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Measuring attitudes on gender equality and domestic violence in the Arab context:
The role of framing, priming and interviewer effects

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Measuring attitudes on gender equality and domestic violence in the Arab context – The role of framing, priming and interviewer effects

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Eliciting attitudes on sensitive topics such as women empowerment is subject to a wide range of measurement challenges such as social desirability bias and refusals. Even subtle changes in wording or context can profoundly affect how respondents answer to a question. Using data from two randomised experiments built into a nationwide representative household survey in Tunisia, we analyse the effects of (i) framing and (ii) priming on attitudes towards gender equality and domestic violence in the Arab context. Moreover, we look at impact heterogeneity with respect to the interviewers' gender and perceived religiosity. Our first experiment shows that questions on attitudes towards decision-making power invite stronger responses towards gender inequality when framed in an inequality frame. In our second experiment we find that attitudes towards domestic violence are susceptible to an audio primer. Oral statistical information about the incidence of domestic violence in Tunisia leads to lower support for domestic violence among the male subsample but has no effect on women. Lastly, impacts co-vary with interviewer characteristics. While female interviewers seem to trigger less justification for domestic violence on average, we find the opposite effect for female interviewers wearing a hijab, arguably signalling stronger perceived religiosity and social norms aligned with (more) tolerance of domestic violence. We discuss the implications of our findings for development research on gender attitudes and behaviour in gender-sensitive contexts.

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1 Introduction

Changes in wording, question order, response options, context and interviewer characteristics can profoundly affect individuals' responses to survey questions. Research shows that responses of human beings depend on the decision frame, which is the respondents' conception of the outcomes and contingencies associated with a particular choice. The decision frame is influenced by social norms, habits and characteristics of the individual respondent (see e.g. Kahneman and Tversky, 1984; Tversky and Kahneman, 1986, 1981). But it is also influenced by the way the problem or question is formulated and this allows for manipulation of survey responses. However, certain factors may influence the susceptibility to such framing manipulation, for instance the level of involvement or knowledge of the framed issue (see e.g. Brewer, 2003; Haider-Markel and Joslyn, 2001; Van Gorp et al., 2009). There is an established literature on the influence of framing in surveys, yet this evidence is exclusively based on studies in the Western world (see e.g. Chong and Druckman, 2007; Feldman, 1995; Kalton et al., 1978; Kalton and Schuman, 1982; Schwarz, 1999; Tourangeau, 1992).[1] With the increased opportunity to collect fine-grained data in less developed countries the issue of framing becomes relevant there too.

This paper directly examines the issue of framing in a developmental context by using two survey experiments in Tunisia. The first experiment asks sensitive survey questions on gender attitudes using different frames: a gender equality frame and a gender inequality frame. The second experiment randomly assigns half the respondents to be exposed to an audio message providing information about the incidence of domestic violence in Tunisia, prior to asking them about their attitudes towards domestic violence. We casually define framing here as "the process by which people develop a particular conceptualisation of an issue or reorient their thinking about an issue" (Chong and Druckman, 2007, p. 104). More specifically, we use emphasis frames where different frames are not necessarily logically equivalent (as it is the case when providing the same information in a positive or negative light as in the famous Asian disease example by Tversky and Kahneman, 1981), but differ in underlying considerations that are used to evaluate a statement (Druckman, 2004, 2001)[2]. Many scholars conceptually distinguish between framing and priming where the latter can be defined as "a procedure that increases the accessibility of some category or construct in memory" (Sherman et al., 1990, p. 405). We follow Chong and Druckman (2007), where priming is believed to emphasise a certain issue and hence may change underlying considerations for evaluation.

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[1] There are two related literatures investigating the effects of framing. One demonstrates the impact of framing in behavioural experimental game settings (e.g. Abbink and Hennig-Schmidt, 2006; Andreoni, 1995; Brañas-Garza, 2007; Cookson, 2000; Dufwenberg et al., 2011; Leibbrandt et al., 2015). The other looks at whether framing affects demand for new products in developing countries. Dupas (2009) for example combines a subsidy intervention for novel long-lasting insecticide treated bed nets with marketing messages using a "health frame", a "financial frame" or no frame and examines differential take-up of the new product. Aklin et al. (2018) use a framing experiment on the social acceptance of off-grid solar power in India, randomizing the frame of different dimensions related to price, inequality, and the source of providing solar power (pubic vs. private sector). Bertrand et al. (2010) demonstrate that demand for credit in South Africa is amenable through unrelated advertising contents. Cole et al. (2013), however, find little support for a differential effect of positive versus negative frames on rainfall insurance take-up in India.

[2] For example, connecting the right to rally of a hate group with free speech versus with public safety concerns will provoke different rally opinions among respondents.

That way, framing and priming share the same underlying process of altering considerations, and there is considerable overlap between both terms. For the sake of clarity and to allow for easier distinction between our two experiments, we will denote the manipulation in the first experiment as framing and the second one as priming.

We are the first to investigate the impact of framing survey questions in a developing country context. Moreover, while much of the cognitive psychology literature on framing focuses on public opinion research, we zoom in on a very different, yet important topic of women empowerment. The advancement of equal rights between men and women and their application in everyday life is a key pillar underlying any development agenda. Besides being a worthy goal of its own, the clear positive linkages between women empowerment and economic development has spurred research and (policy) initiatives on how to mitigate barriers for gender equality across the world (e.g. Ashraf et al., 2010; Beath et al., 2013; Bonilla et al., 2017; Garikipati, 2008; Hashemi et al., 1996; Mahmud et al., 2012; Meena et al., 2008; Pitt et al., 2006). While economic development and more progressive norms towards gender equality typically go hand in hand, this is not necessarily the case in the Arab context. Indeed, despite substantial economic progress in recent decades, the MENA region is lagging behind when it comes to issues of gender equality. UNDP's Gender Inequality Index, Social Watch's Gender Equity Index, the World Economic Forum's Global Gender Gap Index and the Economist Intelligence Unit's Women's Economic Opportunity Index for example all consistently show the MENA region to be performing worse than any other region in the world (Social Watch, 2012; The Economist Intelligence Unit, 2012; UNDP, 2016; World Economic Forum, 2017). Average gender attitudes thus appear more persistent in the Arab region than elsewhere. Studies in other domains have shown that strong values are less responsive to alternative frames that contradict these values (e.g. Brewer, 2003). Taken together, we hypothesise that if we were to find an impact of framing in the Arab context, this could plausibly serve as a lower bound estimate of its impacts in other parts of the world, where gender norms are less pronounced and seem more fluid. In this paper we look at attitudes towards two dimensions of women empowerment. One dimension concerns women decision-making, while the other one relates to attitudes on domestic violence. While the actual experience of domestic violence is an obvious direct threat to women empowerment, mere exposure to the menace of violence or a public perception that violence against women is justified in certain cases, will also compromise feelings of empowerment.

In addition to differences in frame there is also evidence of interviewer characteristics playing a role in whether and how respondents answer questions (see e.g. Davis et al., 2010; Himelein, 2016; Schaeffer et al., 2010; West and Blom, 2017 for reviews on this topic). Any bias introduced by interviewer characteristics may be particularly pronounced for attitudinal questions on sensitive and subjective topics. A recent experimental study conducted by Di Maio and Fiala (2018) in Uganda for example finds little support for interviewer effects for most of the questions in their survey, but document strong evidence of such effects for questions related to political preferences and support. We are aware of only three studies that focus on interviewers' gender and (perceived) religiosity in (quasi) experimental development

settings.[3] Benstead (2013) analyses the interviewer-respondent gender interaction on attitudes towards women in politics in Morocco and finds that men state more egalitarian views, because they seek to reduce social distance with females. Blaydes and Gillum (2013) provide evidence that Muslim women, also in a desire to minimise social distance between the survey enumerator and the respondent, report to be more religious when interviewed by an enumerator wearing a hijab, which serves as a signal of adherence to Islam. Moreover, younger women and those with lower socioeconomic status and lower levels of education are even more susceptible to these interviewer effects. In another study in Morocco, religiosity-of-interviewer effects were rather pronounced among questions on religion. However, when it came to questions about dress-choice the enumerator gender had a significant effect as well (Benstead, 2014). As part of our heterogeneity analysis we therefore investigate how exogenous variation in emphasis frames interacts with interviewer characteristics that are deemed particularly salient in the Arab context (i.e. gender and perceived religiosity), combining the literature on framing and priming with that on interviewer effects.

We find that both men and women express stronger attitudes towards gender inequality when statements are framed in an inequality frame. We also observe that more educated respondents are less susceptible to framing effects. For our priming experiment we randomly assigned half of our sample to an audio intervention that provides statistical information on the prevalence of domestic violence in Tunisia. Here we find that exposure to such information reduces support for domestic violence. This effect is small and seems particularly driven by the male subsample, possibly due to higher familiarity with the issue among women. That is, women might already be well-informed and have stable attitudes towards domestic violence. When it comes to heterogeneity (interviewer effects), we find that female interviewers tend to trigger an anti-deference effect in our first experiment, where the impact of the gender inequality frame becomes stronger if interviewed by a woman. Yet, we find an opposite effect in our second experiment. Moreover, signalling adherence to Islam leads to more conservative responses overall, and when interacted with the gender inequality frame or the audio intervention, where the mitigating effect of the audio (i.e. lowering support for domestic violence) is reduced when the interviewer wears a hijab.

Our conclusion is two-fold: first, these findings are sobering in light of global goals and initiatives to achieve gender equality worldwide. Our results suggest that at least in Tunisia and possibly the larger MENA region, once questions are framed in accordance with traditional gender norms, people have no reservations to reveal their gender biased attitudes. Second, gender norms are believed to be salient and persistent in especially the Arab context – yet, our results show that even simple and subtle tweaks lead to already different responses in such an environment, which may question the validity of self-reported survey data on such topics. This calls for more thinking on how to design survey questions that are less susceptible to different types of emphasis framing and ideally complement and cross-validate such questions with other, unintrusive observational measures in the field.

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[3] These recent experimental studies have been motivated by earlier observational studies on the topic including Kane and Macaulay (1993); Huddy et al. (1997); Landis, Sullivan, and Sheley (1973) and Catania et al. (1996).

The structure of the paper is as follows: Section 2 presents the data, the two experimental designs, the quasi-experiment on interviewer effects as well as descriptive statistics and balance tests. Section 3 presents and discusses the empirical strategy and results. Section 4 concludes.

2 Data, experimental design and descriptive statistics

2.1 Data

This study is part of a larger research project described in more detail in Ghali et al. (2018). Our survey was conducted between October and November 2017. It covers a nationwide representative sample of 1,150 households comprising 2,793 adult individuals.[4] Households were selected based on a stratified random sampling methodology, where stratification was done at the level of governorates, delegations and sectors. Sectors are the smallest administrative unit in Tunisia. A total of 115 sectors, with 48 located in rural areas, were selected. We interviewed ten households per sector. In each household the household head, the spouse, and up to two young adults (aged 18-30) living in the household, either children of the primary or secondary respondent or other household members, were interviewed. If more than two young adults lived in the household, two of them were randomly selected to participate in the survey and experiments. The survey consisted of a household survey that was only answered by the household head, and an individual survey that was answered by each selected member of the household including modules on education, intra-household decision-making, employment, asset ownership, access to finance, migration, group membership, time allocation, socio-psychological assessments, support for violent extremism and attitudes towards gender inequality and domestic violence. The survey was always introduced as a standard household survey to better understand the lives of people in Tunisia.

2.2 Experimental design

Within each sector, households were randomly divided into two groups where one group would see a different emphasis frame with respect to the two modules that measure attitudes on gender equality and attitudes towards domestic violence than the other group. We randomised our treatments at the household level to avoid spill-overs and possible suspicion after the survey if household members would talk to each other about the survey.[5] Table 1 summarises the assignment to the two different experiments, we elaborate on each of them below.

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[4] For this study, we will use a subsample of 2,288 individuals. We have full information of 2,228 and 2,186 individuals for the analysis of the framing- and priming-experiment, respectively.

[5] For randomization we made use of the sampling design which entailed interviewing ten households within each sector. Within each sector, the households received a Household-ID consisting of a number, which was assigned based on the interview order; households with even Household-IDs were then selected into Group 1 and uneven numbers into Group 2.

Table 1: Assignment of framing and priming modules

	Group 1 (even Household-IDs)	Group 2 (uneven Household-IDs)
Gender equality module	Gender equality framing	Gender inequality framing
Domestic violence module	Informational audio priming	No audio priming
Sample size	1136	1152

Experiment 1: Gender (in)equality framing

Each respondent was asked six statements on female decision-making power in different domains. The first statement is a measure for attitudes towards decision-making in the household. The remaining items relate to attitudes towards decisions on women's occupation and employment opportunities, education and time use. These dimensions directly affect the daily life of women and are core dimensions in other empowerment surveys (see e.g. Alkire et al., 2013), where women are considered empowered if they can take control over these aspects and make their own decisions related to them.[6] The last item concerning obedience towards brothers relates to norms that prevail in more conservative communities where women are not only expected to be subordinate to the male primary decision-maker but also to younger and next-in-line male members of the family. In Group 1 we used a gender equality frame; respondents had to answer on a 5-point Likert Scale ranging from 1 "strongly agree" to 5 "strongly disagree".[7,8] The frame was designed in a way that disagreement would translate in higher values, which reveal an attitude in favour of gender inequality. The "gender equality" statements are:

- *A woman should be able to make important decisions in the home.*
- *Women should decide whether they want to work outside the house.*
- *Men and women should have equal rights for a job.*
- *Women should be able to take the decision with respect to their own education.*
- *Doing the cooking, cleaning and washing are not solely a woman's responsibility.*
- *A young woman should not have to obey her brother(s).*

Group 2 received a gender inequality frame, where we provided a reversed answering scale with 1 meaning "strongly disagree" to 5 "strongly agree". Higher values thus also here reflect attitudes that are more supportive of gender inequality. The "gender inequality" statements are:

- *A man should have the final word about important decisions in the home.*
- *Men should decide whether a woman can work outside the house.*
- *Jobs should rather be given to men than to women.*
- *Men should take the decision with respect to a woman's education.*

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[6] The original set of questions also contained an item on mobility of women: *Men should decide where a woman can go to and when.* However, due to difficulties of finding a convenient opposing frame, we decided to exclude the statement. We believe that this choice is not systematically affecting our results.

[7] The complete Likert Scale: 1 – strongly agree, 2 – somewhat agree, 3 – neither agree nor disagree, 4 – somewhat disagree, 5 – strongly disagree. In the questionnaire the original order was 1 "strongly disagree" to 5 "strongly agree", we reversed it in order make at compatible with the inequality frame where high values indicate inclination towards gender inequality.

[8] The respondents also had the choice to refuse or answering with 'I do not know'. However, respondents only rarely chose these respondent categories. This also holds for the domestic violence module.

– *Doing the cooking, cleaning and washing are a woman's responsibility.*
– *A young woman should obey her brother(s).*

Experiment 2: Audio-primer on domestic violence

Prior to answering the survey module on domestic violence, Group 1 heard the following audio message read out in (Tunisian) Arabic by a neutral, female voice:

"According to a report by the National Office of Family and Population,[9] 48% of women aged 18 to 64 said that they had experienced violence at least once in their lifetime. According to the same report, 20% of these women have experienced at least once physical violence from their partner during their lifetime. 17% of women affirm that they have "been hit by the partner", which is the most common physical abuse. In addition, 15% were pushed and 10% were thrown an object. 6% suffered more serious acts such as kicking, being hit with a stick or belt, having their head banged against a wall or being threatened with a weapon. In addition, 25% of women report that they have experienced psychological abuse during their lifetime. Insults, humiliations, threats of violence and impediments to going out are the most common."

Immediately afterwards they would answer the attitude questions on justification of domestic violence. These questions are taken from the Demographic and Health Surveys and hence have already been asked in the same way in many countries.[10] The module covers the following six statements,[11] and respondents would answer on a 5-point Likert Scale with 1 meaning "strongly disagree" to 5 "strongly agree":

It is justified that a man hits or beats his wife…
– *if she goes out without telling him.*
– *if she neglects the children.*
– *if she argues with him.*
– *if she buys things without his consent.*
– *if she applies for a new job or engages in a new livelihood without his consent.*
– *if she files a complaint against him to a higher authority or the police.*

Group 2 did not receive the audio-treatment.[12] Note that our design precludes us to isolate the effect from the audio intervention from that of the gender equality frame. If, as we expect, the

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[9] The information was taken from the *Enquête Nationale sur la violence a l'egard des femmes en Tunisie* conducted by the National Office of Family and Population (*l'Office National de la Famille et de la Population,* ONFP) and the Spanish Agency for International Cooperation for Development (*l'Agence Espagnole de Coopération Internationale pour le Développement,* AECID) in 2010.

[10] See: https://dhsprogram.com

[11] The DHS version also includes the statement "It is justified that a man hits or beats his wife if she refuses to have sex with him". After discussing this statement with the survey institute and the enumerators, we decided to omit this statement as it was judged as being too sensitive and hence carried a risk that many respondents would, at best, refuse to answer the question or, at worst, end the interview.

[12] Since simply being exposed to an audio message may theoretically affect answer behaviour (regardless of its content), we briefly discussed using a placebo message with neutral information for the other group. Yet, in the end we decided against

gender equality frame leads to more support for gender equality and the audio message reduces support for domestic violence, we may overestimate the true treatment effect of the audio intervention if the framing effect sustains beyond the module where it was asked.

Quasi-experiment: Interviewer effects

As part of a heterogeneity analysis we examine whether framing effects are different depending on specific interviewer traits. While we did not randomly assign interviewers, the actual allocation of interviewers to households was purely based on practical and organisational conditions, making this a near random process (see sub-Section 2.3 for a balance test). Our survey team consisted of six interviewer teams with one group leader and three to four interviewers. In total, 21 enumerators conducted the interviews; eleven of them being female with six of them wearing a headscarf.

2.3 Descriptive statistics

Table 2 presents the sample comprising 2,288 individuals with 1,136 individuals randomly allocated to Group 1 and 1,152 to Group 2, respectively. The third column presents the results of a *t*-test to assure that randomisation for the two experimental groups was successful. Both groups are comparable with respect to basic characteristics such as sex, marriage status, age, education level, occupation status and location in Tunisia.

Table 2 Sample description and balance test

	Group 1		Group 2		
	(1)	(2)	(3)	(4)	(5)
	Mean	SD	Mean	SD	p-value
Male (=1)	0.467	0.499	0.477	0.500	0.670
Married (=1)	0.702	0.457	0.691	0.462	0.584
Age (years)	45.0	16.1	45.1	16.6	0.936
No education (=1)	0.189	0.483	0.178	0.383	0.443
Primary education (=1)	0.371	0.460	0.347	0.476	0.260
Secondary education (=1)	0.304	0.342	0.323	0.468	0.256
Tertiary or higher educ. (=1)	0.136	0.352	0.152	0.359	0.402
Entrepreneur (=1)[a]	0.123	0.329	0.110	0.314	0.273
Paid worker (=1)[a]	0.192	0.394	0.215	0.411	0.200
Student (=1)[a]	0.057	0.232	0.071	0.257	0.189
Agricultural households (=1)[b]	0.196	0.397	0.215	0.411	0.200
HH lives in rural area (=1)	0.453	0.498	0.430	0.495	0.309
Governorate on the coast (=1)[c]	0.583	0.493	0.597	0.491	0.510
Observations	1136		1152		

[a] Activity status refers to seven days prior to the survey.
[b] Agricultural households are defined as households that own agricultural land.
[c] The relatively prosperous flat coastal zone is perceived to have a less conservative mindset than departments located in the poorer remote non-coastal zone of Tunisia.
Note: Due to oversampling of rural areas, all means take into account survey weights. The last column shows the p-value of a *t*-test on the mean difference between Group 1 and Group 2.

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this for two reasons. First, a completely unrelated audio intervention would arguably have raised suspicion possibly leading to non-response. Second, we believe our contents are strong enough to trump any possible effect of merely hearing an audio intervention prior to answering the survey questions.

In Table 3 we test for systematic differences in the allocation of interviewer for our quasi-experiment. The test consists of regressing the two interviewer characteristics, i.e. female and female with headscarf, on a set of respondent's characteristics including gender, marital status, age, education, location of the household and whether or not the respondent is in Group 2 of the survey design. For the probability of having been interviewed by a woman, three coefficients are significant: the one associated with primary education, tertiary (or higher) education and the one associated with living in a coastal governorate. Moreover, the probability that a respondent is married and younger has been interviewed by a female interviewer with a headscarf is significantly higher. Yet, with governorate fixed effects most of these significant differences disappear again – although in case of female interviewers with headscarf, the probability that a respondent is in Group 1 and has secondary or higher education is now significantly higher. Despite these significant differences, we are less concerned with self-selection issues; interviewers were assigned to houses by the group leader with none of them having any prior knowledge on people living in a particular house and we have no knowledge of interviewers being replaced after entering a respondent's house. Still, to redress these potential biases in the analyses below we will in each case control for all these characteristics and we'll take into account that our estimates cannot be considered as strictly causal.

Table 3: Interviewer gender and perceived religiosity balance test

	Interviewer characteristics			
	(1)	(2)	(3)	(4)
Respondent characteristics	Female (=1)	Female (=1)	Female with headscarf (=1)	Female with headscarf (=1)
Group 2 (=1)	0.010	0.023	-0.043	-0.052**
	(0.033)	(0.021)	(0.043)	(0.026)
Male (=1)	-0.023	-0.005	-0.020	-0.017
	(0.015)	(0.010)	(0.018)	(0.011)
Married (=1)	-0.008	0.012	0.077**	0.033
	(0.031)	(0.020)	(0.039)	(0.024)
Age (years)	0.001	-0.000	-0.002**	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
No education (=1)	Ref.	Ref.	Ref.	Ref.
Primary education (=1)	0.095***	0.020	-0.007	0.021
	(0.034)	(0.025)	(0.048)	(0.028)
Secondary education (=1)	0.048	-0.034	0.073	0.087***
	(0.040)	(0.027)	(0.054)	(0.033)
Tertiary or higher educ. (=1)	0.092*	0.020	-0.034	0.086**
	(0.049)	(0.034)	(0.066)	(0.041)
HH lives in rural area (=1)	0.008		-0.063	
	(0.034)		(0.044)	
Governorate on the coast (=1)	0.097***		-0.095**	
	(0.035)		(0.045)	
Constant	0.373***	0.086*	0.782***	-0.011
	(0.065)	(0.050)	(0.083)	(0.049)
Governorate FE	NO	YES	NO	YES
Observations	2,288	2,288	1,217	1,217
Adj. R-squared	0.011	0.546	0.021	0.654

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Estimated with a linear probability model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table 4: Attitudes towards gender inequality, male and female sample

(1) Group 1: Statement with gender equality framing (1 - strongly agree to 5 - strongly disagree)	(2) Mean (SD)	(3) Mean difference	(4) p-value	(5) Mean (SD)	(6) Group 2: Statement with gender inequality framing (1 - strongly disagree to 5 - strongly agree)	
(A) Men						
1 A woman should be able to make important decisions in the home.	2.456 (1.123)	1.051	0.000	3.507 (1.210)	A man should have the final word about important decisions in the home.	1
2 Women should decide whether they want to work outside the house.	3.041 (1.291)	0.075	0.392	3.116 (1.349)	Men should decide whether a woman can work outside the house.	2
3 Men and women should have equal rights for a job.	2.657 (1.192)	0.721	0.000	3.378 (1.296)	Jobs should rather be given to men than to women.	3
4 Women should be able to take the decision with respect to their own education.	2.465 (1.179)	0.360	0.000	2.825 (1.333)	Men should take the decision with respect to a woman's education.	4
5 Doing the cooking, cleaning and washing are not solely a woman's responsibility.	2.957 (1.251)	0.287	0.001	3.244 (1.302)	Doing the cooking, cleaning and washing are a woman's responsibility.	5
6 A young woman should not have to obey her brother(s).	3.525 (1.197)	-0.012	0.878	3.513 (1.179)	A young woman should obey her brother(s).	6
Observations	511			541	Observations	
(B) Women						
1 A woman should be able to make important decisions in the home.	2.192 (1.071)	1.031	0.000	3.223 (1.285)	A man should have the final word about important decisions in the home.	1
2 Women should decide whether they want to work outside the house.	2.599 (1.259)	0.262	0.001	2.860 (1.340)	Men should decide whether a woman can work outside the house.	2
3 Men and women should have equal rights for a job.	2.272 (1.131)	0.749	0.000	3.021 (1.345)	Jobs should rather be given to men than to women.	3
4 Women should be able to take the decision with respect to their own education.	2.144 (1.043)	0.358	0.000	2.502 (1.287)	Men should take the decision with respect to a woman's education.	4
5 Doing the cooking, cleaning and washing are not solely a woman's responsibility.	2.801 (1.281)	0.269	0.001	3.070 (1.351)	Doing the cooking, cleaning and washing are a woman's responsibility.	5
6 A young woman should not have to obey her brother(s).	3.318 (1.223)	-0.088	0.262	3.230 (1.271)	A young woman should obey her brother(s).	6
Observations	588			588	Observations	

Note: Due to oversampling of rural areas, all means take into account survey weights. Standard deviation in parentheses. The p-value is from a t-test on the mean difference. Due to the high number of statements that we are testing, we conducted two types of multiple hypothesis testing adjustment to verify our results. With the seemingly unrelated regressions (SUR) approach we can reject the null of zero effects across all specifications for both the male and female sample (with and without additional controls). We also calculated the Hochberg corrected p-value; for the male sample we can reject the null of zero impact for the statements 1, 3, 4 and 5 at the 1%-level. For the female sample we can reject the null of zero impact for the statements 1, 2, 3, 4 and 5 at the 1%-level. Calculations can be obtained upon request.

3 Results

3.1 Experiment 1: Framing effects

Table 4 shows the mean responses to all six attitude questions for each framing group respectively, as well as the results of a *t*-test on the mean difference between the two groups. Mean values for Group 1 (gender equality frame) are in column 2, mean values for Group 2 (gender inequality frame) in column 5, with the mean difference and corresponding p-value of the difference in columns 3 and 4 respectively. Panel A presents results for men and panel B for women.

A first observation is that the inequality frame induces answers more in line with gender inequality than in the equality frame for both men and women (see also Figure 1). In the male sample the difference is statistically significant in four out of six statements and in the female sample this is the case in all but one statement. Hence attitudes in favour of gender inequality appear stronger when questions are framed in the gender inequality frame. Recall that higher mean values correspond to higher support for gender inequality in both frames. We thus observe that men have overall stronger attitudes towards gender inequality than women, independent of the frame of reference.

Figure 1: Framing impact on attitudes towards gender inequality, male and female sample
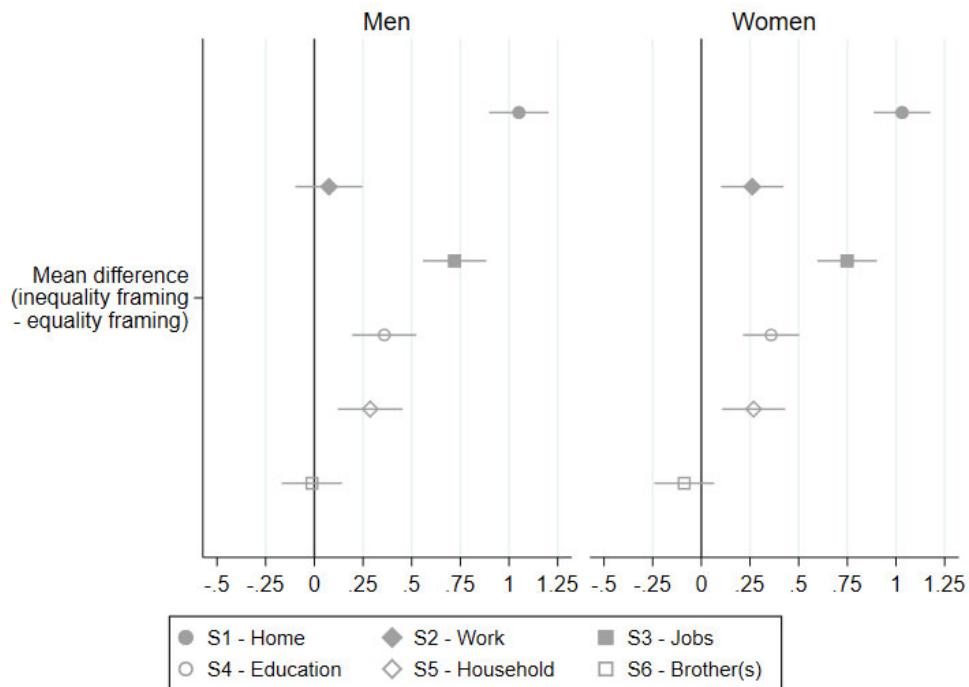
In a next step, we develop a variable that measures support for gender inequality by counting the number of statements where individual respondents report an inclination towards gender inequality (i.e. where response category was 3, 4 or 5).[13] Hence, the variable ranges between

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[13] In the gender equality frame, respondents are categorized as being inclined towards gender inequality if they do not agree with the item (i.e. response categories 3 – indifferent, 4 – somewhat disagree, and 5 – strongly disagree). In turn, for the

zero and six, depending on how many of the statements are supported. Plotting the distribution of respondents by framing type (see Figure 2), indicates that in both frames a similar share of both male and female responses support none of the statements towards gender inequality (i.e. strong gender equality inclination). Another pattern for both men and women, yet which only prevails in the gender inequality frame, is a high concentration of respondents supporting all six statements signalling strong agreement with gender inequality.[14] It seems that framing statements with a gender inequality frame provokes very extreme attitudes towards gender inequality among very conservative men and women. The results of a Pearson Chi-squared test indicate that for both men and women the differences in distribution are significant.

Figure 2: Attitudes towards gender inequality measured by the number of statements with support towards gender inequality

(a) Men

(b) Women

Pearson Chi-squared = 88.9 ***

Pearson Chi-squared = 156.0 ***
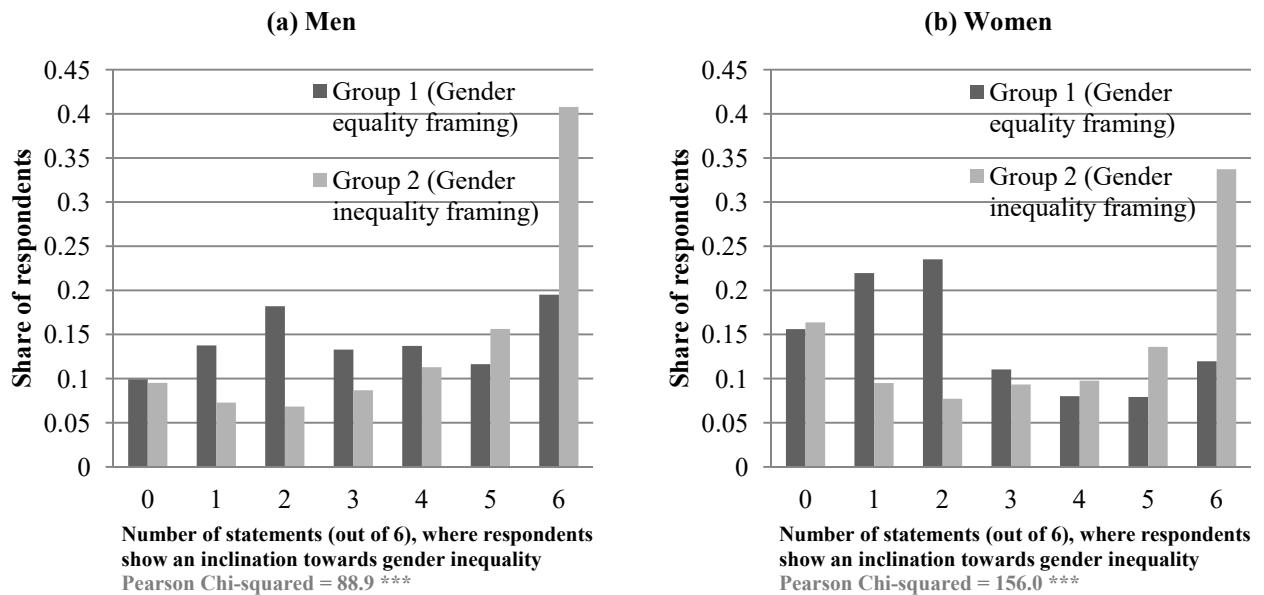
We use multivariate regressions to further analyse framing effects which allows to control for covariates that may redress any possibly remaining bias:

$$(1) \quad S_{ihg} = \alpha + \beta F_{ihg} + \gamma X_{ihg} + \delta Z_{hg} + \eta I_{ihg} + \theta_g + \varepsilon_{ihg},$$

where S_{ihg} is the share of statements that indicate inclination towards gender inequality that the respondent i of household h in governorate g supports. The share of statements is a variable between zero and one, with zero if there is no support for any of the statements and one if all six statements are supported. F_{ihg} takes on the value of one if the respondent received the gender inequality frame and zero if the respondent received the gender equality

gender inequality frame, respondents are categorized as being inclined towards gender inequality if they do not disagree with the item (i.e. response categories 3 – indifferent, 4 – somewhat agree, and 5 – strongly agree).

[14] This peak is somewhat sensitive to the inclusion of the middle category. When respondents are categorized as being inclined towards gender inequality if they select answer categories 4 or 5, then the findings of extreme attitudes in the gender inequality frame are weaker. See Figure A 1 in the appendix for results. However, we believe the middle category (i.e. "neither agree, nor disagree") is appropriately placed to reflect an inclination towards gender inequality as being indifferent towards gender inequality is clearly not reflective of a progressive view on women empowerment.

frame; i.e. positive β coefficients imply attitudes that are more supportive for gender inequality. X_{ihg} is a set of covariates that may affect attitudes on gender inequality of individual i additionally such as gender, marital status, age, level of education, whether or not the person has regular access to the internet and level of religiosity (here proxied with being member of a religious group). We moreover include household characteristics (Z_{hg}) such as household size, wealth quintiles (calculated with an asset index) and whether or not the household is located in a rural area or a coastal governorate. Since interviewer characteristics may influence answers too, we control for interviewer gender and whether or not the enumerator wears a hijab (I_{ihg}). In some specifications we also control for governorate fixed effects, θ_g. ε_{ihg} is the error term; since we assume attitudes to be correlated within a household and among the interviewers, we double-cluster the standard errors at household- and interviewer-level.[15] Our main interest lies in estimating the effect of framing, and the differential effect it has on men and women. We therefore estimate Equation 1 separately for each sex and report results in Table 5. Consistent with the unconditional effects from Table 4, we find that inequality framing leads to increased gender biased attitudes. The average effect is 0.18 for the overall sample, and 0.16 and 0.21 for the male and female subsample respectively. The magnitude of the effect roughly coincides with the support of one additional statement. The effect is robust to the inclusion of governorate fixed effects (see columns 4 to 6).

Table 5: Effect of gender inequality frame and other covariates on enforcing attitudes towards gender inequality

	Attitudes towards gender inequality					
	(1)	(2)	(3)	(4)	(5)	(6)
	Full sample	Men	Women	Full sample	Men	Women
Gender inequality frame (=1)	0.183***	0.162***	0.206***	0.179***	0.155***	0.201***
	(0.018)	(0.023)	(0.021)	(0.018)	(0.023)	(0.021)
Male (=1)	0.117***			0.114***		
	(0.013)			(0.013)		
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176
Adj. R-squared	0.143	0.100	0.159	0.165	0.119	0.172

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Equation estimated with OLS. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

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[15] The results are robust to an estimation by a fractional response model and interviewer fixed effects additional to governorate fixed effects. Moreover, we tested the robustness of our results with the alternative response grouping (i.e. categories 1, 2, 3 vs. 4, 5); overall the results are robust. For all results please refer to Table A 1 in the appendix.

3.2 Experiment 2: Audio priming intervention

We present the results of the audio intervention in Table 6; it shows the mean responses to all six domestic violence statements for each group and the results of a *t*-test on the mean difference between the two groups. As before, we split the analysis by gender.

**Table 6: Attitudes towards domestic violence, male and female sample**

Statement	Group 2 (no priming)	Group 1 (priming)		
	(1)	(2)	(3)	(4)
It is justified that a man hits or beats his wife…	Mean (SD)	Mean (SD)	Mean difference	p-value
(A) Men				
1 … If she goes out without telling him?	1.696 (1.024)	1.649 (1.043)	-0.047	0.499
2 … If she neglects the children?	1.931 (1.228)	1.784 (1.168)	-0.147	0.067
3 … If she argues with him?	1.750 (1.078)	1.625 (1.020)	-0.125	0.075
4 … If she buys things without his consent?	1.669 (0.974)	1.510 (0.897)	-0.159	0.011
5 … If she applies for a new job or engages in a new livelihood without his consent?	1.663 (1.000)	1.549 (0.902)	-0.114	0.074
6 … If she files a complaint against him to a higher authority or to the police?	1.806 (1.073)	1.609 (0.988)	-0.197	0.005
Observations	548	504		
(B) Women				
1 … If she goes out without telling him?	1.551 (0.934)	1.507 (0.928)	-0.044	0.456
2 … If she neglects the children?	1.702 (1.088)	1.553 (0.997)	-0.149	0.024
3 … If she argues with him?	1.529 (0.906)	1.466 (0.894)	-0.063	0.269
4 … If she buys things without his consent?	1.467 (0.810)	1.396 (0.786)	-0.071	0.158
5 … If she applies for a new job or engages in a new livelihood without his consent?	1.457 (0.829)	1.422 (0.860)	-0.035	0.514
6 … If she files a complaint against him to a higher authority or to the police?	1.549 (0.915)	1.470 (0.911)	-0.080	0.168
Observations	582	571		

Note: Due to oversampling of rural areas, all means take into account survey weights. Standard deviation in parentheses. The p-value is from a t-test on the mean difference. Due to the high number of statements that we are testing, we conducted two types of multiple hypothesis testing adjustment to verify our results. With the seemingly unrelated regressions (SUR) approach we can reject the null of zero effects across all specifications for the male sample (with and without additional controls). For the female sample wen can only reject the null when including controls. We also calculated the Hochberg corrected p-value; for the male sample we can reject the null of zero impact for the statements 6 and 4 at the 10%-level. For the female sample we cannot reject the null of zero impact for all statements. In conclusion, the effect of priming is less stable with multiple hypothesis testing adjustment. Calculations can be obtained upon request.

Panel A indeed shows an effect of the audio message for the male sample. Men that are informed about the severity or incidence of domestic violence in Tunisia, have lower levels of agreement with the statements justifying domestic violence, yet albeit significant for most

statements, the effect is small. There are no effects for females, except for the statement about the children's neglect (also see Figure 3).[16]

Figure 3: Priming effect on attitudes towards domestic violence, male and female sample
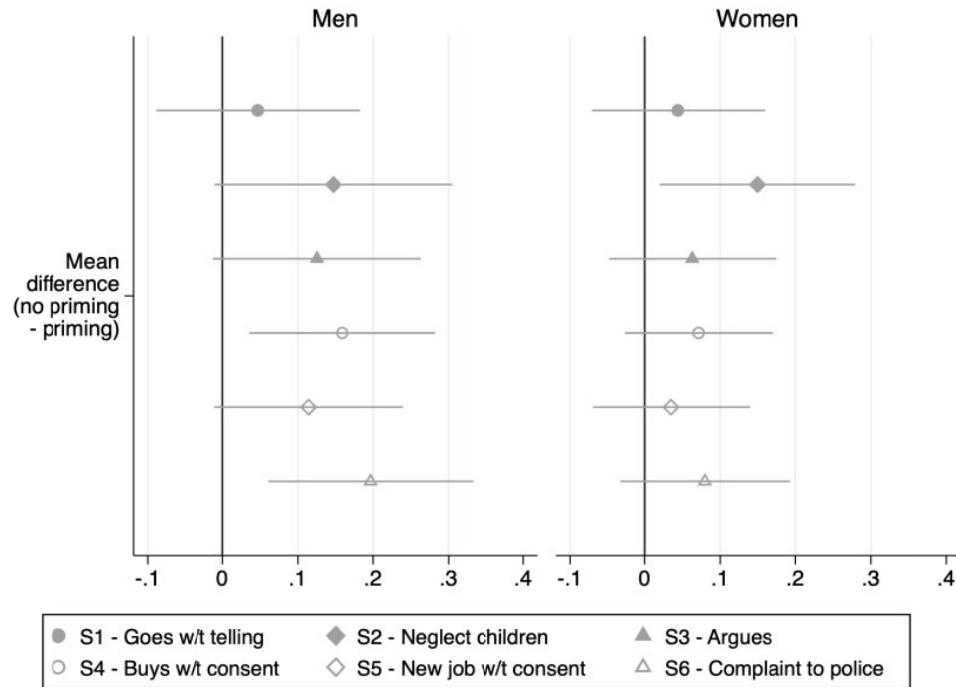
Due to the fact that the responses to all domestic violence statements are highly correlated among each respondent, i.e. the response pattern is very similar, we construct a domestic violence index for our further analysis.[17] The index indicates the average score over all six domestic violence statements. The index is measured on a continuous scale ranging from one to five. The average score for the male sample is 1.762 with a standard deviation of 0.962. The mean value for the female sample is 1.592 with a standard deviation of 0.862. In Table 7 we present the results of the following equation:

$$(2) \quad D_{ihg} = \alpha + \beta P_{ihg} + \gamma X_{ihg} + \delta Z_{hg} + \eta I_{ihg} + \theta_g + \varepsilon_{ihg},$$

where D_{ih} is the domestic violence index score of individual i of household h in governorate g. P_{ih} takes on the value of one if respondent i received the audio primer and zero otherwise. The covariates are equal to the ones of Equation 1. Equation 2 is also estimated with OLS, whereas in a second specification we furthermore include governorate fixed effects (θ_g). Standard errors are double-clustered at the household- and interviewer-level.[18] The findings of

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[16] We may interpret our results as intention-to-treat (ITT) effects only, since 30% of individuals did not fully listen to the statement. When excluding those that did not listen to the audio primer fully, i.e. comparing those that did not receive any primer with those that did listen to the primer fully does not change the results much. Results can be obtained upon request.

[17] The pairwise correlation coefficient ranges from 0.65 to 0.85; all of the coefficients are significant at the 1%-level.

[18] Despite governorate fixed effects we also tested the robustness when including interviewer fixed effects; all results are fairly robust (see

the unconditional mean comparison are also confirmed in the OLS regression: the audio message reduces justification of domestic violence by 0.12 for the overall sample. When the sample is split by gender, it becomes clear that the effect is mostly driven by the male sample where support for domestic violence is reduced by 0.15. The effect is small in size (i.e. roughly one/sixth of the standard deviation), but statistically significant. For women the effect is also statistically significant now, but even smaller.

Table 7 : Effect of audio message and other covariates on domestic violence index

	Domestic violence index (Scale 1-5)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Full sample	Men	Women	Full sample	Men	Women
Audio message (=1)	-0.117***	-0.146**	-0.091*	-0.107**	-0.122**	-0.087*
	(0.045)	(0.062)	(0.048)	(0.042)	(0.058)	(0.047)
Male (=1)	0.209***			0.191***		
	(0.034)			(0.033)		
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,186	1,033	1,153	2,186	1,033	1,153
Adj. R-squared	0.093	0.083	0.079	0.173	0.175	0.155

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Equation estimated with OLS. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Although the absolute effect of the audio-message is rather small, it is interesting to see that confronting individuals with facts about domestic violence reduces their endorsement for it, particularly among men. This is especially important given that men in general endorse domestic violence more than women. Men have a domestic violence index that is on average 0.21 higher than women. Hence, our experiment shows that men seem more receptive to such messages and revise their explicit attitude accordingly.

**Figure 4: Attitudes towards domestic violence (rounded index)**

(a) Men

(b) Women
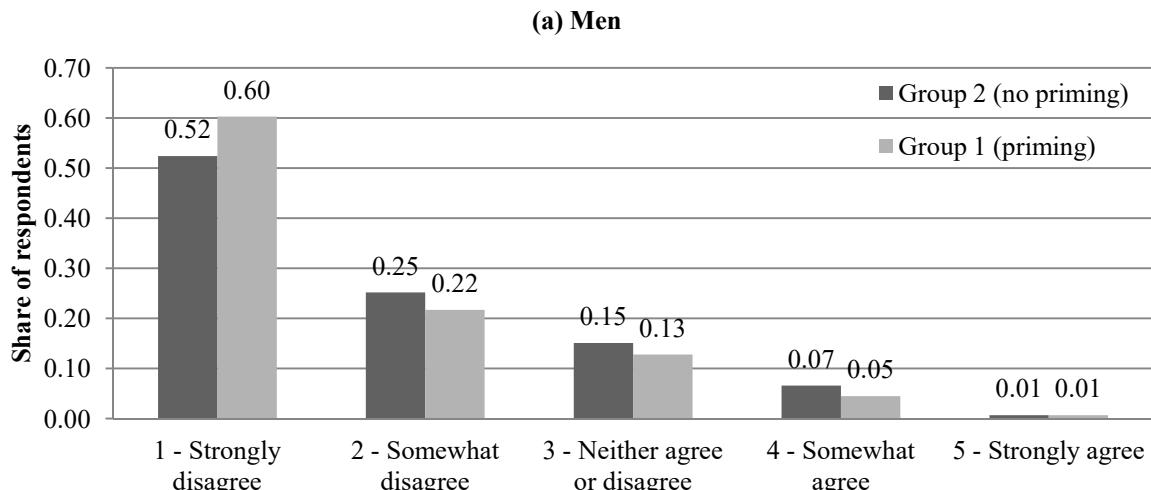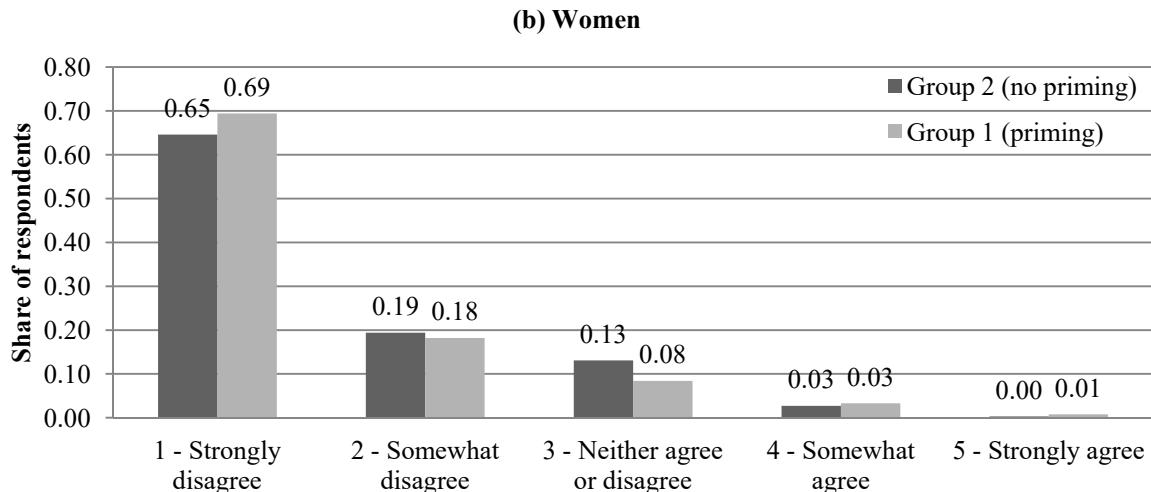
Figure 4 disaggregates the differences by response category and shows that the biggest difference between treatment and control group comes from the lowest response category (i.e. "strongly disagree" with statements justifying domestic violence).[19]

3.3 Heterogeneity analysis

For both experiments we explore heterogeneous impacts with respect to a number of possible mediating variables other than gender. We start by looking at differential impacts related to education, followed by differences in interviewer characteristics (interviewer gender and perceived religiosity).

<u>Effect of level of education</u>

We hypothesise in line with the existing literature that more educated individuals are less prone to framing effects. We therefore extend Equation 1 with an interaction term between the gender inequality frame and the level of education. Our educational variable is measured as a categorical variable with "primary education", "secondary education", and "tertiary or higher education" and "no education" as the reference category. For ease of interpretation, we calculated the linear prediction of the average share of statements with inclination towards gender inequality for the main and interaction effects.[20] Figure 5 shows the linear predictions for the different combinations of education level and the respective frame, for men and women separately (based on the estimates using governorate fixed effects). Although the effect of framing is not completely neutralised, we find higher educated men and women to be

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[19]

Table A **3**, which presents the results of an ordered logit regression, confirms that the differences observable in Figure 4 are significant, at least for the male sample. The results are robust to including additional controls, governorate fixed effects and interviewer fixed effects.

[20] For the results of the main and interaction effects and their linear predictions please refer to

Table A **4** -

Table A **7** in the appendix.

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less sensitive to framing effects: the distance in linear predictions of the two frames becomes smaller as education levels increase.

Figure 5: Sensitivity to framing effects by the level of education; linear prediction of interaction effects

(a) Men   (b) Women
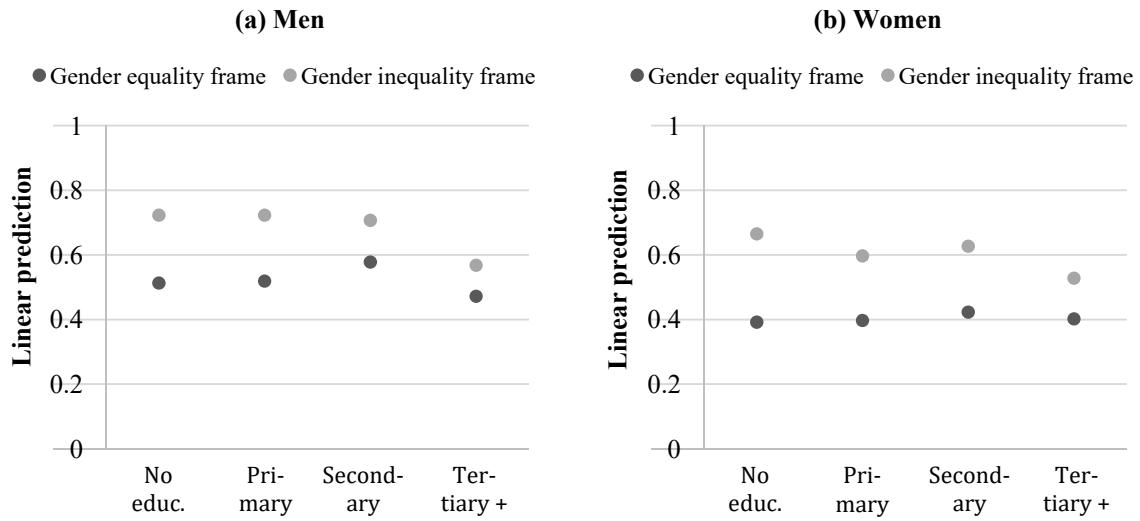
By contrast there is no such effect visible with our second experiment (Figure 6). One interpretation for the lack of this effect may be that the provision of concrete, relevant information, as in our priming intervention, separately from the applicable questions, may comprise less of a cognitive burden than framing.

Figure 6: Sensitivity to priming effects by the level of education; linear prediction of interaction effects

(a) Men   (b) Women

Interviewer effects

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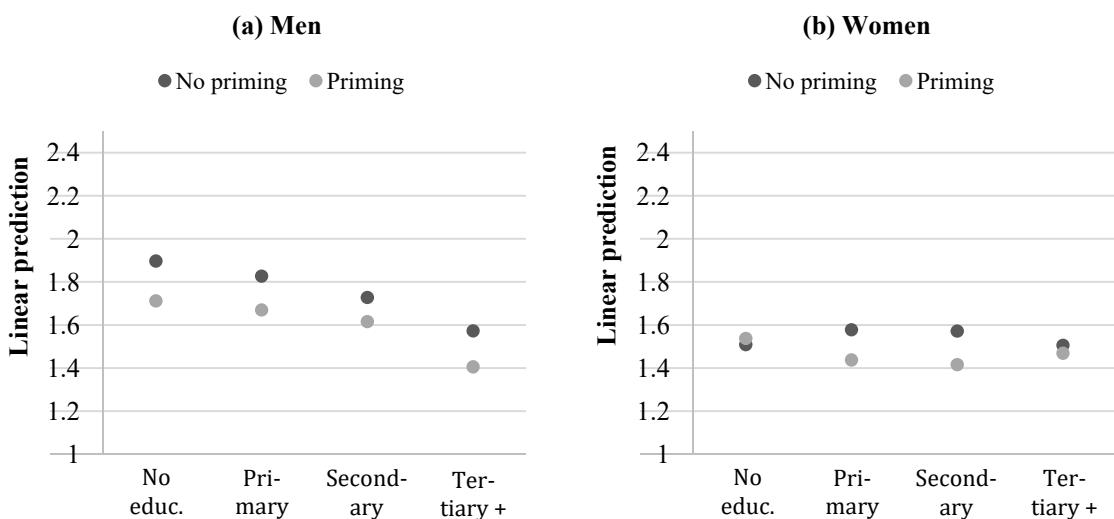
We then move to possible effects of interviewer characteristics. We are especially interested in gender-of-interviewer effects and the effect of perceived religiosity, given the Arab context of our study where traditional gender norms prevail and a signal of adherence to Islam may provoke specific responses. We again re-estimated Equation 1 augmented with an interaction term between the frame of reference (i.e. gender equality vs. gender inequality frame) and, respectively, interviewer gender and interviewer perceived religiosity (i.e. whether or not the female interviewer was wearing a headscarf).

Table 8 shows the gender-of-interviewer effects on attitudes towards gender inequality and their interaction with the framing experiment.[21] The gender of the interviewer does not seem to trigger significantly differential answers in support for gender inequality, neither for men or women. This finding is in contrast with findings from other studies where respondents give more progressive and egalitarian answers on gender sensitive questions when interviewed by women – i.e. the deference effect (West and Blom, 2017). The interaction of framing and female interviewer rather seems to suggest an "antideference"-effect among men; when attitude statements are posed in an inequality frame and when interviewed by a female interviewer, the support for gender inequality increases.

Table 8: Gender-of-interviewer effects on attitudes towards gender inequality; main and interaction effects

	Attitudes towards gender inequality					
	(1)	(2)	(3)	(4)	(5)	(6)
	Full sample	Men	Women	Full sample	Men	Women
Male (=1)	0.117***			0.113***		
	(0.013)			(0.013)		
Gender inequality frame (=1)	0.145***	0.107***	0.187***	0.142***	0.107***	0.181***
	(0.030)	(0.037)	(0.035)	(0.030)	(0.038)	(0.035)
Female interviewer (=1)	-0.028	-0.072**	0.021	-0.026	-0.056	0.017
	(0.024)	(0.032)	(0.030)	(0.029)	(0.037)	(0.037)
Female interviewer × Frame	0.072*	0.106**	0.035	0.070*	0.095**	0.038
	(0.037)	(0.045)	(0.044)	(0.036)	(0.046)	(0.044)
Constant	0.434***	0.584***	0.441***	0.431***	0.617***	0.408***
	(0.082)	(0.115)	(0.110)	(0.086)	(0.129)	(0.117)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176
Adj. R-squared	0.145	0.105	0.159	0.167	0.122	0.172

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

In Table 9 we see the effects of perceived religiosity of the female interviewers and the interaction with the gender inequality frame. The effect of the headscarf, irrespective of the frame, is significantly positive (i.e. stronger inclination towards gender inequality). Enumerators wearing a hijab, i.e. signalling strong religiosity, seem to trigger more conservative replies by both female and male respondents, which is in line with findings from other studies. This suggests religious appearance (or the absence of it in a setting where this is

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[21] For the linear predictions of both Table 8 and Table 9 please refer to

arguably considered a social norm) induces respondents to answer more in line with norms of the interviewer as perceived by the respondent. The headscarf and the inequality frame both trigger more conservative responses, but when both are combined in the interaction term, this effect is slightly downward corrected, not reinforced.

Table 9: Effects of interviewer's perceived religiosity on attitudes towards gender inequality; main and interaction effects

	Attitudes towards gender inequality					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Male (=1)	0.082*** (0.016)			0.077*** (0.016)		
Gender inequality frame (=1)	0.286*** (0.025)	0.270*** (0.033)	0.300*** (0.035)	0.297*** (0.024)	0.289*** (0.032)	0.303*** (0.035)
Interviewer w/ headscarf (=1)	0.206*** (0.027)	0.185*** (0.036)	0.222*** (0.033)	0.136*** (0.032)	0.125*** (0.048)	0.150*** (0.039)
Headscarf × Frame	-0.109*** (0.039)	-0.093* (0.050)	-0.124** (0.050)	-0.128*** (0.037)	-0.129*** (0.048)	-0.132*** (0.050)
Constant	0.393*** (0.096)	0.491*** (0.134)	0.427*** (0.130)	0.526*** (0.112)	0.644*** (0.154)	0.549*** (0.159)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	1,174	544	630	1,174	544	630
Adj. R-squared	0.204	0.176	0.197	0.232	0.211	0.206

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

We repeat the analysis again for the second experiment and present results in Table 10.[22] Female interviewers induce lower support for domestic violence among men irrespective of whether the respondent was exposed to the audio treatment. Hence, the deference-effect that we did not observe among questions towards gender inequality is somewhat observable among questions towards domestic violence. The interaction between the audio message and the gender of the interviewer – although not statistically significant – works in the same direction; being interviewed by a woman reinforces the effect of the audio primer.

Table 10: Gender-of-interviewer effects on attitudes towards domestic violence; main and interaction effects

	Domestic violence index (Scale 1-5)					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Male (=1)	0.208*** (0.034)			0.190*** (0.033)		
Audio priming (=1)	-0.047 (0.065)	-0.081 (0.092)	-0.022 (0.068)	-0.072 (0.063)	-0.092 (0.089)	-0.052 (0.066)
Female interviewer (=1)	-0.148** (0.065)	-0.235** (0.092)	-0.071 (0.073)	-0.097 (0.073)	-0.174* (0.104)	-0.025 (0.082)

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[22] For the linear predictions of both Table 10 and Table 11 please refer to

Table A **10** and
Table A **11** in the appendix.

Female interviewer × Priming	-0.128	-0.123	-0.124	-0.063	-0.056	-0.064
	(0.090)	(0.125)	(0.097)	(0.087)	(0.122)	(0.095)
Constant	2.040***	2.390***	1.795***	1.811***	2.279***	1.430***
	(0.217)	(0.315)	(0.253)	(0.209)	(0.304)	(0.254)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,186	1,033	1,153	2,186	1,033	1,153
Adj. R-squared	0.094	0.083	0.080	0.173	0.174	0.154

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table 11 then depicts the results for the audio intervention and perceived religiosity of the interviewer. Although the audio message induces lower support for domestic violence overall, female interviewers wearing a hijab, i.e. signalling stronger religiosity, induce the opposite effect. Here women wearing a hijab invite stronger support for the justification of domestic violence among both men and women. Although the interaction terms are not statistically significant, the direction of the effect indicates that the audio combined with no hijab leads to the lowest support for domestic violence. This is consistent with an interpretation that information reduces support and a female interviewer wearing no hijab signalling rather progressive norms reinforces this effect. By contrast, no information and signalled religiosity invites responses aligned with conservative norms that may be more tolerant of domestic violence.

Table 11: Effects of interviewer's perceived religiosity on attitudes towards domestic violence; main and interaction effects

	Domestic violence index (Scale 1-5)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Full sample	Men	Women	Full sample	Men	Women
Male (=1)	0.174***			0.155***		
	(0.045)			(0.043)		
Audio priming (=1)	-0.079	-0.094	-0.070	-0.069	-0.117	-0.029
	(0.077)	(0.110)	(0.096)	(0.072)	(0.116)	(0.089)
Interviewer with headscarf (=1)	0.484***	0.600***	0.381***	0.269***	0.301**	0.246***
	(0.083)	(0.118)	(0.093)	(0.074)	(0.118)	(0.085)
Headscarf × Priming	-0.152	-0.186	-0.113	-0.109	-0.063	-0.133
	(0.119)	(0.160)	(0.139)	(0.110)	(0.157)	(0.131)
Constant	1.600***	1.874***	1.418***	1.570***	1.948***	1.308***
	(0.283)	(0.376)	(0.364)	(0.313)	(0.409)	(0.461)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	1,191	552	639	1,191	552	639
Adj. R-squared	0.105	0.106	0.074	0.233	0.246	0.179

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

4 Discussion and conclusion

This paper demonstrates the impact of two randomised emphasis framing experiments on attitudes towards women empowerment in Tunisia. While the literature on framing is well established in the developed world, we provide novel experimental evidence from surveys done in a developing country context. Specifically, in our first experiment we study the

impact of subtle frames towards gender (in)equality on gender attitudes. Our second experiment is a special case of framing, i.e. priming, where we randomly assign half of our sample to be exposed to an audio message providing official statistical information about the incidence of domestic violence in Tunisia, prior to asking them about their attitudes towards domestic violence.

We find that framing questions in an inequality (male dominance) frame invokes responses supporting gender inequality relative to an equality frame. In other words, if questions are framed with a focus on the dominant role of men in intra-household decision-making, consistent with the social norm in Tunisia, both men and women respond in accordance with the existing gender-biased norm. We also find that exposure to an audio message that contains true factual information about domestic violence reduces self-reported support for domestic violence, but only for the male sample. This is possibly due to an information effect; women, not men are typically victims of domestic violence and women may have first-hand experience and are hence well aware of its prevalence in Tunisian society.

Our heterogeneity analysis shows that education level of the respondent matters in the first experiment but not the second. One interpretation is that the second experiment is cognitively perhaps less burdensome and therefore not affected by education levels. The priming message is clearly distinct from the survey questions that follow, whereas the first experiment is not. We also find that interviewer characteristics play a role. Being interviewed by a women does not have an average impact on stated attitudes towards gender inequality, but it does interact with our framing treatment: a gender inequality frame combined with a female interviewer leads respondents to answer in higher support of gender inequality, especially among men. This is perhaps because a female interviewer suggests economic and social independence, which is not in line with the male dominance and hence the anti-deference effect is reinforced in the inequality decision-frame. The fact that only men react to this, is in line Flores-Macias and Lawson (2008) who suggest that gender-of-interviewer effects might be asymmetric with men being more likely to be affected on gender-sensitive items than women. In the second experiment, however, we rather find a deference-effect, i.e. having a female interviewer lowers average support for domestic violence – again only among men. Perceived religiosity of the interviewer triggers more conservative responses or conversely interviewers that do not wear a hijab invite more progressive answers, consistent with an interpretation that people respond in accordance with social norms the interviewer is perceived to adhere to. Perceived religiosity increases average support for domestic violence in the second experiment irrespective of the treatment.

If we believe our findings to be true responses then average gender attitudes in Tunisia (and possibly the larger MENA region) are still far from global goals to achieve gender equality worldwide. One interpretation consistent with our findings is that as soon as questions are framed in accordance with the traditional male dominance norm, respondents have no reservations to reveal their gender biased attitudes, especially when the interviewer signals adherence to this social norm. However, we also find that men, who are arguably less informed about the prevalence of domestic violence in the society, are receptive to informational primers. Knowing that certain people are responsive in the short term may

mean they also adapt their behaviour in the long term (see e.g. Weingarten et al., 2016), in particular if they are repeatedly exposed to such treatments (or similar situations).

There are a number of caveats to our study. First, and foremost, we only have cross-sectional evidence, leaving the important question on how long these framing effects lasts unanswered (also see de Vreese, 2012). Besides, we do not know whether changing attitudes towards these issues also translates in changes in behaviour. Future studies should consider panel surveys and cross-validate self-reported answers with (unobtrusive) behavioural measures. Also, our results from the audio intervention are potentially confounded by the first experiment, as respondents were first exposed to the framing experiment and subsequently to the priming experiment.

In sum, we have demonstrated that subtle frames, short factual information through an audio message, and variation in observable interviewer traits affect survey responses in a context where gender attitudes are believed to be particularly salient and persistent. These effects can possibly be even bigger in other areas where such attitudes are considered to be more fluid. This warrants attention to a more careful survey design, including a randomisation of salient interviewer characteristics, especially when eliciting responses to sensitive questions like gender attitudes. Alternative measures that are less susceptible to framing effects may appear to be necessary complementary tools to measure such attitudes.

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Appendix

Figure A 1: Robustness of framing effect on attitudes towards gender inequality with alternative response grouping

(a) Men

(b) Women

Number of statements (out of 6), where respondents show an inclination towards gender inequality

Pearson Chi-squared = 107.6 ***

Number of statements (out of 6), where respondents show an inclination towards gender inequality

Pearson Chi-squared = 142.5 ***
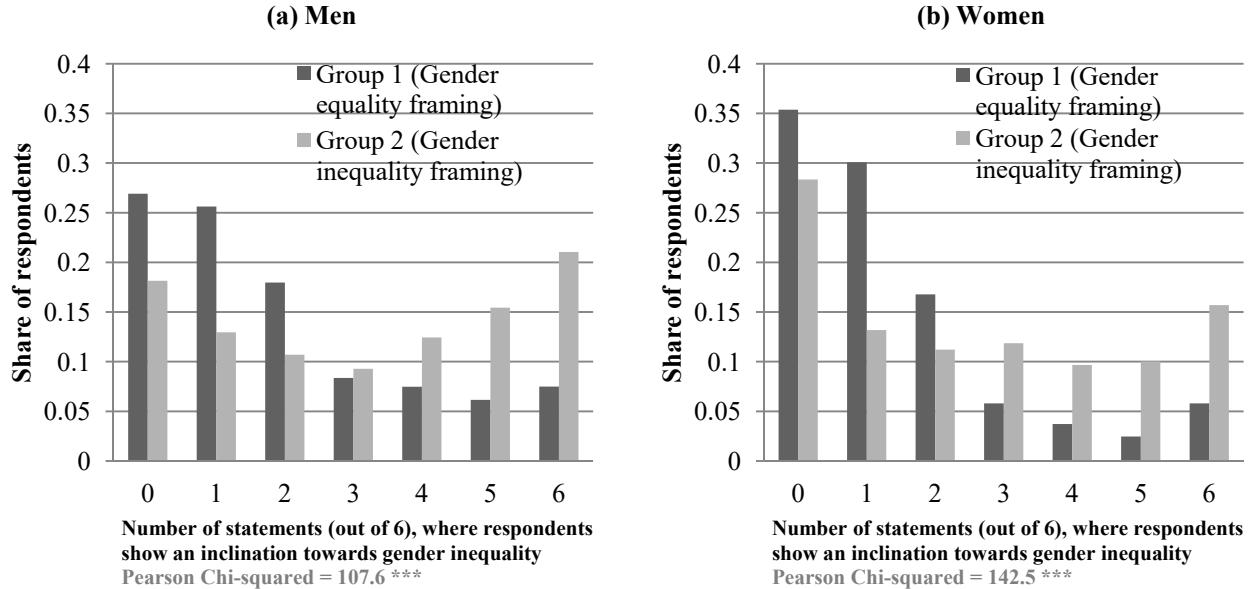
Table A 1: Robustness of the effect of gender inequality frame on enforcing attitudes towards gender inequality

	Attitudes towards gender inequality					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
(A) Alternative response grouping						
Gender inequality frame (=1)	0.196***	0.203***	0.193***	0.193***	0.201***	0.189***
	(0.018)	(0.023)	(0.020)	(0.017)	(0.023)	(0.020)
Male (=1)	0.103***			0.102***		
	(0.013)			(0.013)		
(B) Interviewer FE						
Gender inequality frame (=1)	0.187***	0.158***	0.218***	0.186***	0.157***	0.213***
	(0.017)	(0.022)	(0.021)	(0.017)	(0.022)	(0.021)
Male (=1)	0.122***			0.120***		
	(0.013)			(0.013)		
(C) Fractional response model (margins)						
Gender inequality frame (=1)	0.180***	0.160***	0.202***	0.176***	0.153***	0.196***
	(0.017)	(0.021)	(0.020)	(0.017)	(0.021)	(0.020)
Male (=1)	0.117***			0.114***		
	(0.013)			(0.013)		
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 2: Robustness of the effect of priming on domestic violence index

	Attitudes towards gender inequality					
	(1)	(2)	(3)	(4)	(5)	(6)
	Full sample	Men	Women	Full sample	Men	Women
Audio priming (=1)	-0.116***	-0.128**	-0.104**	-0.113***	-0.123**	-0.098**
	(0.037)	(0.052)	(0.042)	(0.036)	(0.052)	(0.042)
Male (=1)	0.213***			0.213***		
	(0.031)			(0.032)		
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Interviewer FE	YES	YES	YES	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 3: Probability of selecting a respective answer category dependent on priming received for domestic violence index (rounded)

	Domestic violence index (scale rounded, 1-5)				
	(1)	(2)	(3)	(4)	(5)
Response category	Pr(1)	Pr(2)	Pr(3)	Pr(4)	Pr(5)
Full sample					
Audio priming (=1)	0.063**	-0.025**	-0.025**	-0.010**	-0.002**
	(0.027)	(0.011)	(0.011)	(0.005)	(0.001)
Men					
Audio priming (=1)	0.077**	-0.027**	-0.032**	-0.016**	-0.002*
	(0.034)	(0.012)	(0.014)	(0.007)	(0.001)
Women					
Audio priming (=1)	0.048	-0.021	-0.019	-0.006	-0.001
	(0.030)	(0.013)	(0.012)	(0.004)	(0.001)
Controls	NO	NO	NO	NO	NO
Governorate FE	NO	NO	NO	NO	NO

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Displayed are the marginal effects of an ordered logit model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 4: Sensitivity to framing effects by the level of education; main and interaction effects

	Attitudes towards gender inequality					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Male (=1)	0.117***			0.113***		
	(0.013)			(0.013)		
Gender inequality frame (=1)	0.251***	0.210***	0.273***	0.260***	0.217***	0.282***
	(0.041)	(0.070)	(0.044)	(0.041)	(0.070)	(0.044)
Primary educ. (=1)	-0.000	0.006	0.005	-0.004	-0.020	0.014
	(0.033)	(0.060)	(0.037)	(0.033)	(0.061)	(0.037)
Secondary educ. (=1)	0.032	0.066	0.031	0.030	0.047	0.031
	(0.036)	(0.063)	(0.043)	(0.036)	(0.064)	(0.043)
Tertiary + educ. (=1)	-0.044	-0.041	0.010	-0.036	-0.048	0.016
	(0.042)	(0.067)	(0.053)	(0.041)	(0.069)	(0.052)
Primary × Frame	-0.052	-0.006	-0.073	-0.069	-0.026	-0.090*
	(0.047)	(0.077)	(0.054)	(0.046)	(0.077)	(0.054)
Secondary × Frame	-0.086*	-0.081	-0.068	-0.104**	-0.095	-0.091
	(0.048)	(0.079)	(0.057)	(0.047)	(0.079)	(0.056)
Tertiary + × Frame	-0.141**	-0.114	-0.147**	-0.153***	-0.116	-0.164**
	(0.056)	(0.090)	(0.066)	(0.055)	(0.092)	(0.064)
Constant	0.388***	0.547***	0.405***	0.377***	0.571***	0.363***
	(0.084)	(0.122)	(0.111)	(0.089)	(0.134)	(0.118)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176
Adj. R-squared	0.146	0.101	0.161	0.168	0.120	0.175

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 5: Sensitivity to framing effects by the level of education; linear prediction of the main and interaction effects

	Attitudes towards gender inequality		
	(1)	(2)	(3)
	Full sample	Men	Women
Gender inequality frame (=0)	0.465***	0.532***	0.404***
	(0.011)	(0.015)	(0.014)
Gender inequality frame (=1)	0.649***	0.694***	0.611***
	(0.014)	(0.016)	(0.016)
No education (=1)	0.589***	0.621***	0.529***
	(0.023)	(0.038)	(0.027)
Primary educ. (=1)	0.562***	0.625***	0.497***
	(0.014)	(0.018)	(0.018)
Secondary educ. (=1)	0.578***	0.645***	0.525***
	(0.014)	(0.019)	(0.020)
Tertiary + educ. (=1)	0.474***	0.522***	0.466***
	(0.022)	(0.030)	(0.030)
No education (=1) × Frame (=0)	0.462***	0.513***	0.392***
	(0.029)	(0.055)	(0.032)
No education (=1) × Frame (=1)	0.712***	0.723***	0.665***
	(0.032)	(0.049)	(0.037)
Primary (=1) × Frame (=0)	0.461***	0.519***	0.397***
	(0.017)	(0.023)	(0.022)
Primary (=1) × Frame (=1)	0.660***	0.723***	0.597***
	(0.022)	(0.026)	(0.027)
Secondary (=1) × Frame (=0)	0.494***	0.578***	0.423***
	(0.020)	(0.029)	(0.026)
Secondary (=1) × Frame (=1)	0.659***	0.707***	0.627***
	(0.020)	(0.024)	(0.029)
Tertiary + (=1) × Frame (=0)	0.418***	0.472***	0.402***
	(0.027)	(0.036)	(0.039)
Tertiary + (=1) × Frame (=1)	0.527***	0.568***	0.528***
	(0.031)	(0.046)	(0.040)
Controls	YES	YES	YES
Governorate FE	NO	NO	NO
Observations	2,228	1,052	1,176

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 6: Sensitivity to priming effects by the level of education; main and interaction effects

	Domestic violence index (Scale 1-5)					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Male (=1)	0.210***			0.191***		
	(0.034)			(0.033)		
Audio priming (=1)	-0.043	-0.185	0.029	-0.061	-0.187	0.009
	(0.098)	(0.185)	(0.104)	(0.095)	(0.168)	(0.103)
Primary educ. (=1)	0.013	-0.070	0.069	-0.010	-0.139	0.071
	(0.092)	(0.159)	(0.099)	(0.089)	(0.152)	(0.099)
Secondary educ. (=1)	-0.049	-0.168	0.063	-0.037	-0.203	0.087
	(0.090)	(0.156)	(0.102)	(0.086)	(0.146)	(0.100)
Tertiary + educ. (=1)	-0.184*	-0.324*	-0.003	-0.168*	-0.357**	0.003
	(0.100)	(0.173)	(0.117)	(0.098)	(0.163)	(0.116)
Primary × Priming	-0.102	0.028	-0.169	-0.045	0.081	-0.130
	(0.115)	(0.206)	(0.131)	(0.112)	(0.190)	(0.130)
Secondary × Priming	-0.094	0.072	-0.185	-0.079	0.074	-0.161
	(0.115)	(0.209)	(0.129)	(0.111)	(0.192)	(0.125)
Tertiary + × Priming	-0.051	0.019	-0.067	-0.030	0.049	-0.038
	(0.126)	(0.217)	(0.152)	(0.125)	(0.201)	(0.154)
Constant	2.044***	2.469***	1.775***	1.804***	2.334***	1.403***
	(0.217)	(0.318)	(0.254)	(0.209)	(0.308)	(0.252)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,186	1,033	1,153	2,186	1,033	1,153
Adj. R-squared	0.092	0.081	0.079	0.172	0.173	0.154

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 7: Sensitivity to priming effects by the level of education; linear prediction of the main and interaction effects

	Domestic violence index (Scale 1-5)		
	(1)	(2)	(3)
	Full sample	Men	Women
Audio priming (=0)	1.649***	1.760***	1.550***
	(0.032)	(0.043)	(0.034)
Audio priming (=1)	1.532***	1.614***	1.459***
	(0.032)	(0.044)	(0.034)
No education (=1)	1.668***	1.807***	1.523***
	(0.057)	(0.108)	(0.059)
Primary educ. (=1)	1.631***	1.751***	1.509***
	(0.037)	(0.054)	(0.041)
Secondary educ. (=1)	1.572***	1.673***	1.495***
	(0.037)	(0.051)	(0.045)
Tertiary + educ. (=1)	1.458***	1.492***	1.488***
	(0.048)	(0.066)	(0.070)
No education (=1) × Priming (=0)	1.689***	1.897***	1.509***
	(0.076)	(0.138)	(0.079)
No education (=1) × Priming (=1)	1.646***	1.712***	1.538***
	(0.074)	(0.147)	(0.079)
Primary (=1) × Priming (=0)	1.702***	1.827***	1.578***
	(0.055)	(0.079)	(0.058)
Primary (=1) × Priming (=1)	1.557***	1.670***	1.438***
	(0.047)	(0.068)	(0.057)
Secondary (=1) × Priming (=0)	1.639***	1.728***	1.572***
	(0.049)	(0.067)	(0.060)
Secondary (=1) × Priming (=1)	1.502***	1.616***	1.416***
	(0.053)	(0.077)	(0.061)
Tertiary + (=1) × Priming (=0)	1.504***	1.573***	1.506***
	(0.060)	(0.098)	(0.078)
Tertiary + (=1) × Priming (=1)	1.410***	1.406***	1.469***
	(0.066)	(0.077)	(0.102)
Controls	YES	YES	YES
Governorate FE	NO	NO	NO
Observations	2,186	1,033	1,153

Note: Due to oversampling of rural areas, all estimations take into account survey weights. OLS model. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 8: Gender-of-interviewer effects on attitudes towards gender inequality; linear prediction of main and interaction effects

	Attitudes towards gender inequality					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Gender inequality frame (=0)	0.464***	0.531***	0.403***	0.467***	0.534***	0.406***
	(0.011)	(0.015)	(0.014)	(0.011)	(0.015)	(0.014)
Gender inequality frame (=1)	0.648***	0.692***	0.610***	0.646***	0.689***	0.607***
	(0.014)	(0.016)	(0.016)	(0.014)	(0.016)	(0.016)
Female interviewer (=0)	0.553***	0.623***	0.487***	0.553***	0.618***	0.488***
	(0.016)	(0.021)	(0.020)	(0.017)	(0.022)	(0.021)
Female interviewer (=1)	0.562***	0.606***	0.525***	0.562***	0.611***	0.524***
	(0.010)	(0.013)	(0.014)	(0.013)	(0.017)	(0.017)
Female (=0) × Frame (=0)	0.479***	0.568***	0.392***	0.481***	0.563***	0.397***
	(0.018)	(0.025)	(0.023)	(0.020)	(0.027)	(0.025)
Female (=1) × Frame (=0)	0.451***	0.496***	0.413***	0.454***	0.507***	0.414***
	(0.015)	(0.019)	(0.018)	(0.017)	(0.021)	(0.021)
Female (=0) × Frame (=1)	0.625***	0.675***	0.580***	0.623***	0.669***	0.577***
	(0.025)	(0.030)	(0.029)	(0.026)	(0.032)	(0.030)
Female (=1) × Frame (=1)	0.668***	0.708***	0.635***	0.666***	0.708***	0.633***
	(0.015)	(0.018)	(0.019)	(0.017)	(0.021)	(0.022)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,228	1,052	1,176	2,228	1,052	1,176

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Linear predictions based on an OLS estimation are displayed. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 9: Effects of interviewer's perceived religiosity on attitudes towards gender inequality; linear prediction of main and interaction effects

	Attitudes towards gender inequality					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Gender inequality frame (=0)	0.485***	0.529***	0.449***	0.486***	0.530***	0.449***
	(0.015)	(0.019)	(0.018)	(0.014)	(0.019)	(0.017)
Gender inequality frame (=1)	0.703***	0.741***	0.670***	0.703***	0.739***	0.669***
	(0.015)	(0.017)	(0.019)	(0.015)	(0.017)	(0.019)
Interviewer w/ headscarf (=0)	0.504***	0.558***	0.458***	0.554***	0.607***	0.507***
	(0.013)	(0.017)	(0.018)	(0.019)	(0.028)	(0.024)
Interviewer w/ headscarf (=1)	0.654***	0.694***	0.619***	0.624***	0.663***	0.590***
	(0.015)	(0.018)	(0.018)	(0.016)	(0.021)	(0.018)
Headscarf (=0) × Frame (=0)	0.356***	0.414***	0.308***	0.400***	0.453***	0.355***
	(0.015)	(0.022)	(0.020)	(0.021)	(0.033)	(0.027)
Headscarf (=1) × Frame (=0)	0.562***	0.599***	0.530***	0.536***	0.577***	0.504***
	(0.022)	(0.028)	(0.026)	(0.021)	(0.027)	(0.025)
Headscarf (=0) × Frame (=1)	0.642***	0.684***	0.608***	0.697***	0.742***	0.658***
	(0.021)	(0.026)	(0.029)	(0.023)	(0.032)	(0.032)
Headscarf (=1) × Frame (=1)	0.740***	0.777***	0.706***	0.706***	0.738***	0.676***
	(0.020)	(0.022)	(0.024)	(0.022)	(0.028)	(0.026)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	1,174	544	630	1,174	544	630

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Linear predictions based on an OLS estimation are displayed. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 10: Gender-of-interviewer effects on attitudes towards domestic violence; linear prediction of main and interaction effects

	Domestic violence index (Scale 1-5)					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Audio priming (=0)	1.650***	1.759***	1.552***	1.645***	1.748***	1.549***
	(0.031)	(0.043)	(0.034)	(0.029)	(0.040)	(0.032)
Audio priming (=1)	1.533***	1.613***	1.461***	1.538***	1.625***	1.463***
	(0.032)	(0.044)	(0.034)	(0.030)	(0.041)	(0.033)
Female interviewer (=0)	1.707***	1.846***	1.580***	1.662***	1.796***	1.538***
	(0.038)	(0.053)	(0.041)	(0.039)	(0.055)	(0.043)
Female interviewer (=1)	1.496***	1.551***	1.448***	1.534***	1.594***	1.481***
	(0.029)	(0.041)	(0.035)	(0.033)	(0.045)	(0.040)
Female (=0) × Priming (=0)	1.730***	1.885***	1.591***	1.697***	1.841***	1.563***
	(0.049)	(0.068)	(0.052)	(0.051)	(0.071)	(0.055)
Female (=1) × Priming (=0)	1.582***	1.650***	1.520***	1.601***	1.667***	1.538***
	(0.042)	(0.058)	(0.047)	(0.043)	(0.061)	(0.049)
Female (=0) × Priming (=1)	1.684***	1.805***	1.569***	1.625***	1.749***	1.512***
	(0.051)	(0.072)	(0.053)	(0.050)	(0.071)	(0.053)
Female (=1) × Priming (=1)	1.407***	1.446***	1.374***	1.465***	1.518***	1.423***
	(0.043)	(0.060)	(0.051)	(0.044)	(0.060)	(0.055)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	2,186	1,033	1,153	2,186	1,033	1,153

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Linear predictions based on an OLS estimation are displayed. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

Table A 11: Effects of interviewer's perceived religiosity on attitudes towards domestic violence; linear prediction of main and interaction effects

	Domestic violence index (Scale 1-5)					
	(1) Full sample	(2) Men	(3) Women	(4) Full sample	(5) Men	(6) Women
Audio priming (=0)	1.683***	1.788***	1.591***	1.665***	1.762***	1.577***
	(0.045)	(0.061)	(0.048)	(0.040)	(0.057)	(0.046)
Audio priming (=1)	1.510***	1.580***	1.450***	1.528***	1.606***	1.464***
	(0.043)	(0.057)	(0.049)	(0.039)	(0.055)	(0.046)
Interviewer w/ headscarf (=0)	1.343***	1.374***	1.316***	1.463***	1.520***	1.407***
	(0.037)	(0.054)	(0.048)	(0.039)	(0.058)	(0.045)
Interviewer w/ headscarf (=1)	1.752***	1.885***	1.640***	1.679***	1.791***	1.587***
	(0.044)	(0.059)	(0.048)	(0.035)	(0.054)	(0.039)
Headscarf (=0) × Priming (=0)	1.381***	1.418***	1.351***	1.497***	1.576***	1.422***
	(0.052)	(0.078)	(0.061)	(0.050)	(0.077)	(0.060)
Headscarf (=1) × Priming (=0)	1.865***	2.018***	1.732***	1.766***	1.877***	1.668***
	(0.065)	(0.087)	(0.068)	(0.056)	(0.083)	(0.062)
Headscarf (=0) × Priming (=1)	1.302***	1.325***	1.281***	1.428***	1.459***	1.393***
	(0.056)	(0.076)	(0.074)	(0.056)	(0.087)	(0.066)
Headscarf (=1) × Priming (=1)	1.635***	1.739***	1.549***	1.588***	1.697***	1.506***
	(0.060)	(0.079)	(0.067)	(0.050)	(0.071)	(0.059)
Controls	YES	YES	YES	YES	YES	YES
Governorate FE	NO	NO	NO	YES	YES	YES
Observations	1,191	552	639	1,191	552	639

Note: Due to oversampling of rural areas, all estimations take into account survey weights. Linear predictions based on an OLS estimation are displayed. Robust standard errors in parentheses; standard errors clustered at HH- and Interviewer-level. *** indicates significance at 1%, ** at 5%, and * at 10%.

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