notes: We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Table A.6: The effect of prime and messages on economic scarcity views

Index: Economic scarcity						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factor: Economic Scarcity	Factor: Economic Scarcity	When jobs are scarce	When jobs are scarce	When money is scarce	When money is scarce
All						
Deprivation Prime	-0.022 (0.016)	-0.005 (0.009)	-0.012 (0.022)	-0.003 (0.011)	-0.043* (0.025)	-0.009 (0.013)
Message	0.009 (0.014)	0.021** (0.010)	0.019 (0.018)	0.026** (0.013)	0.001 (0.021)	0.025* (0.015)
Deprivation Prime × Message	0.023 (0.019)		0.013 (0.025)		0.046 (0.029)	
Constant	0.517*** (0.063)	0.507*** (0.062)	0.552*** (0.088)	0.547*** (0.087)	0.548*** (0.087)	0.528*** (0.087)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,946	1,946	1,953	1,953	1,948	1,948
Women						
Deprivation Prime	0.002 (0.024)	-0.002 (0.012)	0.011 (0.031)	-0.006 (0.015)	-0.012 (0.037)	0.002 (0.018)
Message	0.026 (0.020)	0.023* (0.014)	0.034 (0.026)	0.021 (0.018)	0.022 (0.031)	0.032 (0.021)
Deprivation Prime × Message	-0.006 (0.027)		-0.023 (0.036)		0.019 (0.042)	
Constant	0.494*** (0.074)	0.496*** (0.073)	0.534*** (0.118)	0.544*** (0.118)	0.507*** (0.112)	0.499*** (0.112)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,008	1,008	1,010	1,010	1,009	1,009
Men						
Deprivation Prime	-0.045* (0.024)	-0.007 (0.013)	-0.033 (0.032)	0.005 (0.017)	-0.072* (0.038)	-0.024 (0.020)
Message	-0.010 (0.019)	0.015 (0.014)	0.004 (0.026)	0.030 (0.019)	-0.025 (0.030)	0.007 (0.022)
Deprivation Prime × Message	0.051* (0.028)		0.052 (0.037)		0.065 (0.044)	
Constant	0.600*** (0.117)	0.570*** (0.113)	0.654*** (0.142)	0.625*** (0.138)	0.632*** (0.149)	0.595*** (0.144)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	938	938	943	943	939	939

Notes: We control for empowerment messages alongside individual-level controls (see footnote 13 for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Table A.7: The effect of prime and messages on societal norms

Index: Gendered norms in society								
	(1) Factor: Gendered norms in society	(2) Factor: Gendered norms in society	(3) Unfair treatment of women	(4) Unfair treatment of women	(5) Supports husband's opinions	(6) Supports husband's opinions	(7) Follow tradition	(8) Follow tradition
All								
Deprivation Prime	0.005 (0.013)	-0.002 (0.007)	-0.004 (0.020)	0.003 (0.010)	-0.011 (0.024)	0.006 (0.012)	-0.013 (0.030)	-0.012 (0.015)
Message	0.004 (0.012)	-0.001 (0.008)	-0.011 (0.017)	-0.006 (0.012)	-0.022 (0.021)	-0.009 (0.014)	-0.002 (0.026)	-0.002 (0.017)
Deprivation Prime × Message	-0.009 (0.016)		0.010 (0.024)		0.024 (0.028)		0.001 (0.035)	
Constant	0.394*** (0.043)	0.397*** (0.043)	0.608*** (0.082)	0.603*** (0.081)	0.165** (0.080)	0.155** (0.079)	0.214** (0.101)	0.214** (0.100)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,943	1,943	1,956	1,956	1,955	1,955	1,956	1,956
Women								
Deprivation Prime	-0.015 (0.019)	-0.013 (0.010)	-0.021 (0.028)	-0.010 (0.014)	-0.017 (0.034)	-0.000 (0.018)	-0.090** (0.042)	-0.041* (0.021)
Message	-0.008 (0.017)	-0.007 (0.011)	-0.016 (0.024)	-0.008 (0.016)	-0.015 (0.030)	-0.002 (0.020)	-0.060 (0.037)	-0.024 (0.024)
Deprivation Prime × Message	0.003 (0.023)		0.015 (0.032)		0.023 (0.041)		0.066 (0.049)	
Constant	0.475*** (0.055)	0.473*** (0.054)	0.584*** (0.107)	0.578*** (0.106)	0.295** (0.129)	0.285** (0.128)	0.458*** (0.133)	0.429*** (0.131)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,004	1,004	1,012	1,012	1,011	1,011	1,013	1,013
Men								
Deprivation Prime	0.016 (0.019)	0.003 (0.010)	0.015 (0.029)	0.018 (0.015)	-0.012 (0.035)	0.011 (0.017)	0.061 (0.043)	0.006 (0.022)
Message	0.017 (0.017)	0.008 (0.012)	0.007 (0.026)	0.009 (0.019)	-0.038 (0.030)	-0.022 (0.021)	0.074** (0.034)	0.037 (0.026)
Deprivation Prime × Message	-0.017 (0.023)		0.005 (0.035)		0.032 (0.041)		-0.075 (0.051)	
Constant	0.329*** (0.070)	0.339*** (0.069)	0.719*** (0.121)	0.716*** (0.120)	0.102 (0.098)	0.084 (0.096)	-0.057 (0.159)	-0.016 (0.159)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	939	939	944	944	944	944	943	943

Notes: We control for a wide-range of individual-level characteristics (see footnote ¹³ for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01
Source: 2019 Nepal Household Survey

Table A.8: The effect of prime and messages on societal norms - continued

Index: Gendered norms in society						
	(1)	(2)	(3)	(4)	(5)	(6)
	Does what husband asks	Does what husband asks	Young women follow traditions	Young women follow traditions	Ideal number of children	Ideal number of children
All						
Deprivation Prime	0.049 (0.030)	0.009 (0.016)	0.019 (0.024)	-0.009 (0.012)	-0.001 (0.012)	-0.001 (0.005)
Message	0.032 (0.026)	0.005 (0.018)	0.033* (0.019)	0.014 (0.014)	-0.005 (0.010)	-0.005 (0.007)
Deprivation Prime × Message	-0.053 (0.035)		-0.037 (0.028)		0.000 (0.013)	
Constant	0.505*** (0.102)	0.528*** (0.101)	0.331*** (0.082)	0.347*** (0.081)	0.668*** (0.036)	0.668*** (0.036)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,958	1,958	1,955	1,955	1,957	1,957
Women						
Deprivation Prime	0.028 (0.044)	-0.015 (0.023)	0.020 (0.033)	0.007 (0.017)	0.013 (0.014)	-0.001 (0.006)
Message	0.028 (0.039)	-0.002 (0.027)	0.022 (0.029)	0.013 (0.019)	0.005 (0.012)	-0.005 (0.008)
Deprivation Prime × Message	-0.058 (0.052)		-0.017 (0.039)		-0.019 (0.016)	
Constant	0.579*** (0.130)	0.604*** (0.128)	0.348*** (0.110)	0.355*** (0.108)	0.664*** (0.038)	0.672*** (0.038)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,013	1,013	1,012	1,012	1,013	1,013
Men						
Deprivation Prime	0.076* (0.042)	0.027 (0.022)	-0.011 (0.035)	-0.034* (0.019)	-0.022 (0.020)	-0.004 (0.009)
Message	0.043 (0.036)	0.010 (0.025)	0.033 (0.028)	0.018 (0.021)	-0.019 (0.017)	-0.006 (0.012)
Deprivation Prime × Message	-0.067 (0.050)		-0.031 (0.041)		0.025 (0.023)	
Constant	0.393** (0.166)	0.429*** (0.165)	0.322** (0.127)	0.339*** (0.127)	0.698*** (0.065)	0.685*** (0.064)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	945	945	943	943	944	944

Notes: We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Table A.9: The effect of prime and messages on ideal marriage age

Ideal age for marriage				
	(1)	(2)	(3)	(4)
	Factor: Ideal marriage	Factor: Ideal marriage	Ideal age (women - men)	Ideal age (women - men)
All				
Deprivation Prime	-0.004 (0.012)	-0.008 (0.006)	-0.007 (0.011)	-0.007 (0.006)
Message	0.001 (0.010)	-0.002 (0.007)	-0.007 (0.009)	-0.007 (0.007)
Deprivation Prime × Message	-0.005 (0.014)		-0.001 (0.013)	
Constant	0.505*** (0.042)	0.507*** (0.042)	0.484*** (0.039)	0.485*** (0.038)
Covariates	Yes	Yes	Yes	Yes
Observations	1,943	1,943	1,956	1,956
Women				
Deprivation Prime	0.003 (0.017)	-0.005 (0.008)	-0.008 (0.016)	-0.014* (0.008)
Message	0.002 (0.014)	-0.003 (0.010)	-0.006 (0.014)	-0.011 (0.010)
Deprivation Prime × Message	-0.010 (0.019)		-0.008 (0.019)	
Constant	0.537*** (0.057)	0.542*** (0.056)	0.520*** (0.047)	0.524*** (0.046)
Covariates	Yes	Yes	Yes	Yes
Observations	1,004	1,004	1,013	1,013
Men				
Deprivation Prime	-0.011 (0.018)	-0.010 (0.009)	0.002 (0.017)	0.003 (0.008)
Message	-0.009 (0.015)	-0.009 (0.011)	-0.010 (0.013)	-0.009 (0.010)
Deprivation Prime × Message	0.001 (0.021)		0.001 (0.019)	
Constant	0.439*** (0.068)	0.438*** (0.067)	0.432*** (0.066)	0.432*** (0.064)
Covariates	Yes	Yes	Yes	Yes
Observations	939	939	943	943

Notes: We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Table A.10: The effect of prime and messages on views related to women in leadership

Women in Leadership and Politics						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factor: Women in Leadership & Politics	Factor: Women in Leadership & Politics	Women in leadership	Women in leadership	Women in elected office	Women in elected office
All						
Deprivation Prime	-0.014 (0.013)	0.001 (0.007)	-0.000 (0.019)	0.000 (0.009)	-0.029 (0.019)	0.007 (0.010)
Message	-0.010 (0.011)	-0.000 (0.008)	0.004 (0.016)	0.004 (0.011)	-0.021 (0.017)	0.004 (0.011)
Deprivation Prime × Message	0.020 (0.015)		0.001 (0.022)		0.048** (0.023)	
Constant	0.833*** (0.041)	0.825*** (0.040)	0.938*** (0.046)	0.938*** (0.044)	0.867*** (0.061)	0.846*** (0.060)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,943	1,943	1,952	1,952	1,953	1,953
Women						
Deprivation Prime	0.001 (0.017)	0.004 (0.008)	0.027 (0.025)	0.013 (0.012)	-0.010 (0.022)	0.010 (0.012)
Message	-0.007 (0.015)	-0.005 (0.010)	0.016 (0.023)	0.006 (0.014)	-0.016 (0.020)	-0.002 (0.014)
Deprivation Prime × Message	0.003 (0.020)		-0.019 (0.029)		0.027 (0.027)	
Constant	0.844*** (0.055)	0.843*** (0.054)	0.936*** (0.058)	0.944*** (0.055)	0.910*** (0.084)	0.898*** (0.082)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,004	1,004	1,009	1,009	1,011	1,011
Men						
Deprivation Prime	-0.033* (0.020)	-0.002 (0.010)	-0.037 (0.028)	-0.012 (0.015)	-0.055* (0.031)	0.003 (0.016)
Message	-0.005 (0.017)	0.016 (0.012)	-0.001 (0.023)	0.016 (0.017)	-0.013 (0.025)	0.026 (0.019)
Deprivation Prime × Message	0.042* (0.024)		0.035 (0.034)		0.079** (0.037)	
Constant	0.905*** (0.058)	0.881*** (0.058)	1.024*** (0.076)	1.005*** (0.073)	0.951*** (0.089)	0.906*** (0.088)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	939	939	943	943	942	942

Notes: We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all control measures) in all models. All standard errors are heteroskedasticity robust. * p<.10, ** p<.05, *** p<.01
Source: 2019 Nepal Household Survey

D Heterogeneous Effects of Relative Deprivation Prime by Gender

Table A.11: Heterogeneous treatment effects among women (long-model)

	Marital status			Engaged in paid work			Age group		
	(1) Econ- omic deci- sions	(2) Econ- omic scar- city	(3) Leade- rship	(4) Econ- omic deci- sions	(5) Econ- onomi scar- city	(6) Leade- rship	(7) Econ- omic deci- sions	(8) Econ- onomic scar- city	(9) Leade- rship
Not pooled									
Interaction with deprivation prime	-0.046 (0.040)	0.063 (0.083)	-0.091** (0.045)	-0.028 (0.035)	-0.027 (0.060)	-0.029 (0.038)	0.032 (0.035)	0.063 (0.051)	-0.014 (0.036)
Interaction with message	-0.007 (0.034)	0.093 (0.075)	-0.089** (0.043)	-0.038 (0.028)	0.024 (0.048)	-0.024 (0.036)	0.030 (0.026)	0.081** (0.041)	-0.011 (0.029)
Interaction with deprivation prime × message	0.006 (0.043)	-0.106 (0.096)	0.092* (0.051)	0.020 (0.041)	0.049 (0.065)	0.033 (0.045)	-0.024 (0.041)	-0.094 (0.058)	0.025 (0.043)
Constant	0.947*** (0.086)	0.383** (0.179)	0.807*** (0.083)	0.615*** (0.130)	0.633*** (0.160)	0.657*** (0.122)	0.923*** (0.058)	0.505*** (0.088)	0.875*** (0.048)
Observations	1008	1008	1004	1008	1008	1004	1008	1008	1004
Pooled									
Interaction with deprivation prime	-0.041** (0.021)	-0.017 (0.033)	-0.022 (0.021)	-0.013 (0.018)	0.010 (0.027)	-0.004 (0.018)	0.014 (0.016)	-0.007 (0.025)	0.005 (0.018)
Interaction with message	-0.003 (0.025)	0.028 (0.043)	-0.033 (0.027)	-0.027 (0.021)	0.050 (0.032)	-0.007 (0.022)	0.018 (0.020)	0.033 (0.028)	0.003 (0.021)
Constant	0.949*** (0.087)	0.363** (0.183)	0.826*** (0.086)	0.618*** (0.130)	0.645*** (0.159)	0.664*** (0.121)	0.919*** (0.057)	0.492*** (0.088)	0.880*** (0.047)
Observations	1008	1008	1004	1008	1008	1004	1008	1008	1004

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all covariates). Interactions refer to the interaction between experimental conditions (i.e., deprivation prime, message, or the combination of the two) with the moderators of interest, including a dummy indicating whether one is married (columns 1-3), a dummy indicating whether one is engaged in paid work (columns 4-6), and a dummy indicating whether one is at least 36 years old (columns 7-9). These interactions show whether the effect of each experimental condition varies by these three moderators. All standard errors are heteroskedasticity robust.
* p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

Table A.12: Heterogeneous treatment effects among men (long-model)

	Marital status			Engaged in paid work			Age group		
	(1) Econ- omic dec- isions	(2) Econ- omic scar- city	(3) Leade- rship	(4) Econ- omic dec- isions	(5) Econ- onomi- scar- city	(6) Leade- rship	(7) Econ- omic dec- isions	(8) Econ- onomic scar- city	(9) Leade- rship
Not pooled									
Interaction with deprivation prime	0.019 (0.041)	-0.012 (0.060)	0.020 (0.057)	0.053 (0.042)	-0.044 (0.083)	-0.106* (0.055)	-0.035 (0.037)	-0.007 (0.049)	-0.039 (0.042)
Interaction with message	-0.002 (0.035)	-0.067 (0.048)	-0.005 (0.044)	0.009 (0.041)	0.038 (0.064)	-0.062 (0.049)	-0.016 (0.032)	-0.069* (0.039)	-0.044 (0.038)
Interaction with deprivation prime × message	0.024 (0.049)	0.052 (0.072)	0.010 (0.064)	0.014 (0.058)	0.028 (0.093)	0.131** (0.061)	0.017 (0.042)	0.028 (0.057)	0.075 (0.050)
Constant	1.031*** (0.100)	1.099*** (0.194)	1.156*** (0.175)	1.021*** (0.141)	0.956*** (0.231)	0.817*** (0.147)	0.825*** (0.078)	0.469*** (0.171)	1.094*** (0.093)
Observations	938	938	939	938	938	939	938	938	939
Pooled									
Interaction with deprivation prime	0.037* (0.022)	0.026 (0.034)	0.027 (0.030)	0.064** (0.028)	-0.024 (0.042)	-0.007 (0.031)	-0.023 (0.019)	0.014 (0.026)	0.017 (0.023)
Interaction with message	0.010 (0.025)	-0.042 (0.037)	0.001 (0.035)	0.017 (0.029)	0.052 (0.048)	0.003 (0.034)	-0.006 (0.022)	-0.058* (0.030)	-0.009 (0.026)
Constant	1.037*** (0.100)	1.094*** (0.192)	1.147*** (0.177)	1.038*** (0.129)	0.937*** (0.227)	0.842*** (0.139)	0.841*** (0.075)	0.450*** (0.168)	1.097*** (0.090)
Observations	938	938	939	938	938	939	938	938	939

Notes: Standard errors are in parentheses. We control for a wide-range of individual-level characteristics (see footnote 13 for a list of all covariates). Interactions refer to the interaction between experimental conditions (i.e., deprivation prime, message, or the combination of the two) with the moderators of interest, including a dummy indicating whether one is married (columns 1-3), a dummy indicating whether one is engaged in paid work (columns 4-6), and a dummy indicating whether one is at least 36 years old (columns 7-9). These interactions show whether the effect of each experimental condition varies by these three moderators. All standard errors are heteroskedasticity robust.
* p<.10, ** p<.05, *** p<.01

Source: 2019 Nepal Household Survey

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