Violence Against Women amid COVID-19: The Effects of Social and Traditional Media Campaigns to Empower Women[*]
Pre-Analysis Plan

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1   Abstract

Systematic reviews of violence against women in the Arab world highlight the high prevalence of gender based and intimate partner violence (GBV and IPV) alongside the need for more research to inform prevention and response. Women's exposure to GBV and IPV may be especially acute amid COVID-19, which has led to a notable increase in reported violence, particularly in the Global South. Building on recent studies on the role of edutainment and community-level interventions in combatting GBV and IPV, we partnered with an Egyptian women's rights non-governmental organization to examine an intervention delivered amid COVID-19 via traditional and social media that are widely used in the Egyptian context. We measure the degree to which the intervention shifts attitudes toward GBV and IPV, knowledge about resources, and behaviors in response.

2　Introduction

As a result of emergency response measures and pandemic-induced restrictions of movement, along with the associated economic and social stress, women across the globe have been at heightened risk for gender-based violence (GBV) and intimate partner violence (IPV),[1] particularly in the Global South.[2] The social distancing and quarantine measures have also increased the need for online ways to disseminate information on risks and services, as well as to offer support. Harnessing the increased use of social media during the pandemic, we have set out to conduct an impact evaluation of the "You Are Not Alone" social media campaign against GBV and IPV in Egypt, as well as assess the effect of a traditional TV campaign on the these issues. Specifically, we partnered with an established women's rights organization to evaluate the dissemination of video messages and information about ongoing television programming to approximately 6,000 WhatsApp and Facebook subscribers as part of an information campaign against GBV and IPV aimed at ensuring affected women get access to information resources and services to cope with their situation.

Beyond being morally reprehensible, GBV and IPV increase social inequality and undermine economic development. The prevalence of GBV and IPV across the globe and the significant economic costs associated with it (Krug et al. (2002)) have led to an increase in research on how to curb it. Both forms of violence are often driven by inequities in relationships, lack of respect for gender norms, tolerance toward violence against women, and unequal access to supportive resources. Recent systematic reviews have looked at the role of men's attitudes toward intimate partner violence (McCarthy et al. (2018)); intimate partner violence during pregnancy (Shamu et al. (2013); Alebel et al. (2018); Wang et al. (2017)); and intimate partner violence and HIV infection (Osinde et al. (2011); Li et al. (2014); Phillips et al. (2014).

Though the first wave of scholarship focused on the Global North, there has been a deliberate shift towards low- and middle-income countries (Guedes et al. (2016)) with systematic reviews examining so-called structural interventions (Bourey et al. (2015))[3] and psychological interventions (Keynejad et al. (2020)) to curb IPV; primary healthcare interventions within public health systems to address IPV (Signorelli et al. (2018)); as well as prevention of GBV in adolescent girls (Lundgren and Amin (2015); Yount et al. (2017)). The main findings highlight the need to address traditional gender norms, integrate services to prevent violence against women (Semahegn et al. (2019)), improve access to support centers (Kirk et al. (2017)) and consider community-based interventions including public engagement and advocacy (Lundgren and Amin (2015)).

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[1] "Impact Report: COVID-19 and Domestic Violence Trends," *National Commission on COVID-19 and Criminal Justice*, February 23, 2021, Link.

[2] Rivera et. al, "What does coronavirus mean for women?", United Nations Development Programme, July 13, 2020, Link; "Gendered Impact of Covid-19 Outbreaks in Development and Humanitarian Settings," *CARE*, March 16, 2020, Link.

[3] Defined as those aiming to change "aspects of the economic, politico-legal, physical and social environment that produce and reproduce risk" ((Bourey et al., 2015, 2)).

There remains a dearth of work on violence against women in the Arab world as highlighted by two recent systematic reviews (Hawcroft et al. (2019); Elghossain et al. (2019)) calling for more work to inform prevention and response to GBV and IPV in the Middle East and North Africa (MENA) region. Heightened inequality and social barriers for women in the Arab world translate into a public health problem with notable levels of physical and psychological intimate partner violence (Elghossain et al. (2019)) and needs expedient attention particularly given the pandemic. Informational or edutainment interventions around GBV and IPV have been conducted in other contexts (Green et al. (2019), Cooper et al. (2020), Arias (2019), Banerjee et al. (2019)). But like similar interventions focused on corruption (Blair et al. (2019)) or deference to authority (Paluck and Green (2009)), the findings from these informational interventions have been mixed and the mechanisms through which shifts occur remain underspecified. Moreover, there is the question of whether previous edutainment interventions requiring substantial resources can be scaled up by exploiting traditional and social media.

We partnered with an established women's rights NGO to distribute a series of videos related to women's empowerment, GBV, and IPV, as well as reminders about a similar, ongoing television campaign. After conducting a baseline survey of 5,818 Egyptian women in June-July 2020, we randomly assigned respondents to these treatment conditions via the two most popular social media platforms in Egypt: via WhatsApp, individually and within groups, and via Facebook message.[4] Our fully online design enabled the selection of an all-female sample. In addition to allowing a close focus on women's attitudes toward a very important phenomenon affecting women in Egypt and MENA more broadly, this sample had two practical benefits. First, our NGO partner that created these videos designs content specifically for women. Second, these issues can be taboo in mixed-gender discussions. As some of our treatment content was disseminated via groups, rather than individually, we wanted to avert the potential for harassment of women online that could occur in mixed-gender groups.

Despite these social media platforms wide use in Egypt (Newman et al. (2019)) as elsewhere, a first challenge of our study was whether individuals would watch and consume the information we delivered via these platforms, given their limited attention and the significant amount of information and notifications they receive online. While scholars have used WhatsApp and Facebook to examine phenomena like misinformation (Melo et al. (2019); Badrinathan (2020); Bowles et al. (2020)) and political accountability (Enríquez et al. (2019)), we are not aware of any study that probes the suitability of Facebook and WhatsApp in edutainment interventions.

In an endline survey conducted in September-October 2020, we measure the degree to which those receiving treatment shifted their attitudes towards GBV and IPV, their knowledge of women's legal rights and resources, their hypothetical behaviors in responding to GBV or IPV, and their revealed preferences over addressing GBV and IPV via their willingness to donate to NGOs working on tackling such violence. Subject to the effectiveness of

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[4]There were 38 million Facebook and 24 million WhatsApp users in Egypt as of January 2020. "Data Reportal", Link.

the mode of dissemination, we expect our intervention to be successful at getting individuals to consume the intervention information, given our partner's high status and the wide use of social media platforms in Egypt, and for the intervention to provoke shifts in attitude, knowledge, and some behaviors.

Our intervention is intended to make three contributions. First, it examines the effect of social and traditional media interventions not only seeking an attitudinal change but also providing information about resources, something increasingly relevant in curbing GBV and IPV, and even more salient in the COVID-19 environment. Second, it examines both the relative effectiveness of traditional and social media, and that of different social media platforms through which information is disseminated, as well as whether it is disseminated individually or via groups. This will render the findings relevant and transportable to those considering informational interventions in other areas that are relevant to gender rights as well as public health. Finally, it focuses on women's attitudes and behaviors in Egypt, a central country in the Arab world and an influencer in the MENA region.

3   Literature Review

Women are often socialized to accept GBV and IPV despite its status as a serious public health problem and human rights violation with deleterious impacts on economic development (Krug et al. (2002)). A recent meta-analysis of research in public and reproductive health on GBV and IPV prevalence in low-and-middle income countries emphasizes the need to shift norms and attitudes about the justifiability of violence and gender equality, while empowering women and integrating services (Semahegn et al. (2019)). In addition to norms justifying violence (Pierotti (2013); Messing and Thaller (2015); Arias (2019)), researchers also identify a lack of knowledge of legal rights and resources and fears of social sanctioning as limiting women's willingness to report or respond to violence (Cooper et al. (2020)).

In-person community level "mobilization" interventions (Abramsky et al. (2014, 2016); Wagman et al. (2015); Sharma et al. (2020)) provide useful insights into the role that communal attitudes play in sustaining high levels of GBV and IPV prevalence. Through engagement of stakeholders in critical conversations on gender equity, these interventions have found success in shifting attitudes toward efficacy, empowerment, and norms around reporting, but are expensive, difficult to replicate across contexts, and infeasible amid COVID-19. Our intervention builds on these insights to examine the effectiveness of a television show and social media campaign that aims to shift attitudes while providing women with information about available services and their legal rights surrounding GBV and IPV. Conducted during the early months of the COVID-19 pandemic, which exacerbated global risk factors for GBV and IPV (Peterman et al. (2020)) and increased reliance on social and traditional media for information, the intervention explores when and through what mechanisms media can shift attitudes and behaviors related to GBV and IPV in a more cost-effective way than more resource-intensive mobilization interventions.

One branch of research suggests that media impacts attitudes and behaviors not through persuasion (DellaVigna and Gentzkow, 2010) but through communal transmission, which can provoke shifts in beliefs about social norms (Chwe, 1998). Testing these two different channels, Arias (2019) finds support for the role of communal transmission, showing that such programming on GBV in a Mexican community increased rejection of violence against women and support for gender equality, while individually transmitted information had no impact.[5] Outside of GBV and IPV, recent explanations for mixed findings in information interventions around subjects like electoral accountability (Dunning et al. (2019), Adida et al. (2020), Boas et al. (2019), Humphreys and Weinstein (2012)) also posit that the share of a community that is targeted with information can drive discussion and coordination (Enríquez et al. (2019), Alatas et al. (2016), Banerjee et al. (2011), Ferraz and Finan (2008), Larreguy et al. (2020), Marshall (2019)). Like these phenomena, GBV or IPV is a communal level norm or issue as individuals who are aware of or reject a phenomenon may be unlikely to take action unless they believe others will do so. As a result, public and wide-reaching information may be needed to generate discussion and coordination among community members (Enríquez et al. (2019)).

Research on "edutainment," meanwhile, suggests messaging from role models or highly entertaining content can also cue shifts in norms perceptions, without necessarily requiring high levels of information targeting or communal transmission (Tankard and Paluck (2016); Singhal and Rogers (2012)). A focus on content can account for seemingly divergent findings linking media to attitudes, for instance that the introduction of cable television in some places drove substantial shifts in gender attitudes (Jensen and Oster, 2009; La Ferrara et al., 2012) even as non-fictionalized, media interventions around other public health concerns have had relatively small effects (Galiani et al. (2012)). Experimental edutainment interventions have lowered deference to authorities in Rwanda (Paluck and Green (2009)) and increased reporting of corruption in Nigeria (Blair et al. (2019)), but had mixed results in encouraging the poor in India to participate in an anti-poverty scheme (Ravallion et al. (2015)).

Applying an edutainment approach to GBV, Green et al. (2019) find that a communally-transmitted edutainment intervention in Uganda did not shift attitudes about the legitimacy of violence against women but increased hypothetical willingness to report to authorities via reduced fears of social sanctioning around reporting (Cooper et al. (2020)).[6] In a separate edutainment study, Banerjee et al. (2019) find that manipulating the content of a TV series in Nigeria shifts the attitudes of respondents toward domestic violence, identifying effects

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[5]Arias also finds that the intervention *increased* pessimism of whether violence would decline in the future. He posits the mechanism for this surprising finding is that the intervention provided no information on channels to report or respond to GBV or IPV. Our intervention provides these channels, so we expect different outcomes.

[6]In doing so, the authors point to the role social desirability bias - in the form of fear of social sanctioning - plays in limiting reporting and sustaining violence. Even women who believe violence is unacceptable may be hesitant to disclose their status as survivors of GBV and IPV if they believe they will face social repercussions. While we think it is unlikely that our survey measures are subject to this concern since they were conducted privately, as explained in detail later, our survey instrument was designed to test the extent of social desirability bias in reporting.

among those who better recall the show and its characters (Banerjee et al. (2019), p. 133). These studies suggest that information from high-status or fictionalized characters may have the power to shape perceptions of communal norms - with Green et al. (2019) placing deeper emphasis on perceptions of communal level beliefs, and Banerjee et al. (2019) examining more diffuse perceptions about a broader culture.

Another branch of interventions to combat GBV and IPV focuses on women's access to financial resources, linking women's economic and social empowerment to reductions in violence. Studies in South Africa (Kim et al. (2007)), Ecuador (Hidrobo and Fernald (2013)) and elsewhere find that increasing access to women's financial resources improves outcomes related to GBV and IPV, likely via their economic and social empowerment (Field et al. (2019)). While meta-analyses have found broadly consistent links (Bourey et al. (2015)), one recent evaluation of a program in Peru found that experimentally granting women access to savings funds had no impact on most social and health outcomes (Tankard and Paluck (2016)). These studies suggest that women's financial and employment status may drive heterogeneity in their responses to media. As COVID-19 has likely led to substantial income and employment loss, it is likely that women in our study are more vulnerable to GBV and IPV than prior to the pandemic. Other systematic studies link educational attainment to GBV exposure, though a recent systematic review of GBV in the Arab world noted that high levels of educational attainment for women had yet to translate into economic empowerment or "shifting domestic power dynamics" (Hawcroft et al., 2019).

Our study takes place against the backdrop of COVID-19, which likely exacerbates women's exposure to GBV and IPV. Already, researchers have documented increased reporting of domestic violence via calls to hotlines or formal authorities in contexts as diverse as India (Ravindran and Shah, 2020), Peru (Agüero, 2020), and the United States (Boserup et al., 2020). Peterman et al. (2020) outline diverse pathways for pandemics to increase violence against women, including through economic stress, social isolation, conflict and instability, increased exposure to troubling relationships, reducing "health service availability and access to first responders," and limiting women's ability to "escape abusive partners" (Peterman et al. (2020), p. 1). This research suggests that there may be heterogeneous effects among those who have experienced severe disruptions due to COVID-19, like loss of income, overcrowding in the home, or a partner's return from work overseas.

3.1   Theory of Change

As a first stage measurement, we expect treated individuals to receive and watch the video content we distributed via WhatsApp and Facebook messages to those in the corresponding treatment arms. Similarly, we expect those assigned the television show reminders to recall them and to watch the show. Unlike interventions featuring community screenings (Banerjee et al. (2019); Blair et al. (2019); Green et al. (2019), we deliver content individually and in groups into individuals' homes via their phones or computers. Similar to soap operas (Jensen and Oster (2009), La Ferrara et al. (2012)) and serialized interventions that

drove attitudinal effects (Banerjee et al. (2019); Paluck and Green (2009)), and unlike those featuring content delivered in a single day (Green et al. (2019); Arias (2019)), this method of delivery allowed us to distribute or encourage the viewing of content at regular intervals over a sustained period of time. Given the centrality of WhatsApp and Facebook as social media and messaging platforms, our first prediction is that these platforms are effective at delivering the intervention content and thus treated respondents at endline should report receiving the Facebook and WhatsApp messages, the TV show reminders, and watching some of the content delivered, or nudged to watch for the case of the TV show.

- **Hypothesis 1** : Individuals targeted with content delivered via WhatsApp and Facebook message will be more likely to report viewing it and accurately recall its content.

- **Hypothesis 2** : Individuals who receive reminders to watch the television show will be more likely to report viewing it and accurately recall its content.

- **Hypothesis 3** : Individuals who are sent intervention content via WhatsApp groups will more accurately recall the content than those who receive the content via individual message, especially if groups engage in discussion around the content delivered.

Next, we focus on shifts in attitudes, knowledge, and behaviors across the topics addressed in our intervention, including domestic violence, sexual assault or harassment and female empowerment or future outlook.[7]

Among those for whom social media is a successful model of information delivery, we expect our intervention to shift attitudes about gender norms and increase rejection of violence against women. Our intervention should shift these outcomes because it features a high status figure who leads a prominent women's rights organization sharing viewpoints and knowledge on these topics in a conversational and engaging tone to a country-wide mostly female audience. Nehad Aboul Komsan's popularity likely cues similar norms perceptions as in edutainment interventions (Banerjee et al. (2019), Paluck and Green (2009)) where high-status figures or dramatized events can capture individuals' attention, and model, inspire, and motivate shifts in social behaviors (Singhal and Rogers (2012), Bandura (2002)). While our intervention features no fictionalization, Aboul Komsan aligns with Bandura's description of a "culturally admired" figure whose social attractiveness "increases the impact of modeling behaviors" (Bandura (2003), p. 83). This status and the content of information leads us to our second prediction, that individuals who received and viewed the video messages will change their attitudes toward gender norms, increasing their rejection of violence against women.

- **Hypothesis 4** : Treated individuals will shift their attitudes about gender norms and increasingly reject violence against women, relative to those in control.

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[7]We discuss our measurement of these variables in the Empirical Framework section.

The treatment arms that entailed the communal distribution of videos through WhatsApp groups and nudges to watch the TV show resemble those interventions exploring communal media in the context of GBV and IPV (Arias (2019)) and those focused on information and accountability (Enríquez et al. (2019), Alatas et al. (2016), Ferraz and Finan (2008), Marshall (2019), Banerjee et al. (2011)) that feature a high share of individuals treated within a community and thus had the potential to spur discussion and explicit coordinated behavior. In reaching broad populations, in principle, information about GBV and IPV disseminated to a large number of individuals can also constitute a signal that triggers tacit coordination spurring shifts in attitudes and behavior (Morris and Shin (2002)) supporting women's empowerment and rejecting violence against women. However, given that the control group was also recruited via Facebook ads and that we did not reach such a large number of study participants, we do not believe we necessarily cued this effect differentially among treated individuals. Even in the absence of the latter coordinating effects, information about GBV and IPV, may shift attitudes supporting women's empowerment and rejecting violence against women. This should in principle occur regardless of treatment dissemination channel, though we may expect stronger impacts among those who receive information communally via groups, especially when it ignited discussion, or via TV, as collectively transmitted media can generate common knowledge that facilitates norm change (Chwe (1998)).

- **Hypothesis 5** Treated individuals who receive the treatment information via collective channels such as WhatsApp group or TV show will exhibit stronger attitudinal changes, compared with those receiving the video messages individually, if these induce enough discussion and explicit or tacit coordination.[8]

We further predict that our intervention will increase optimism about women's equality and empowerment in the future. Optimism is closely related to present attitudes: In Appendix Tables 16 and 17 we see that those rejecting violence and in favor of greater gender equality at baseline hold more optimistic outlooks toward gender equality moving forward. While Arias (2019) finds that his intervention increases pessimism about the future, our intervention strongly emphasizes resources available to those combating GBV and IPV, seeks to destigmatize them and underlines the social importance of accessing those resources.

- **Hypothesis 6** : Treated individuals will express increased optimism about women's equality and empowerment in the future, relative to those in the control group.

We also predict that the intervention will increase knowledge of resources, as well as hypothetical and observed behaviors around supporting victims of violence.Our knowledge-based questions focus on online resources and organizations supporting women affected by

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[8]Note that, while we can measure discussions within WhatsApp groups, it was not possible to measure common knowledge, and thus test this specific mechanism behind potentially larger reduced form effects on attitudes of information distributed via collective channels.

domestic violence, sexual harassment, or assault. Those treated should be more knowledge-able about resources available to women than at baseline.

- **Hypothesis 7** : Individuals who receive the intervention via social media or on TV will exhibit increased knowledge about GBV- and IPV-related resources for women.

Hypothetical and observed behaviors should move in tandem with attitudes and knowledge about resources, given their high degree of correlation at baseline. We measure hypothetical behavior through a series of scenarios in which a friend or acquaintance has faced domestic violence or sexual assault, which ask how likely an individual would be to address the situation internally (seek a solution with her husband or via her family, seek help from an organization or online resources, or report to authorities). We measured observed behavior asking whether they have accessed online resources and contacted an organization that supports and advises women. Existing research (Sable et al., 2006, 157) identifies deep barriers to reporting sexual violence such as fear and guilt, "concerns about confidentiality," and "fear of not being believed"; Green et al. (2019) and Cooper et al. (2020) similarly underscore how fears of social sanctioning limit willingness to report violence. As a result, and due to the nature of the intervention, while we expect recommendations and willingness to report violence to move with attitudes, we anticipate differential effects according to response type.

Though these fears are prevalent in our context, the intervention content speaks to them through emphasizing the importance of believing victims, destigmatizing exposure to violence, and advertising local, non-governmental organizations and resources available to women, including a confidential hotline. As such, we may expect a shift in recommendations and willingness to report violence particularly to these sources emphasized in our treatment content.[9][10]

- **Hypothesis 8** : Treated individuals will be more likely to recommend looking for online resources or contacting a local organization when faced with a hypothetical scenario where a friend or family member faces domestic violence or sexual harassment.[11] Treated individuals should be more likely to report that they themselves looked for online resources and contacted local organizations that support women.

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[9]While the intervention content does speak directly to women's legal rights, we do not anticipate a substantive shift in hypothetical reporting to authorities given that our intervention is unlikely to meaningfully address trust in the Egyptian legal system. Moreover the intervention content does not emphasize other responses we measure in the scenario, like confronting a husband or seeking mediation through a local community member, and thus we do not anticipate treatment effects on related outcomes.

[10]At baseline, we see in Appendix Tables 26, 27, and 28 show that individuals who hold views more in favor of gender equality are more likely to look for supportive resources and contact a supportive organization in a hypothetical scenario where a friend tells them they have been affected by domestic violence.

[11]While we also measure whether they would hypothetically contact family members and authorities, we do not expect our treatment to significantly affect such hypothetical outcomes.

We also quantify changes in attitudes, knowledge and observed behavior through revealed preferences in the use of their survey compensation as donation to an NGO supporting women's empowerment in Egypt as a measure of preference for these issues.

- **Hypothesis 9** : Treated individuals will be more likely to donate at least part of their survey compensation to an NGO supporting women's empowerment in Egypt.

3.1.1 Heterogeneous Effects

We predict that treatment effects on knowledge about resources and attitudinal shifts will be respectively concentrated among those with lower knowledge levels and attitudes more tolerant of violence and less supportive of gender equality at baseline. This is because we expect ceiling effects for individuals who at baseline exhibit high levels of knowledge and attitudes similar to the content delivered in the campaign; where there is little difference between their expressed attitudes and those our partner communicates, there is little reason to believe the intervention should have any impact on attitudes.

Since these baseline variables are endogenous, we will additionally consider heterogeneous effects by their predicted values. To that end, we will use different strategies to project their values onto age, (if applicable) age differential with partner, social (including marital) status, (if applicable) how long married, own and (if applicable) partner's educational attainment, and experiencing severe disruptions due to COVID-19, like loss of income, (if applicable) working with partner from home and a crowded household.

4 Research Design

4.1 Context of GBV in Egypt during COVID-19

Egypt, one of the most populated countries in MENA with 47.5 million women, has made some notable progress towards gender equality in recent decades. Despite this progress, social and economic inequalities persist and are amply manifested in low female labor force participation, discriminatory cultural norms and gender based violence.[12] Egypt ranks 134th out of 153 countries in the 2020 Global Gender Gap Index. According to the ILO, female labor force participation is less than 25%,[13] and it is not uncommon for women to face discrimination from employers in hiring and pay.[14]

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[12] World Economic Forum. (2020) "Global Gender Gap Report 2020". Link

[13] World Bank, Link

[14] "Women's Participation in Paid Employment in Egypt is a Matter of Policy not Simply Ideology", *El Nisaa*, July 2019, Link

Furthermore, many forms of gender based violence continue to be a pressing issue that has been gaining increased public attention. A recent poll from the Egyptian Center for Public Opinion Research finds that 11% of women report having experienced intimate partner violence in the form of being hit, pushed or insulted by their husbands.[15] According to the 2014 Egypt Demographic and Health Survey, 36% of ever married women aged 15-49 have experienced physical domestic violence, and in 64% of these cases the husband was the perpetrator.[16] Similarly, the Arab Barometer 2019 survey reports 72% of Egyptian families report a woman in their family experiencing domestic violence in the past 12 months. Further, past descriptive research has shown that more than fifty percent of Egyptians believe domestic violence is justified in some cases (Yount and Li (2009)). Researchers found that women's standard of living, socioeconomic dependence, and relative education levels,[17] compared to their husbands, were highly predictive of their exposure to domestic violence (Yount and Li (2010)). Despite this high prevalence, domestic violence is not criminalized in Egypt.[18]

In addition to intimate partner violence, sexual harassment in public spaces like streets, schools, and workplaces is also highly prevelant. A study by UN Women finds that 99.3% of women have experienced one form of harassment or another.[19] Sexual harassment was officially criminalized in 2014,[20] yet victim blaming continues to be embedded in the culture.[21] According to the 2019 Arab Barometer report, Egyptians report the highest rates of verbal and physical sexual harassment in the Arab world. 63% of women, and 90% of those between the ages of 17 and 28, reported being harassed often, sometimes, or rarely in the past 12 months, with relatively similar numbers between urban and rural areas. In a recent survey by UN women, more women than men blamed the victims for getting harassed.[22]

Gender based violence in the form of female genital mutilation (FGM) is widely practiced in Egypt despite being banned by law. 92% of married women between the ages of 15-49 reported having undergone FGC, according to the 2014 Egypt Demographic and Health Survey.[23] FGM was criminalized in 2008,[24] yet the practice is not only prevalent, but support for it continues from both males and females. 70% of males and 56% of women approved of the practice, the most common reasons behind such approval being cultural traditions and misperceived religious obligations.[25] Researchers have emphasized that the

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[15] "Women and Covid-19 Pandemic," *UN Women*, May 2020, Link

[16] Ministry of Health and Population [Egypt], El-Zanaty and Associates [Egypt], and ICF International. 2015. "Egypt Demographic and Health Survey 2014: Key Findings." Cairo, Egypt and Rockville, Maryland, USA: Ministry of Health and Population and ICF International. Link

[17] This was measured as at least 6 more or fewer years of schooling than a husband

[18] "Egypt Gender Justice & The Law," *UNDP*, 2018, Link

[19] "Study on Ways and Methods to Eliminate Sexual Harassment in Egypt," *UN Women,* 2013, p. 6, Link

[20] "Egypt Gender Justice & The Law," *UNDP,* 2018. Link.

[21] "Al Azhar Encourages Victims of Assault to Speak Up, Report," *Egyptian Streets,* July 2020, Link.

[22] "Understanding Masculinities: Results from the International Men and Gender Equality Survey - Middle East and North Africa," 42. Link

[23] "Female Genital Mutilation," *UNFPA,* 2020, Link

[24] Ibid.

[25] "Understanding Masculinities: Results from the International Men and Gender Equality Survey - Middle East and North Africa," 78. Link.

experience of FGM in childhood increases the odds of subsequently experiencing domestic violence - even as they found little support for the hypothesis that gender stratification or norms about women's family roles predicted experiencing violence (Yount et al. (2020)). However, subsequent research on FGM prevalence found that community norms opposing the practice led to substantive, direct declines; the research called for an intergrative approach addressing both gender norms and structural opportunities (Yount et al. (2020)).

As is the case globally, the COVID-19 pandemic has put Egyptian women at greater risk: women in the Middle East and North Africa have faced high job losses, lost access to social protection, and are reporting higher rates of domestic violence.[26] Nehad Aboul Komsan's organization has reported that family conflicts and cases of violence reports have increased during the COVID-19 pandemic, making up to 43% of total cases received by the Gender and Legal Expert House (GELEH).[27,28]

Our intervention takes place amid an outpouring of activism in Egypt around issues of gender equality and violence amid COVID-19. In early July, a high-profile allegation of serial rape at an elite university captivated national media, generating intense focus on the subject across national and social media. It even generated international attention, with references to Egypt having its "Me Too" moment.[29] That case sparked additional revelations, and a social media-driven movement centered around a hashtag, "End the Silence," sought to "create structural change" by breaking through existing norms that cast blame on women who experience violence, encourage parents to support children reporting assault, insist that formal authorities prosecute abusers, and hold powerful institutions to account.[30] In response to this campaign, the Egyptian cabinet approved a draft law that protects the identities of sexual assault victims.[31] Keeping these identities confidential is expected to increase reporting of sexual harassment cases where women would no longer be afraid of harming their reputation in a conservative society that still shames sexual harassment victims.[32] Our intervention occurs in this climate, where women continue to come forward and multiple prominent cases are in court, even as women continue to face powerful barriers against doing so.

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[26] "ESCWA partners warn: violence against women has increased due to COVID-19; Women will lose twice as much as men in terms of jobs", *United Nations Economic and Social Commission for Western Asia*, April 6, 2020, Link

[27] "Egypt's Hidden Pandemic: Domestic Violence On The Rise During COVID-19," *Egyptian Streets,* May 2020, Link.

[28] Aseel Alayli, "Domestic Violence and Arab Women's False Choice during COVID-19", *The Arab Barometer*, June 1, 2020, Link.

[29] Declan Walsh, "Accusations of Serial Rape Push Egypt Toward a Reckoning", *The New York Times*, July 8, 2020, Link

[30] Sudarsan Raghavan, "Egypt's women are rising up against sexual violence. Others are still being jailed for TikToks.", *The Washington Post*, July 31, 2020, Link

[31] "Egypt Cabinet Approves Bill to Keep Identities of Sexual Assault Victims Confidential," *Ahram Online,* July 8, 2020, Link.

[32] Ibid.

4.2 Intervention

In the context of the COVID-19 pandemic in Egypt, we partnered with an established women's rights organization—the Egyptian Center for Women's Rights (ECWR)—to evaluate the dissemination of video messages, as well as information about ongoing television programming, to approximately 6,000 WhatsApp and Facebook female subscribers as part of an ECWR media campaign against GBV and IPV aimed at ensuring affected women get access to information on resources that help them shape attitudes, knowledge and behavior around these issues. We collected an online panel survey of a large sample of women across Egypt by reaching out to respondents through Facebook, and randomly delivered reminders of television programming and video messages with content via WhatsApp and Facebook. We will examine how random assignment to these messages affects individuals' knowledge, perceptions, and behavior. Specifically, we will measure attitudes toward GBV and IPV and women's empowerment, knowledge of available resources and services to deal with violence, hypothetical behavior in scenarios of exposure to violence, and individuals reported use of such services. In addition to these reported attitudes and behaviors, we will measure observed behaviors and revealed preferences.

Even before the restrictions on freedom of movement associated with COVID-19, social media platforms had become a central source of information for individuals in the Global South due to high internet penetration and associated low cost (Newman et al. (2019)). Egyptians rely heavily on WhatsApp to access and share information thanks to the anonymity it affords. Out of internet users aged 16-64 in Egypt, 68% are subscribed to WhatsApp. Moreover, Egyptians are also avid Facebook users, with 80% of the internet users being subscribed to Facebook.[33] In using social media to deliver messages and reminders about traditional media, this research will contribute to a small body of research on social media in the context of GBV and harassment. This research has largely focused on social media as a site of harassment (Suzor et al. (2019)) - though in the Egyptian context, as discussed above, we focus on social media as a tool for building knowledge, as well as shifting attitudes and behaviors.

Our partner, the Egyptian Center for Women's Rights, is an established, independent, non-partisan non-governmental organization (NGO). Led by founder Nehad Aboul Komsan, they focus on raising awareness and shifting attitudes toward issues facing Egyptian women. The group has a legal focus, and also hosts a hotline for women focused on legal support and awareness. The NGO views WhatsApp, Facebook, and other platforms as an important, underutilized tool for NGOs and public health to disseminate information. Through their current social media presence and television shows, our partner shares perspective and information on issues affecting Egyptian women. They had posted short videos on the organization's Facebook accounts that within months reached 5 million video views and received 3 million reactions - indicating high levels of responsiveness to these videos. As ECWR emphasizes, NGOs and public health practitioners can better use social media in addition to traditional media to disseminate information that aids those facing GBV,

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[33]StatCounter: Social Media States Egypt, Link

especially given its low cost in comparison to community-wide interventions or even public film screenings. Our intervention will analyze the relative effectiveness of the similar information disseminated in different ways across these platforms. Moving forward, our partner and others can use this information to tailor their messaging strategies most effectively. As anticipated, the intervention targeted an all female sample for a few reasons: The content that ECWR creates is geared toward consumption by a female audience, especially given the current climate of female activism around gender norms and violence in Egypt. Nehad Aboul Komsan, is an established figure among women in Egypt and has a large female following. Further, our partners felt that the "WhatsApp Group" treatment we designed was more appropriate for women-only groups given the risk that women might be harassed on the WhatsApp Groups set up for the intervention.

4.3   Recruitment, Sampling and Treatment Assignment

We carried out a baseline survey on a large sample of women across Egypt recruited through Facebook advertisements (5,734 of final sample) and ECWR's social media channels (181 of final sample) from June 18 through July 10, 2020. Given in-person enumeration challenges associated with COVID-19, we did the baseline data collection via an online survey compatible with web and mobile devices. 10,823 completed the survey. Survey respondents were incentivized with a 25 EGP (1.59 USD) mobile phone credit for survey completion. To avoid recruiting the same subjects as are already highly familiar with our partner's content, we built a separate Facebook page titled "*Inti Mish Lwa7dek*" (You are Not Alone). We targeted advertisements across Egypt boosting a Qualtrics link we posted on the page. Our partner posted welcome videos on the page, explaining the purpose of the project, which received approximately four thousand likes and comments and was shared by hundreds. The advertisements and welcome messages were widely shared, with encouraging comments like, "The idea behind the survey is really nice, I am very proud of you and wish you the best of luck." Figure 2 depicts a screenshot of a welcome video and comments as it appeared on Facebook, which received over 1,200 likes and 170 comments. In 151 total advertisements, Facebook's analytics reported a total of 943,894 views and 96,791 "engagements" (likes, comments, and shares). Figure 1 and Appendix Table 36 use IP address data at the governorate level to show that our baseline survey features respondents from 24 of Egypt's 27 governorates as it oversamples Cairo, where more than half of respondents are from.

As part of the baseline survey, respondents were given the option to add our WhatsApp account to their contacts and to send a message to our Facebook accounts. As a result, we were able to subsequently reach out to enroll respondents in the treatment via those WhatsApp and Facebook accounts without being identified as SPAM and blocked by WhatsApp and Facebook. In line with estimates from previous projects by J-PAL in the region of approximately 60% enrollment and after removing duplicate responses, which indicated no genuine interest in the intervention, we enrolled 5,828 in one of five treatment conditions. Of these 5,828, 227 responded twice to the endline, and so were excluded from our analysis, leaving us with a final set of 5,618 respondents. The median age in our sam-
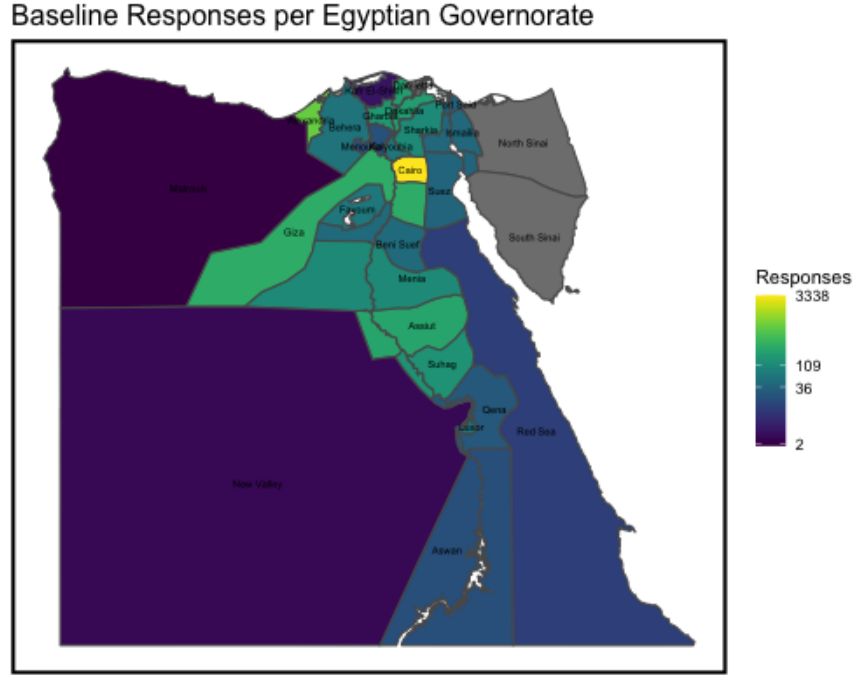
Figure 1: A map of baseline survey responses show that all but two governorates in Egypt are represented in our sample though more than half of the sample responded from Cairo.

ple was 30, and 32% of our participants are single or engaged with the remaining married, divorced, or widowed.

We block randomized the dissemination of messages across the sample of WhatsApp and Facebook subscribers that responded to the baseline, as well as into reminders about the television show. In addition to a control, we had four treatment groups: those receiving the videos in WhatsApp Groups, individually via WhatsApp or individually via Facebook, as well as those receiving a reminder delivered via WhatsApp of a weekly television show. Because not all respondents provided Facebook information or sent us a Facebook message, we were able to match 993 who also provided Facebook information. We then block randomized in two batches: in groups of 10 for those with Facebook and WhatsApp accounts (1/5 - Control, 1/5 - WhatsApp Individual, 3/5 - Facebook Individual) and in groups of 50 for those without Facebook accounts but with WhatsApp accounts (1/5 - Control, 1/5 - TV Reminder, 1/5 WhatsApp Individual, 2/5 - WhatsApp Group). Table 1 describes this process.

Treatment Variants and Intervention Content: ECWR produced the weekly television program covering similar topics called *Hekayat Nehad*, or Nehad's Stories. The television shows aired on a popular satellite channel, *Al Kahera Wa Al Nas*, on Saturday evenings between 27 June, 2020 and September 5, 2020, for a total of 10 episodes. Respondents in the
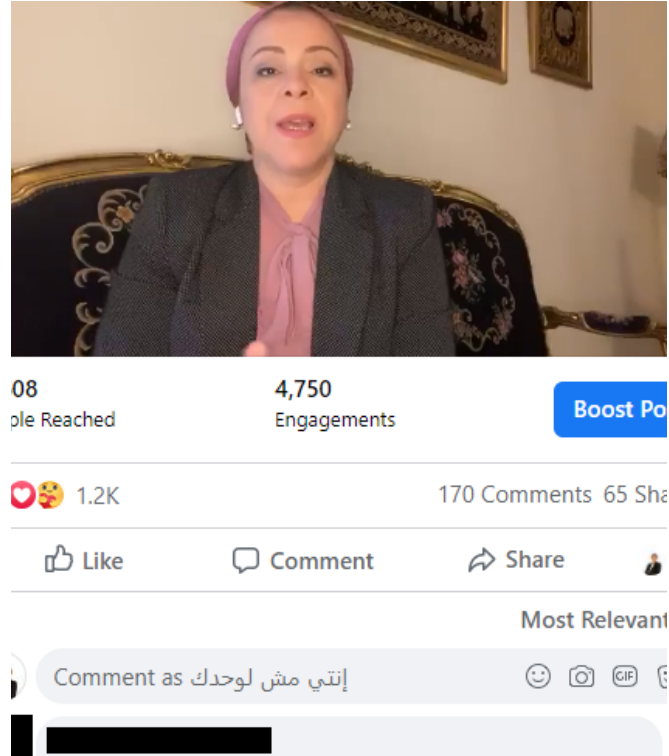
Figure 2: A welcome video posted on Facebook explaining the purpose of the study and inviting participation in the survey.

"Television Reminder" treatment received a WhatsApp message each Saturday informing them about the time and channel of the show for the final eight weeks of this period, from July 18, 2020 through September 5, 2020. These messages also pointed to the location of videos from previous episodes.[34] The TV shows were around 25-30 minutes in length and covered a broad array of topics related to women's empowerment, sexual harassment, and violence against women in Egypt, as described in Table 35 in the Appendix. In the television show, Nehad Aboul Komsan sits in a television studio and speaks directly to the camera in a conversational tone.

Enrollees in the "Facebook," "WhatsApp Individual" or "WhatsApp Group" treatment received thirteen videos in the eight-week period between July 18, 2020 and September 5, 2020. Videos were sent at the same time as "Television Reminders" on Saturdays, or during the week on Tuesdays or Thursdays. The videos had a similar narrative style as the television show, with Aboul Komsann producing engaging, conversational content while speaking directly to the camera from a nicely-furnished home. Topics were selected to be in line with the content of the television show according to our partner's understanding of the needs of an Egyptian audience. The 5-9 minute videos often begin with the latest news or events in Egypt, before delving into substantive discussion of sensitive issues like divorce, female genital cutting (FGC), GBV in the workplace or in public, and IPV. Further details on the videos are in Table 34 in the Appendix. While the intervention began as centered

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[34]Those assigned the television show reminders were initially distributed videos to previous shows.

Treatment	Assigned	Blocking, Accts w/FB	Blocking, Accts w/ WhatsApp	Treatment Description
Control	1160	Blocks of 10, 1/5	Blocks of 50, 1/5	No content
Facebook	586	Blocks of 10, 3/5	NA	Received links to website with videos via Facebook, and then WhatsApp
Remind Show	973	NA	Blocks of 50, 1/5	Received TV show reminders via WhatsApp
WhatsApp Group	1946	NA	Blocks of 50, 2/5	Received links to website with videos in groups via WhatsApp
WhatsApp Ind	1163	Blocks of 10, 1/5	Blocks of 50, 1/5	Received links to website with videos individually via WhatsApp

Table 1: We block randomized assignment to treatment in two batches, according to whether accounts did and did not provide Facebook details through which to send content.
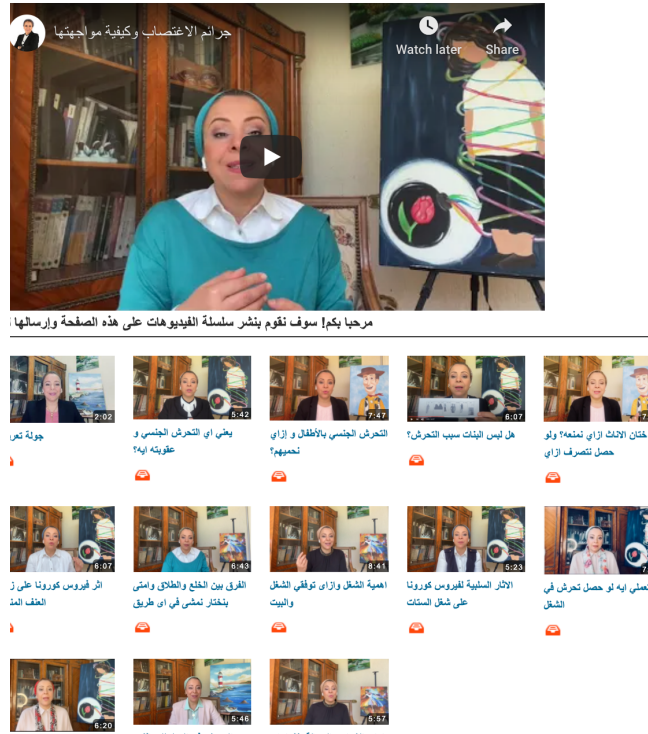
Figure 3: Users in the Facebook, WhatsApp Group, and WhatsApp Individual treatments received a link to a website, *mshlwa7dek.org* where all video messages were hosted.

around GBV and IPV, as with its TV show, ECWR elected to include content on topics such as FGC and workplace harassment in messaging in response to ongoing events in Egypt.

Figure 4: Delivery of a video titled "Is women's clothing the cause of harassment?" via WhatsApp.

The videos disseminated via WhatsApp and Facebook were uploaded via YouTube to a website, mshlwa7dek.org/egypt/. Figure 3 displays how this website appeared. Each link navigated to each individual video. Using a different, duplicated landing page for each treatment arm, we were able to measure aggregate visits per treatment. "TV Reminders" and "WhatsApp Individual" were sent using WhatsApp's Broadcast List functionality. Those in the "WhatsApp Group" treatment were assigned into groups ranging from 7 to 10 individuals, and video content was shared there. To understand if the videos generated conversation within groups, a group of researchers responsible for disseminating the messages manually coded aggregate discussion in the channels.

Figure 4, below, depicts how delivery via WhatsApp appeared on a phone to a single user. The video is titled "Is women's clothing the cause of harassment?", and members of the group respond, "Of course", "Clothes is definitely a reason. Especially nowadays, since women's clothes are very tight and inappropriate, it's just very bad." and, "And it causes harassment because it gives an impression the girl is ill-mannered." To other messages, users responded with words of encouragement of Nehad Aboul Komsan, with messages like, "Please talk about the causes of harassment, why it's increasing, and why women remain silent and fear speaking up, and why only women are blamed," or "The episodes are great. Keep going." Throughout the dissemination, however, we saw low levels of discussion on video content within groups.

We used Facebook's Custom Messages channel, which allows a Facebook Page to upload a list of information associated with a user and deliver a message directly to that user. According to Facebook's advertisement analytics, the rate of delivery was around 40%. Because of a technical issue with accessing the main account, we transitioned to delivering

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Assignment	Baseline	Endline	Response Rate
Control	1104	839	0.76
Facebook	565	418	0.74
Remind_Show	952	702	0.737
WhatsApp_Group	1879	1382	0.735
WhatsApp_Ind	1118	824	0.737
Total	5618	4165	0.741

Table 2: Response rates by assignment. This table displays response rates after removing those who responded twice to the endline survey.

messages through WhatsApp individually beginning with the 5th video, on August 11, 2020. As a result, users in this treatment received four videos over Facebook messenger, and 9 via WhatsApp, which is why our main first stage and reduced form specification will pool these two treatment arms. Figure 5 shows that visits to the video's landing pages increased following this shift to distribution via WhatsApp (52.5 landing page visits per video, compared with 38 on Facebook), which suggest that WhatsApp is a more effective platform for treatment delivery. In our primary analysis, we will pool individuals who received the messages via WhatsApp and Facebook individually.

The endline survey was disseminated via WhatsApp and SMS from September 10, 2020 through October 11, 2020. All individuals were sent messages via WhatsApp's Broadcast list functionality along with manual SMS for individuals who were no longer in our contact list. Researchers delivering the survey message used WhatsApp's delivery and read receipts functionality to determine whether these endline messages had been delivered, and sent SMSs to those who had not received the survey via WhatsApp. Of the 5,618 of respondents that completed the survey at baseline, 4,222 completed the endline survey, or 74.1%. Table 2 shows that endline response rates were balanced across treatment conditions. Upon project completion, we disseminated all video content to those in the Control arm who had not received it over prior months.

4.4 Measuring First Stage Delivery via Responses, Website Visits, and YouTube Analytics

For all of these outcomes, important first stage measurement of treatment receipt will be whether an individual reports hearing about and receiving reminders on the television show Hekayat Nehad (E22, E23, E24, E25),[35] or receiving videos via Facebook or WhatsApp (E35, E36). We also expect somewhat important first stage measurements to be reported watching of the television show and accurately describing its content (E21, E26, E27, E28), viewing and describing the content of WhatsApp videos (E37, E38, E39), and a range of questions about TV and social media consumption habits (E21, E33, E34). In addition, as in Table 3, we

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[35]These variable names refer to question labels in the survey instrument in Appendix 8

Facebook Videos Landing Page Visits before and after Distribution Shift
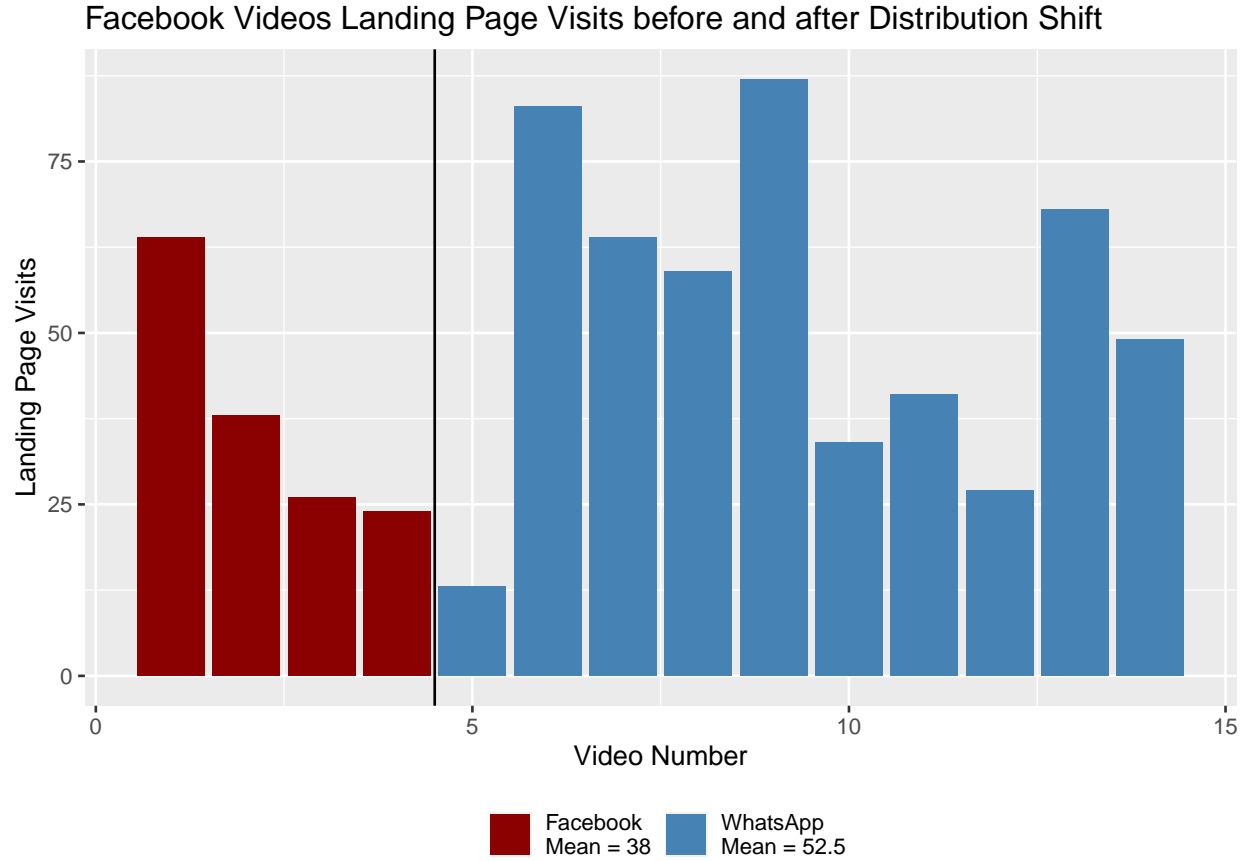
Figure 5: The figure shows differences in landing page visits (see more details on this below) in the "Facebook" treatment before and after the shift to distribution from Facebook Custom Messages to WhatsApp due to a technical issue with the main account.

will measure first stage treatment delivery via aggregate visits to different landing pages for individuals in the "WhatsApp Individual," "WhatsApp Group," and "Facebook" treatments. Beyond these self-reported measurements of treatment receipt, we use our YouTube channel to understand aggregate visits and views to the pages hosting the videos.[36]

   On aggregate, Table 3, Figure 6 and Table 4 allow us to see that approximately half of the assigned users visited the site, and most users who visited the site accessed multiple pages and watched multiple videos. Over the course of the distribution and endline period (July 23 - October 10,2020), the website received 4,149 visits from Egypt (3,443 unique IP addresses, 1,558 Unique User Ids). The time spent on the site was roughly similar across treatment arms, at about 4 minutes, 1 second, but this hides substantial heterogeneity across users with some barely visiting the site and third quartile spending approximately 25 minutes. Similarly, YouTube records 3,270 views, with an average length of 3 minutes and

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[36]This data has a few shortcomings: the website's tabulation of Unique User Ids assigns a cookie to each web browser, so that individuals accessing content across different devices are counted separately. Moreover, the mechanics of YouTube visit tabulation are opaque, and YouTube likely only counts views above a certain threshold.
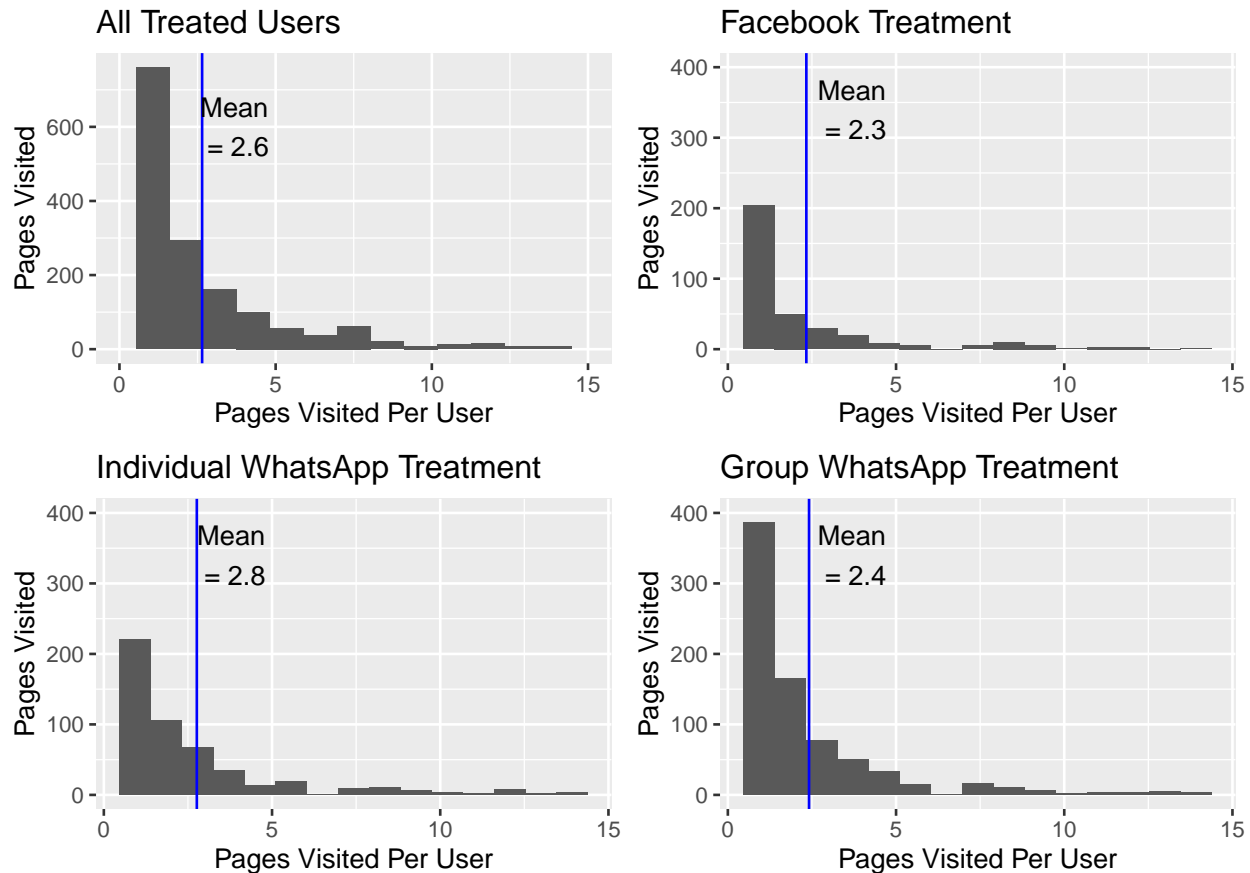
Figure 6: Across treatment arms, the mean user visited approximately 2.6 pages on the site. The median user visited two or three pages..

9 seconds. As clear from Table 4, the lower incidence of viewership in YouTube is partially due to its stricter definition of viewership. There is no analogous way to measure viewing of the television show, for those who received a reminder to view the program.

The data in Table 3 suggest that, compared with individuals in the Whats App Group treatment, those in the Facebook and Whats App Individual treatment arms, on average, engaged 25% more with the treatment content, as measured by the percentage of those visiting the website and viewing its content relative those assigned to treatment. Figure 6 shows that the mean unique user visited two to three video sites of the thirteen videos distributed, and the distinction between treatment arms is less clear.

5 Variation and Correlates at Baseline

We present the correlates and variation of some of our baseline outcomes, which informed our heterogeneous effect analysis. Figures 7 and 8 show the baseline level of variation in

Assignment	Assigned	Unique Users	Unique IPs	Total Actions	IP/Tot.	Med. Time
FB	586	345	597	1347	1.02	4:02
WA Ind.	1163	509	1178	2463	1.01	4:01
WA Group	1946	781	1671	3280	0.86	3:57
Total	3695	1635	3446	7090	0.93	4:01

Table 3: Our website's reported number of unique users, unique IPs, and total actions according to treatment arm. A Unique User is determined via cookies and thus corresponds to a specific individual in a particular device. Note that this table reports different treatment assignment numbers than Table 1 as it includes assignments who may have responded twice to the endline survey.

Figure 7: The above plot shows variation in responses to key attitudinal questions at baseline. The plot shows that there is little variation in attitudes toward the justifiability of husbands sometimes hitting or beating their wives. There is more variation in attitudes of whether a husband is sometimes justified in yelling at their wives, as well as in whether husbands should have final say in all decisions regarding the family and whether husbands should provide the income.

our principal attitudes questions at baseline, centered on justification of violence and gender roles within the family. The figure shows that while there is broad rejection of whether

Title	Date	YT Views	Web Visits	YT Total (Hours)	Web Total (Hours)	YT Avg. View	Web Avg. Visit
What is sexual harassment and what is its penalty?	Jul 24	535	682	22.80	40.26	0:02:33	0:03:33
Sexual harassment of children and how to protect them?	Jul 31	391	493	24.42	40.66	0:03:44	0:04:57
Are womens clothes the cause of sexual harassment?	Aug 3	324	372	15.26	21.59	0:02:49	0:03:29
FGC and how to stop it?	Aug 7	268	286	18.19	22.16	0:04:04	0:04:39
Impact of COVID-19 on increasing domestic violence	Aug 11	212	235	9.84	17.85	0:02:47	0:04:33
Rape crimes and how to fight them and COVID-19	Aug 14	207	226	9.97	12.02	0:02:53	0:03:11
The difference between divorce and Khul and when to choose either?	Aug 17	268	230	15.09	18.55	0:03:22	0:04:50
The importance of work and how to balance between work and home?	Aug 21	281	268	18.03	21.35	0:03:51	0:04:47
The negative effects of Covid-19 on women's work	Aug 25	107	96	5.22	4.60	0:02:55	0:02:52
How to deal with workplace harassment?	Aug 26	175	143	9.83	10.84	0:03:22	0:04:33
How to act if you saw someone harassing a colleague at work?	Aug 28	146	110	7.10	7.86	0:02:55	0:04:17
Dealing with workplace harassment for new employees	Sep 7	172	146	7.84	10.55	0:02:44	0:04:20
How can men stand against violence against women?	Sep 9	184	184	7.84	21.02	0:02:33	0:06:51
Totals		3270	3471	13.19	19.18	0:02:59	0:04:22

Table 4: Website and YouTube analytics show that earlier videos received higher numbers of visitors and views. The website analytics report higher numbers because they measure individual visits and total duration on the site, whereas YouTube measures time spent viewing the content.

husbands hitting their wives can be justified, there is more variation in views toward the justifiability of yelling. Toward family roles, there is broad variation in whether husbands should have the final say in all matters concerning the family and whether a husband should always provide the household income, but broad rejection of prioritizing education based upon gender. There is some variation in whether respondents believe women will have equal say and equal rights in the future, with most respondents holding a positive outlook.

Appendix Tables 5, 6, 7, 8, 13 and 14 examine the relationships between age, education, income and marital status on attitudes and outlooks. They show that older women are more likely to agree that husbands should provide income and should have the final say in household decisions, but more likely to reject violence and equally likely to prioritize education for men or say hitting is justified. Older women are slightly more likely to believe women will achieve greater gender equality in the future, in terms of more equal legal rights, access to education, economic opportunities, and say in their families. Women with a BA degree are more likely to reject violence, equally likely to agree with the other attitudinal

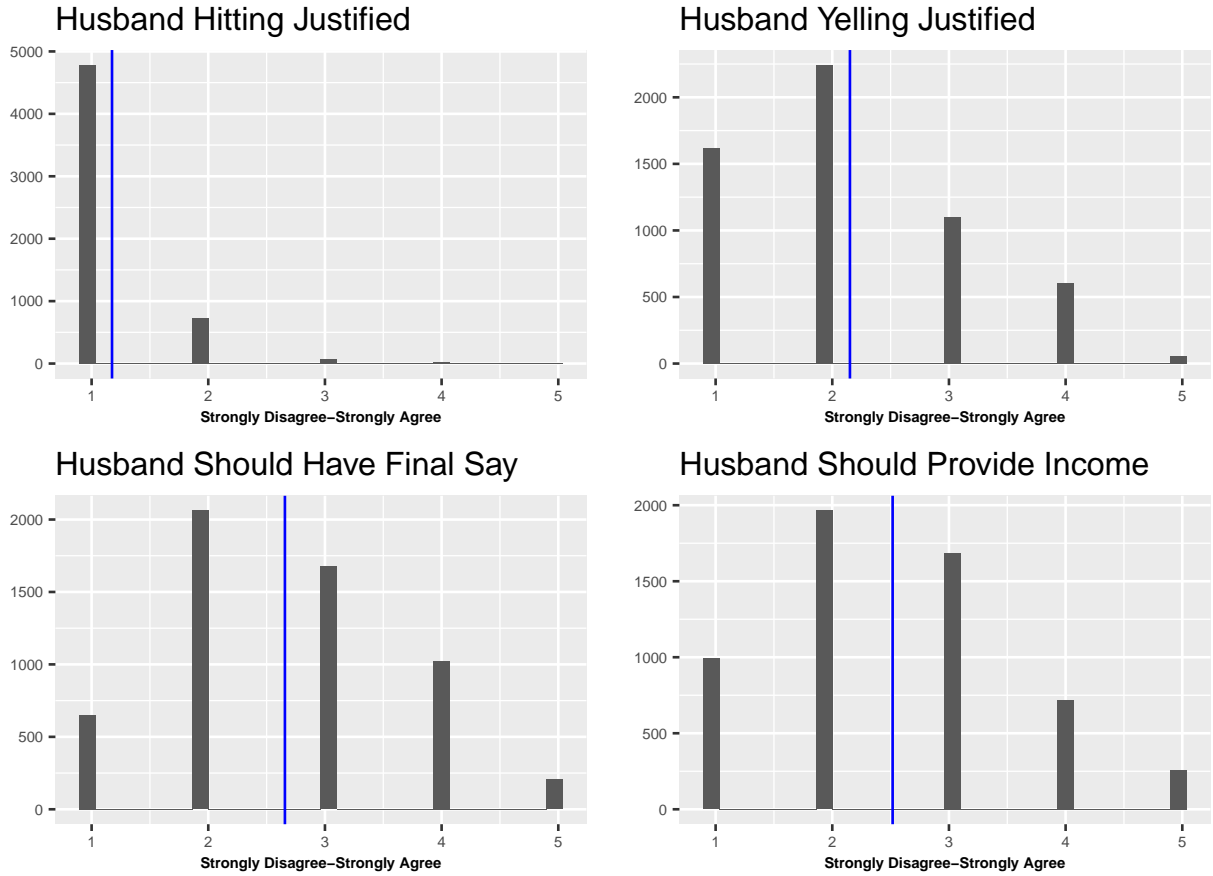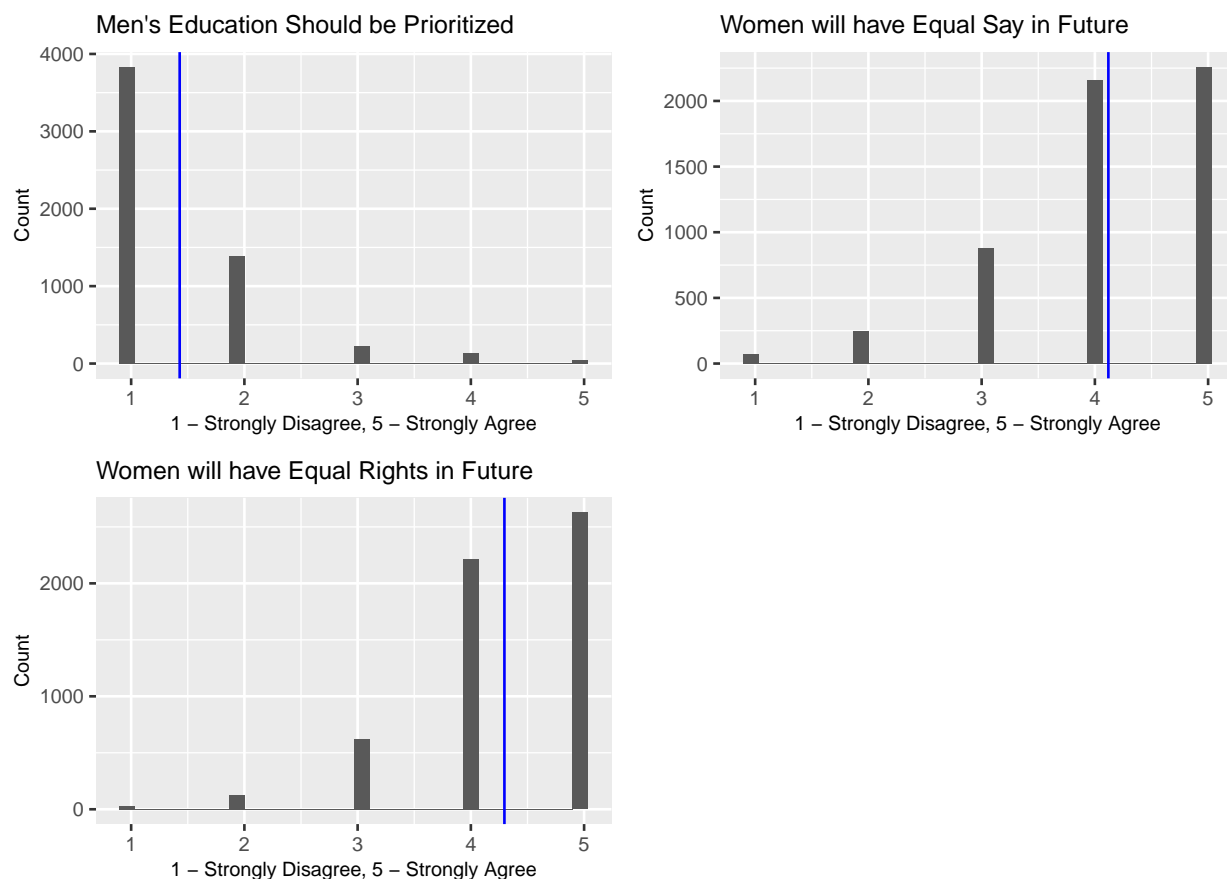Figure 8: The above plot shows variation in responses to key attitudinal questions at baseline. The plot shows that most respondents at baseline rejected the notion that male education should be prioritized. There is more variation in questions on future outlook, but most believe women will have equal say and equal rights in the future.

measures, and hold more negative outlooks toward women's equality in the future. Women facing fewer financial struggles before COVID-19 are less likely to say that a husband should provide the income when necessary, and also more likely to reject violence. Similar to women with a BA, they hold more negative outlooks toward equality in the future. Married women (with unmarried women defined as single, engaged, divorced, separated, and widowed; 3,042 in sample are married) are more likely to say that husbands should ideally provide income and should have final say in family affairs, but equally likely to report prioritizing men's education or to reject violence. Married women are less likely to say that in the future women will have an equal say in decisions regarding the future. Appendix Tables 16 and 17, meanwhile, show an intuitive correlation that women who hold attitudes less in favor of gender equality and more accepting of violence are less likely to say that women will have equal say and rights in the future.

Tables 18, 19, 20, 21 and 22 show the relationships between income, education, age, marital status, total in the household, COVID-19 income decline and attitudes and knowledge of online resources or organizations advising women affected by domestic violence. More

educated, more affluent and older women are more likely to be familiar with an organiza-tion or an online resource.[37] Married and unmarried women are equally likely to know of an online organization or resource. Individuals holding views that are more accepting of violence and less favorable toward gender equality are less likely to know online resources or organizations. Total individuals in the household and reported decline in income during the COVID-19 pandemic showed little relationship to knowledge.

5.1 Hypothetical Behavior at Baseline

Tables 23, 24 and 25 show that more educated women are more likely and older women less likely to report to authorities, and both are equally likely to look for resources or contact an online organization in a scenario where a friend has been affected by domestic violence. Married women are less likely to report to authorities, look for online resources, or contact in organization in the same scenario. Income has no significant impact on these hypothetical behaviors. Tables 26, 27 and 28 show negative relationships between attitudes more accepting of violence and gender inequality and willingness to contact authorities, look for online resources, or contact an organization in a scenario where a friend has been affected by domestic violence.

5.2 Reported Experience of Violence at Baseline

Tables 29 and 30 show that while there is no relationship between education (attaining a BA) and experiencing yelling or hitting in the months before the COVID-19 pandemic, women in more comfortable financial situations, married women, surprisingly, and younger women were less likely to witness or experience violence. Tables 32 and 33, meanwhile, show that individuals who hold attitudes less in favor of gender equality and more accepting of violence were less likely to report experiencing violence via yelling or hitting in the months prior to COVID-19.

6 Empirical Framework

Throughout most of our analysis, we will estimate balance and treatment effects respectively for baseline covariates and endline outcomes by regressing them against disaggregated (i.e., all four possible combinations) treatment and pooled (i.e., any treatment, or social media and TV) indicators.

Consider individual i in randomization block b. Our most general baseline equation

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[37]Note the knowledge questions are measured crudely in terms of providing any text based answer of knowing an organization, as opposed to a necessarily correct one.

will be the following intent-to-treat (ITT) specification:

$$Y_i = \alpha_0 + \alpha_1\text{WhatsAppIndividual} + \alpha_2\text{WhatsAppGroup} + \alpha_3\text{FacebookIndividual} + \alpha_4\text{TVReminder} + \Omega X_i + \gamma_b + \varepsilon_i$$

Where the variables are defined as follows:

- α_1 is a dummy equal to 1 if individual i is treated with WhatsApp Individual;

- α_2 is a dummy equal to 1 if individual i is treated with WhatsApp Group

- α_3 is a dummy equal to 1 if individual i is treated with Facebook Individual

- α_4 is a dummy equal to 1 if individual i is treated with TV Reminder.

- γ_b is a randomization block fixed effect;

- X_i are individual baseline controls from the corresponding family of outcomes. This will be a vector of demographic covariates and baseline outcomes. We will show estimates for a version of the ITT equation, without X_i, with X_i and with X_i chosen through machine learning considering baseline outcomes beyond the lagged dependent variable (Athey and Imbens (2019); Bloniarz et al. (2016)).

Since, as explained above, the delivery of messages through Facebook had to be replaced with WhatsApp Individual delivery, while we will run balance tables for separate indicators, to maximize power, we will pool Facebook and WhatsApp Individual delivery.

For our main estimates, we will also considering pooling Facebook, WhatsApp Individual and WhatsApp Group delivery as a measure of the overall impact of the video delivered via social media compared with the traditional media TV reminders, and in recognition that there was relatively little interaction in the WhatsApp Groups.

Standard errors will not be clustered since the unit of randomization was the individual. We will measure our outcomes using standardized z-score (Kling et al. (2007)), and as robustness, inverse covariance weighted (ICW) indexes. We will weigh the elements of the indexes equally. The coefficients used to test our primary hypotheses will be α_j for j=1 to 4. We will use one-sided hypothesis tests when we have hypothesized a direction and two-sided hypothesis tests where we have not. For each hypothesis we will test our hypotheses individually unless otherwise noted. When testing hypotheses jointly, we will make the necessary adjustments for multiple hypotheses testing.

6.1 First Stage Regressions

We will start by analyzing the relative effectiveness of the treatment arms (some pooled, as explained above) at getting participants to consume the treatment information (see outcomes

below). While most of our analysis will focus on ITT estimates, we might also consider instrumental-variable estimates. If so, in the case that the pooled treatment assignments do not provide a sufficiently strong instrument, we will use machine learning to select the optimal combination of treatment indicators and baseline covariates as instruments (Belloni et al. (2012); Chernozhukov et al. (2015)).

6.1.1 Primary First Stage Hypotheses and Measurement of Key Variables

Hypotheses 1 and 2 state that treated individuals are more likely to report receiving and consuming the content delivered via WhatsApp, Facebook, and Television. We will measure this via reported receipt, reported viewing, and accurate recollection of content (Variables E20 through E28, E33 through E40). Hypothesis 3 predicts individuals who receive the content via WhatsApp Group will report higher levels of reported receipt, viewing, and accurate recollection of content, especially if groups engaged in discussions around the content delivered.

6.2 Reduced Form Regressions

Our primary focus is on attitudinal effects, future outlook, knowledge, and hypothetical behavior.

6.2.1 Primary Reduced Form Hypotheses and Measurement of Key Variables

As explained in the literature and theory of change, our study focuses on whether information disseminated by a high-status figure to a large number of individuals can shift attitudes about gender equality and the justifiability of domestic and gender based violence, as well as knowledge about resources, hypothetical behavior, and revealed preferences. We now articulate how the hypotheses from the theory of change translate into predictions regarding intent-to-treat (ITT) treatment effects. Measurement of the relevant variables in these hypotheses is discussed in the following section.

1. **Attitudes**: Hypothesis 4: Any treatment assignment positively shifts individuals' attitudes in favor of more equal gender roles within the family, reduces their acceptance of the justifiability of GBV and IPV, and shifts their perception of violence against women as a problem.

2. **Future Outlook**: Hypothesis 6 Individuals who are targeted information messages or TV reminders will be more likely to express optimism about women's equality and empowerment in the future, relative to those on the control group.

3. **Knowledge**: Hypothesis 7: Treated individuals will be more likely to exhibit greater knowledge, particularly about resources.

4. **Hypothetical and Observed Behaviors**: Hypothesis 8: Treated individuals will be more likely to recommend to seek online resources or contact a local organization in a hypothetical scenario where a friend or family member faces violence. Similarly, treated individuals should be more likely to report having themselves accessed online resources and contacted an organization that supports and advises women.

5. **Revealed Preferences**: Hypothesis 9: Any treatment assignment increases the likelihood that an individual donated to an NGO supporting women's empowerment in Egypt.

The above outcomes are measured as follows:

1. **Attitudes**: A range of questions asked about attitudes toward female empowerment, including the husbands role in the family, and the role of women in the workplace (B41-E41, B42, B43-E43, B44-E44, B45, E48). We also included attitude outcomes as they related to the justifiability of domestic violence and street harassment, definitions of and norms around interfering in sexual harassment, and female genital cutting (E49 to E56), and true/false questions to measure perceptions based attitudes related to the consequences of sexual harassment, FGC, and female empowerment (E57 to E60). Lastly, we measure in-survey reporting around sexual violence, domestic violence, and sexual assault with questions about hearing of or experiencing yelling, violence, or sexual assault before COVID-19 both at baseline and endline (B61-E61, B63-E63, E65), which allows measuring the perceived stigma of reporting of violence.

2. **Future Outlook**: B45-E45, B46-E46 ask about beliefs in women's roles in the future, measuring sense of efficacy as it relates to female empowerment.

3. **Knowledge about Resources**: We measure knowledge of resources through questions pertain specifically to knowledge of organizations and online resources in Egypt (E76, E77, B78-E78, B81-E81).

4. **Hypothetical Behavior**: We measure whether a respondent recommends to look for online resources and contact organizations to a friend has been exposed to domestic violence (B70-E70 and B71-E71), or exposed to sexual assault or sexual harassment (E74 and E75).[38]

5. **Observed Behavior**: We measure whether respondents have looked for or accessed online resources and contacted local organizations (B80-E80 and B83-E83).

6. **Revealed Preference:** We measure revealed preference through a willingness to make a donation to an organization supporting women's empowerment (E84).

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[38]We also measure views about speaking with a husband or immediate family and contacting authorities in these hypothetical cases (B67-E67 to B69-E69 and E72 to E73), but as discussed above, we believe that our intervention unlikely to shift those views.

6.3 Secondary Hypotheses and Heterogeneous Effects

Our study also seeks to highlight the mechanisms underlying any effects we find, as described in the Literature Review and Theory of Change sections.

Attitudes and Communal Distribution: Hypothesis 5: Individuals who are targeted treatment information via collective channels such as WhatsApp group or TV will exhibit stronger attitudinal changes.

Ceiling Effects: Treated individuals who exhibit high levels of knowledge at baseline will exhibit smaller treatment effects in knowledge.

Heterogeneous Effects on Behaviors: Treated individuals with lower baseline knowledge will be more likely to exhibit positive treatment effects on recommending to seek online resources or contacting an organization and themselves doing so. If there are limited treatment effects on attitudes, there should also be greater treatment effects on those outcomes among those with higher baseline attitudes in favor of gender equality and rejecting of violence.

All the variables related to these hypotheses were already introduced in the previous section. We will also look at heterogeneous effects on variables that predict baseline attitudes and knowledge about resources. These predictive variables will include:

- Age (B2-E2) and, if married, age differential with husband (B4-E4);[39]

- Whether a husband lives in the household (B3 and B6),[40]

- Level of education and, if married, husband's education (B10, B11)

- Number of children and individuals in the household (B7, B8, B9)

- Shifts of an individual or spouse to spending more time in the house due to COVID-19 (B12, B13, B14, B15) and COVID-19 induced financial stress (B16).

Due to the large number of predictors, in addition to the baseline outcomes on attitudes and willingness to seek external resources, we will use machine learning to analyze which the best predictors.

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[39]Table 11 shows that a larger age gap between husband and wife translates into women being more likely to say husband should earn income, and justify yelling.

[40]Of 3,042 married women, 582 husbands lived away some or all of the time, Table 12 shows that those who have a husband living at home hold views far more likely to reject violence, far more likely to hold views favoring gender equality. This may just be a function of income, with poorer women married to those who work as migrant laborers abroad. Women with husbands living outside the home were far more likely before COVID to say that their income does not meet their expenses.

6.4 Topic Level Outcomes

In principle, it is possible that individuals are more receptive or face lower barriers to attitudinal and behavioral change on some components of gender equality or some forms of harassment and violence. At the topic level, we will separately analyze our outcomes as follows:

Female Empowerment: We study attitudes toward female empowerment with questions about family roles and the role of women in the workplace (B41-E41, B42, B43-E43, E48), as well as questions related to efficacy and the perceived status of women in the future (B46-E46, B47-E47). We asked factual questions to measure knowledge of the legal system in Egypt and medical knowledge, with questions about difference between divorce and *Khul',*[41] the legal age of marriage, and female genital cutting (E58, E59, E60).

Domestic Violence: We study attitudes toward domestic violence (B44-E44, B45), reported experience of domestic violence (B61-E61, B62-E62, B63-E63, B64-E64, B79-E79, B82-E82), and hypothetical behavior in a scenario where a friend is exposed to domestic violence (B67-E67, B68-E68, B69-E69, B70-E70, B71-E71).

Sexual Harassment and assault: We add a range of questions on attitudes toward sexual harassment (E49, E50, E51, E53, E55), centered on its justifiability, sexual harassment in the workplace, and norms around interference. We also measure knowledge of sexual harassment in Egypt's legal system (E57), and hypothetical behavior in a scenario where a friend has been exposed to sexual harassment or assault (E72, E73, E74, E75). We asked one attitudinal question about sexual assault (E54), as well as questions about reported experience before or during COVID-19 (E65, E66).

For domestic violence, sexual harassment, and sexual assault, we also measure knowledge about resources (B78-E78, B81-E81), accessing resources (B79-E79, B82-E82), and contacting organizations (B80-E80, B83-E83) through a series of questions about knowledge of and accessing online resources or a supportive organization during the COVID-19 pandemic.

6.5 Measurement issues

Social Desirability Bias: We also measure whether individuals report contacting organizations or seeking online resources for women facing domestic violence, sexual harassment or sexual assault before COVID-19 both at baseline and endline (B79-E79, B82-E82). Treatment effects on changes between baseline and endline outcomes would reflect treatment effects on social desirability bias.

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[41]A procedure rooted in Islamic law which allows a woman to initiate a separation or divorce from her husband but may require return of a dowry and may not provide access to the same legal rights, like alimony.

6.6 Data Cleaning

We will follow a basic procedure for cleaning our variables.

1. We will code "don't know" and "refuse" answers as zero and include controls for such missingness, which will also be interacted with other regressors whenever appropriate.

2. We will check for balance on missing values (after re-coding "don't know" and "don't want to say" as missing) on our outcome variables, and test the sensitivity of our results to different assumptions on the missing data. In particular, if missingness of the outcome variables is correlated with treatment assignment, we will implement Manski-Horowitz bounds (i.e., coding all missing values as either zero or one).

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7 Appendix

7.1 Relationship between Key Variables at Baseline

7.1.1 Attitudes and Future Outlook

Tables 5, 6, 7, 8, 9 and 10 look at associations between income, education, age, marital status, number of individuals in the household and income decline during COVID-19 on attitudinal questions. They show weakly negative relationships between finances before COVID-19 (0 - struggling to make ends meet, 4 - able to save) and educational attainment (0 - no BA, 1 - BA) and agreement with a range of attitudinal questions. Older women are more likely to say that husbands should provide the household income if possible and should have the final say in household decisions, but less likely to say that yelling is justified. Married women (with unmarried women defined as single, engaged, divorced, separated, and widowed) are more likely to say that husbands should ideally provide income and should have final say in family affairs, but equally likely to report prioritizing men's education or to say that yelling or hitting is justified. Women with more children and in the household (children, relatives, unrelated adults) and women who reported their family experienced any form of income decline (4,246 out of 5,618, or 75%) are more likely to say that a husband should provide income, that a husband should have final say in family matters, and more likely to say that yelling or hitting is justified. The outcome questions are:

- "Husb Income": If possible, husbands should provide the household income, and women stay at home taking care of the children, elderly, and housework.

- "Husb Final Say": Husbands should usually have final say in all decisions concerning the family.

- "Prioritize Educ": If a family has to choose which children to educate, the education of men should be prioritized over the education of women.

- "Yelling Just": Husbands are sometimes justified in yelling at their wives (e.g., when the wife disobeys them).

- "Hitting Just": Husbands are sometimes justified in hitting or beating their wives (e.g., when they are under immense financial pressure).

Table 5: Baseline Relationship btw Pre-Covid Income and Attitudes

	Dependent variable:				
	Husb Income	Husb. Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Finances Before Covid	−0.108***	0.023	−0.015	−0.018	−0.035***
	(0.018)	(0.017)	(0.013)	(0.017)	(0.008)
Constant	2.801***	2.597***	1.469***	2.198***	1.266***
	(0.049)	(0.047)	(0.035)	(0.046)	(0.021)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.006	0.0003	0.0003	0.0002	0.003
Adjusted R^2	0.006	0.0001	0.0001	0.00002	0.003

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6: Baseline Relationship btw Education and Attitudes

	Dependent variable:				
	Husb Income	Husb Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Education: BA 0/1	−0.035	0.006	−0.038*	−0.100***	−0.058***
	(0.029)	(0.027)	(0.020)	(0.027)	(0.013)
Constant	2.537***	2.653***	1.450***	2.208***	1.208***
	(0.022)	(0.021)	(0.015)	(0.020)	(0.009)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.0003	0.00001	0.001	0.002	0.004
Adjusted R^2	0.0001	−0.0002	0.0005	0.002	0.004

Note: *p<0.1; **p<0.05; ***p<0.01

Table 7: Baseline Relationship between Age and Atitutdes

	Dependent variable:				
	Husb. Income	Husb. Final Say	Prioritize Educ	Yelling Just	Hitting Just
	(1)	(2)	(3)	(4)	(5)
Age	0.006***	0.007***	−0.001	−0.010***	−0.001
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.003	0.004	0.0001	0.009	0.0001
Adjusted R^2	0.003	0.004	−0.0001	0.009	−0.0001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 8: Baseline Relationship btw Marital Status and Attitudes

	Dependent variable:				
	Husb Income	Husb. Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Marital Status	0.173***	0.362***	−0.018	−0.015	0.014
	(0.028)	(0.027)	(0.020)	(0.026)	(0.012)
Constant	2.424***	2.461***	1.438***	2.159***	1.167***
	(0.021)	(0.020)	(0.015)	(0.019)	(0.009)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.007	0.031	0.0001	0.0001	0.0002
Adjusted R^2	0.006	0.031	−0.00003	−0.0001	0.0001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 9: Baseline Relationship btw Total Individuals in Household and Attitudes

	Dependent variable:				
	Husb Income	Husb Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Number in Household	0.013***	0.008*	0.005	0.024***	0.009***
	(0.005)	(0.005)	(0.003)	(0.004)	(0.002)
Constant	2.467***	2.627***	1.410***	2.059***	1.139***
	(0.023)	(0.022)	(0.016)	(0.021)	(0.010)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.001	0.001	0.0004	0.005	0.003
Adjusted R^2	0.001	0.0003	0.0002	0.005	0.003

Note: *p<0.1; **p<0.05; ***p<0.01

Table 10: Baseline Relationship btw Income Decline During COVID-19 and Attitudes

	Dependent variable:				
	Husb Income	Husb Final Say	Prioritize Educ.	Yell	Beat
	(1)	(2)	(3)	(4)	(5)
Covid Income Decline	0.129***	0.061*	0.025	0.144***	0.054***
	(0.033)	(0.032)	(0.023)	(0.031)	(0.014)
Constant	2.420***	2.611***	1.410***	2.042***	1.134***
	(0.029)	(0.028)	(0.020)	(0.027)	(0.013)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.003	0.001	0.0002	0.004	0.002
Adjusted R^2	0.003	0.0005	0.00003	0.004	0.002

Note: *p<0.1; **p<0.05; ***p<0.01

Table 11: Baseline Relationship btw Age Difference with Husband and Attitudes among Married Women

	Dependent variable:				
	Husb Income	Husb Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Husband Age Diff	0.005**	0.002	−0.0003	0.006***	−0.0002
	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)
Constant	2.611***	2.827***	1.419***	2.159***	1.182***
	(0.020)	(0.019)	(0.014)	(0.018)	(0.009)
Observations	3,026	3,026	3,026	3,026	3,026
R^2	0.002	0.0004	0.00002	0.003	0.00002
Adjusted R^2	0.002	0.0001	−0.0003	0.003	−0.0003

Note: *p<0.1; **p<0.05; ***p<0.01

Table 12: Baseline Relationship btw Husband Living Locally and Attitudes among Married Women

	Dependent variable:				
	Husb Income	Husb Final Say	Prioritize Educ.	Yell	Hit
	(1)	(2)	(3)	(4)	(5)
Husb. Cohabitates	−0.155***	−0.079*	−0.092***	−0.110**	−0.069***
	(0.049)	(0.047)	(0.034)	(0.045)	(0.022)
Constant	2.722***	2.887***	1.495***	2.234***	1.237***
	(0.044)	(0.042)	(0.030)	(0.040)	(0.020)
Observations	3,042	3,042	3,042	3,042	3,042
R^2	0.003	0.001	0.002	0.002	0.003
Adjusted R^2	0.003	0.001	0.002	0.002	0.003

Note: *p<0.1; **p<0.05; ***p<0.01

Table 13 shows more educated women and women in more comfortable financial situations hold more negative future outlooks, measured as agreement that women will hold more equal legal rights, access to education, and economic opportunities, and will have a more equal say in their families in the future. Table 14 shows that older women hold slightly more optimistic outlooks, while married women are slightly less likely to say that in the future women will have an equal say in decisions concerning their family. Table 15 shows there is no relationship between number of individuals in household and a decline in household income during COVID-19 on future outlook.

- "Future Equal Say": In the future, women will have an equal say with their husbands in all decisions concerning the family.

- "Future Equal Rights": In the future, men and women in Egypt will have more equal legal rights, access to education, and economic opportunities. (1 - strongly disagree, 5 - strongly agree).

Table 16 shows that individuals holding views more restrictive of gender norms and more accepting of violence are more pessimistic about the future. Women who are more likely to say that hitting is justified, physical violence is justified, that husbands should provide incomes for the family, that husbands should have the final say in all matters, and that men's education should be prioritize are less likely to say that women will have an equal say in the future. We see the same relationship in Table 17 in a question geared toward rights in the future.

- "Future Equal Say": In the future, women will have an equal say with their husbands in all decisions concerning the family.

- "Future Equal Rights": In the future, men and women in Egypt will have more equal legal rights, access to education, and economic opportunities. (1 - strongly disagree, 5 - strongly agree).

Table 13: Baseline Relationship in Education, Finances on Future Outlook

	Dependent variable:			
	Future Equal Say		Future Equal Say	
	(1)	(2)	(3)	(4)
Finances Before Covid	−0.036**		−0.017	
	(0.015)		(0.013)	
Education: BA 0/1		−0.042*		−0.052**
		(0.025)		(0.021)
Constant	4.214***	4.143***	4.341***	4.326***
	(0.042)	(0.019)	(0.037)	(0.016)
Observations	5,618	5,618	5,618	5,618
R^2	0.001	0.001	0.0003	0.001
Adjusted R^2	0.001	0.0003	0.0001	0.001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 14: Baseline Relationship in Age, Marital Status on Future Outlook

	Dependent variable:			
	Future Equal Say		Future Equal Say	
	(1)	(2)	(3)	(4)
Age	0.003*		0.003**	
	(0.001)		(0.001)	
Marital Status		−0.045*		−0.011
		(0.024)		(0.021)
Constant	4.040***	4.144***	4.209***	4.302***
	(0.043)	(0.018)	(0.037)	(0.016)
Observations	5,618	5,618	5,618	5,618
R^2	0.001	0.001	0.001	0.00005
Adjusted R^2	0.0005	0.0004	0.001	−0.0001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 15: Baseline Relationship between Total Number of Individuals in Household, COVID-19 Income Decline Status on Future Outlook

| | Dependent variable: | | | |
| | Future Equal Say | | Future Equal Say | |
	(1)	(2)	(3)	(4)
Number in Household	0.002 (0.004)		0.001 (0.004)	
Covid Income Decline		0.002 (0.028)		0.012 (0.025)
Constant	4.112*** (0.020)	4.117*** (0.025)	4.291*** (0.017)	4.287*** (0.021)
Observations	5,618	5,618	5,618	5,618
R^2	0.00004	0.00000	0.00002	0.00004
Adjusted R^2	−0.0001	−0.0002	−0.0002	−0.0001

Note:	*p<0.1; **p<0.05; ***p<0.01

Table 16: Baseline Relationship btw. Attitudes and Outlook for Women's Say in the Future

			Dependent variable:		
			Future Equal Say		
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.157*** (0.012)				
Hitting Justified		−0.201*** (0.026)			
Husb. Income			−0.140*** (0.011)		
Husb Final Say				−0.212*** (0.012)	
Prioritize Educ. Men					−0.129*** (0.016)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.029	0.010	0.027	0.056	0.011
Adjusted R^2	0.029	0.010	0.026	0.056	0.011

Note: *p<0.1; **p<0.05; ***p<0.01

Table 17: Baseline Relationship btw. Attitudes and Women's Rights in the Future

	Dependent variable:				
	Future Equal Rights				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.085***				
	(0.011)				
Hitting Justified		−0.185***			
		(0.023)			
Husb. Income			−0.104***		
			(0.010)		
Husb Final Say				−0.097***	
				(0.010)	
Prioritize Educ. Men					−0.139***
					(0.014)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.011	0.012	0.019	0.015	0.017
Adjusted R^2	0.011	0.012	0.019	0.015	0.017

Note: *p<0.1; **p<0.05; ***p<0.01

7.1.2 Knowledge

Tables 18, 19, 20, 21 and 22 show the relationships between income, education, age, and attitudes and knowledge of online resources or organizations advising women affected by domestic violence. More educated and older women are more likely to be familiar with an organization or an online resource. More educated, affluent, and older women are more likely to know of an organization supporting women impacted by domestic violence, though not of an online resources. Married and unmarried women are equally likely to know of an online organization or resource. Individuals holding views that are more accepting of violence and less favorable toward gender equality are less likely to know online resources or organizations. Higher numbers of people in the household (children, relatives, non-related adults) and the experience of income decline in COVID-19 showed little relationship with these outcomes.

- "Know Online Resources": Which online resources do you know for women affected by domestic violence? List up to five options.

- "Know Organization": Which organizations do you know that support and advise women affected by domestic violence? List up to five options. Here, knowledge is coded as any answer other than "I don't know," but future iterations will code text answers for accuracy.

Table 18: Baseline Relationship btw. Income, Education, Age, Marital Status and Knowledge of Organization

	Dependent variable:			
	Know Organization			
	(1)	(2)	(3)	(4)
Income pre-COVID	0.016**			
	(0.007)			
Education (BA 1/0)		0.046***		
		(0.012)		
Age			0.003***	
			(0.001)	
Married				−0.008
				(0.012)
Constant	0.223***	0.238***	0.168***	0.268***
	(0.020)	(0.009)	(0.021)	(0.009)
Observations	5,618	5,618	5,618	5,618
R^2	0.001	0.003	0.004	0.0001
Adjusted R^2	0.001	0.002	0.004	−0.0001
Note:			*p<0.1; **p<0.05; ***p<0.01	

Table 19: Baseline Relationship btw. Income, Education, Age, Marital Status and Knowledge of Online Resource

	Dependent variable:			
	Know Online			
	(1)	(2)	(3)	(4)
Income pre-COVID	0.003			
	(0.008)			
Education (BA 1/0)		0.023*		
		(0.012)		
Age			0.002***	
			(0.001)	
Married				0.005
				(0.012)
Constant	0.289***	0.283***	0.228***	0.293***
	(0.021)	(0.009)	(0.021)	(0.009)
Observations	5,618	5,618	5,618	5,618
R^2	0.00002	0.001	0.002	0.00003
Adjusted R^2	−0.0002	0.0005	0.002	−0.0001
Note:			*p<0.1; **p<0.05; ***p<0.01	

Table 20: Baseline Relationship btw. Total in Household, COVID-19 Income Decline on Knowledge of Organization or Online Resource

	Dependent variable:			
	Know Organization		know_org_num	
	(1)	(2)	(3)	(4)
Number in Household	−0.001		−0.004*	
	(0.002)		(0.002)	
Covid Income Decline		0.021		−0.004
		(0.014)		(0.014)
Constant	0.299***	0.280***	0.279***	0.267***
	(0.010)	(0.012)	(0.010)	(0.012)
Observations	5,618	5,618	5,618	5,618
R^2	0.00003	0.0004	0.001	0.00001
Adjusted R^2	−0.0002	0.0002	0.0005	−0.0002

Note:	*p<0.1; **p<0.05; ***p<0.01

Table 21: Baseline Relationship btw. Attitudes and Knowledge of Online Resources

	Dependent variable:				
	Know Online Resources				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.025***				
	(0.006)				
Hitting Justified		0.017			
		(0.013)			
Husb. Income			−0.027***		
			(0.006)		
Husb Final Say				−0.019***	
				(0.006)	
Prioritize Educ. Men					−0.005
					(0.008)
Constant	0.350***	0.275***	0.365***	0.346***	0.304***
	(0.015)	(0.017)	(0.016)	(0.017)	(0.013)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.003	0.0003	0.004	0.002	0.0001
Adjusted R^2	0.003	0.0001	0.004	0.002	−0.0001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 22: Baseline Relationship btw. Attitudes and Knowledge of Organization

| | Dependent variable: | | | | |
| | Know Organization | | | | |
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.028*** (0.006)				
Hitting Justified		−0.001 (0.013)			
Husb. Income			−0.036*** (0.006)		
Husb Final Say				−0.017*** (0.006)	
Prioritize Educ. Men					−0.029*** (0.008)
Constant	0.323*** (0.014)	0.265*** (0.016)	0.354*** (0.015)	0.309*** (0.016)	0.305*** (0.013)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.004	0.00000	0.007	0.002	0.002
Adjusted R^2	0.004	−0.0002	0.007	0.001	0.002

Note:	*p<0.1; **p<0.05; ***p<0.01

7.1.3 Hypothetical Behavior

Tables 23, 24 and 25 show that more educated women are more likely and older women less likely to report to authorities, and both are equally likely to look for resources or contact an online organization in a scenario where a friend has been affected by domestic violence. Married women are less likely to contact authorities, less likely to look for online resources, and less likely to contact an organization. Income has no significant on these hypothetical behaviors. Women with more crowding in the household (total children, relatives, and unrelated adults) are less likely to report to authorities and slightly less likely to contact an organization in a domestic violence scenario, while women whose households have experienced income decline in the COVID-19 pandemic are similarly less likely to contact authorities. Tables 26, 27 and 28 show negative relationships between attitudes more accepting of violence and gender inequality and willingness to contact authorities, look for online resources, or contact an organization in a scenario where a friend has been affected by domestic violence.

- "Report Authorities", "Contact Org", "Look for Online Resources": Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Report to designated authorities/contact an organization supporting women/look for online resources? (1 - Unlikely, 5 - Very likely)

Table 23: Baseline Relationship btw. Income, Age, Education, Marital Status and Reporting to Authorities in DV Scenario

| | Dependent variable: | | | | |
| | Report Authorities | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Income	0.003 (0.022)					
Education (BA 0/1)		0.083** (0.036)				
Age (Years)			−0.019*** (0.002)			
Married				−0.437*** (0.035)		
# in Household					−0.025*** (0.006)	
COVID Inc. Decline						−0.090** (0.041)
Constant	2.618*** (0.061)	2.578*** (0.027)	3.207*** (0.062)	2.862*** (0.026)	2.723*** (0.029)	2.693*** (0.036)
Observations	5,618	5,618	5,618	5,618	5,618	5,618
R^2	0.00000	0.001	0.017	0.027	0.003	0.001
Adjusted R^2	−0.0002	0.001	0.017	0.027	0.003	0.001

Note: *p<0.1; **p<0.05; ***p<0.01

Table 24: Baseline Relationship btw. Income, Age, Education, Marital Status, Total in Household and COVID-19 Income Decline and Looking Online in DV Scenario

	Dependent variable:					
	Report Authorities					
	(1)	(2)	(3)	(4)	(5)	(6)
Income	0.028 (0.021)					
Education (BA 0/1)		−0.015 (0.034)				
Age (Years)			−0.004** (0.002)			
Married				−0.181*** (0.033)		
# in Household					−0.0003 (0.006)	
COVID Inc. Decline						−0.026 (0.039)
Constant	2.553*** (0.058)	2.635*** (0.025)	2.764*** (0.059)	2.724*** (0.025)	2.627*** (0.027)	2.646*** (0.034)
Observations	5,618	5,618	5,618	5,618	5,618	5,618
R^2	0.0003	0.00004	0.001	0.005	0.00000	0.0001
Adjusted R^2	0.0001	−0.0001	0.001	0.005	−0.0002	−0.0001

Note:	*p<0.1; **p<0.05; ***p<0.01

Table 25: Baseline Relationship btw. Income, Age, Education, Marital Status, Total in Household and COVID-19 Income Decline and Contacting Org in DV Scenario

| | _Dependent variable:_ | | | | | |
| | Report Authorities | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Income	0.038*					
	(0.021)					
Education (BA 0/1)		0.024				
		(0.033)				
Age (Years)			−0.001			
			(0.002)			
Married				−0.150***		
				(0.033)		
# in Household					−0.009*	
					(0.006)	
COVID Inc. Decline						0.004
						(0.039)
Constant	3.217***	3.302***	3.356***	3.397***	3.352***	3.313***
	(0.057)	(0.025)	(0.058)	(0.024)	(0.027)	(0.034)
Observations	5,618	5,618	5,618	5,618	5,618	5,618
R^2	0.001	0.0001	0.0001	0.004	0.001	0.00000
Adjusted R^2	0.0004	−0.0001	−0.0001	0.003	0.0003	−0.0002

Note: *p<0.1; **p<0.05; ***p<0.01

Table 26: Baseline Relationship: Attitudes and Likelihood to Report to Authorities

	Dependent variable:				
	Report Authorities				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.224***				
	(0.018)				
Hitting Justified		−0.182***			
		(0.038)			
Husb. Income			−0.155***		
			(0.016)		
Husb Final Say				−0.222***	
				(0.017)	
Prioritize Educ. Men					−0.118***
					(0.024)
Constant	3.107***	2.838***	3.016***	3.214***	2.794***
	(0.042)	(0.048)	(0.045)	(0.049)	(0.038)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.028	0.004	0.016	0.029	0.004
Adjusted R^2	0.028	0.004	0.015	0.029	0.004

Note: *p<0.1; **p<0.05; ***p<0.01

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Table 27: Baseline Relationship btw. Attitudes and Likelihood Looking for Resources

	Dependent variable:				
	Look Online Res.				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.096***				
	(0.017)				
Hitting Justified		0.017			
		(0.036)			
Husb. Income			−0.080***		
			(0.016)		
Husb Final Say				−0.088***	
				(0.016)	
Prioritize Educ. Men					−0.008
					(0.022)
Constant	2.834***	2.606***	2.828***	2.861***	2.637***
	(0.040)	(0.045)	(0.043)	(0.047)	(0.036)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.006	0.00004	0.005	0.005	0.00002
Adjusted R^2	0.006	−0.0001	0.004	0.005	−0.0002

Note: *p<0.1; **p<0.05; ***p<0.01

Table 28: Baseline Relationship btw. Attitudes and Likelihood Contacting Org

	Dependent variable:				
	Contact an Organization				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.125***				
	(0.017)				
Hitting Justified		−0.122***			
		(0.036)			
Husb. Income			−0.116***		
			(0.016)		
Husb Final Say				−0.118***	
				(0.016)	
Prioritize Educ. Men					−0.096***
					(0.022)
Constant	3.585***	3.459***	3.607***	3.631***	3.453***
	(0.040)	(0.045)	(0.042)	(0.046)	(0.036)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.010	0.002	0.010	0.009	0.003
Adjusted R^2	0.010	0.002	0.010	0.009	0.003

Note: *p<0.1; **p<0.05; ***p<0.01

7.1.4 Reported Experience of Violence at Baseline

Tables 29, 30, 31, 32 and 33 show the relationships between educational attainment, pre-COVID finances, age, marital status, totals in the household, COVID-19 income decline and attitudes and reports of witnessing or experiencing yelling or hitting before COVID-19. While older women and women in more challenging economic conditions reported witnessing or experiencing higher rates of yelling or violence, married women reported witnessing or experiencing lower levels of violence. Women with attitudes more accepting of violence and less in favor of gender equality report experiencing lower levels of violence in the month before COVID-19. Individuals with higher numbers in the household are slightly more likely to report experiencing or witnessing yelling and hitting before the outbreak of COVID-19 outbreak, while those who subsequently witnessed an income decline are significantly more likely to do so.

- "Report Yelling": In the month BEFORE the COVID-19 pandemic, how frequently did you hear of someone being yelled at by a man or have you yourself experienced this? (Never - 0; Very often - 5)

- "Report Hitting": In the month BEFORE the beginning of the COVID-19 pandemic, how frequently did you hear of someone being hit by a man or have you yourself experienced this? (Never - 0; Very often - 5)

Table 29: Baseline Relationship btw. Education, Finances and Reported Violence

	Dependent variable:			
	Report Yelling		Report Hitting	
	(1)	(2)	(3)	(4)
Finances before COVID	−0.123***		−0.134***	
	(0.019)		(0.021)	
Educ: BA or Above		−0.003		−0.047
		(0.031)		(0.034)
Constant	4.005***	3.685***	3.705***	3.380***
	(0.053)	(0.024)	(0.059)	(0.026)
Observations	5,618	5,618	5,618	5,618
R^2	0.007	0.00000	0.007	0.0003
Adjusted R^2	0.007	−0.0002	0.007	0.0001
Note:			*$p<0.1$; **$p<0.05$; ***$p<0.01$	

Table 30: Baseline Relationship btw. Age, Marital Status and Reported Violence

	Dependent variable:			
	Report Yelling		Report Hitting	
	(1)	(2)	(3)	(4)
Age	−0.008***		−0.016***	
	(0.002)		(0.002)	
Married		−0.264***		−0.382***
		(0.031)		(0.034)
Constant	3.924***	3.826***	3.863***	3.560***
	(0.054)	(0.023)	(0.060)	(0.025)
Observations	5,618	5,618	5,618	5,618
R^2	0.004	0.013	0.014	0.022
Adjusted R^2	0.004	0.013	0.014	0.022
Note:			*p<0.1; **p<0.05; ***p<0.01	

Table 31: Baseline Relationship btw. Number in Household, COVID-19 Income Decline and Reported Violence

	Dependent variable:			
	Report Yelling		Report Hitting	
	(1)	(2)	(3)	(4)
in Household	0.009*		0.011*	
	(0.005)		(0.006)	
Covid Inc. Deceline		0.156***		0.226***
		(0.036)		(0.040)
Constant	3.648***	3.566***	3.311***	3.182***
	(0.025)	(0.031)	(0.028)	(0.034)
Observations	5,618	5,618	5,618	5,618
R^2	0.001	0.003	0.001	0.006
Adjusted R^2	0.0004	0.003	0.0005	0.006
Note:			*p<0.1; **p<0.05; ***p<0.01	

Table 32: Baseline Relationship btw. Attitudes and Reported Experience of or Witness Yelling

	Dependent variable:				
	Report Yelling				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.055***				
	(0.016)				
Hitting Justified		−0.179***			
		(0.033)			
Husb. Income			−0.029**		
			(0.015)		
Husb Final Say				−0.107***	
				(0.015)	
Prioritize Educ. Men					−0.036*
					(0.021)
Constant	3.802***	3.893***	3.755***	3.967***	3.735***
	(0.037)	(0.042)	(0.040)	(0.043)	(0.033)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.002	0.005	0.001	0.009	0.001
Adjusted R^2	0.002	0.005	0.001	0.009	0.0004

Note: *p<0.1; **p<0.05; ***p<0.01

Table 33: Baseline Relationship btw. Attitudes and Reported Experience of or Witness Hitting

	Dependent variable:				
	Report Hitting				
	(1)	(2)	(3)	(4)	(5)
Yelling Justified	−0.070***				
	(0.017)				
Hitting Justified		−0.125***			
		(0.037)			
Husb. Income			−0.019		
			(0.016)		
Husb Final Say				−0.127***	
				(0.017)	
Prioritize Educ. Men					−0.037
					(0.023)
Constant	3.503***	3.499***	3.401***	3.690***	3.406***
	(0.041)	(0.046)	(0.044)	(0.047)	(0.037)
Observations	5,618	5,618	5,618	5,618	5,618
R^2	0.003	0.002	0.0003	0.010	0.0005
Adjusted R^2	0.003	0.002	0.0001	0.010	0.0003

Note: *p<0.1; **p<0.05; ***p<0.01

7.2 Video Messages and Television Content

Ep.	Title	Content
1	What is sexual harassment and what is its penalty?	Pervasiveness of sexual harassment; definition; harassment in public, on streets or in stores; men's role in harassment; legal rights; interfering when you witness harassment.
2	Sexual harassment of children and how to protect them?	Sexual harassment of children; protecting, supporting, & believing children; boundaries; contact ECWR.
3	Are women's clothes the cause of sexual harassment?	Sexual harassment; justifiability of sexual harassment; research on when it occurs; personal experiences; harassment and veiling, the Niqab; supporting victims.
4	FGC and how to stop it?	FGC; negative health effects; absence of relationship with religion; criminality; doctors role; contact ECWR.
5	Impact of COVID-19 on increasing domestic violence	COVID-19 & DV; safety in the home; justifiability of violence; violence's harm to relationships; cycles of violence; supporting victims; contact ECWR.
6	Rape crimes and how to fight them	COVID-19 & social issues; anxiety; spread of violence & rape in public spaces; female clothing; how to report to police; gaining justice; family support; psychological effects; contact ECWR.
7	The difference between divorce and Khul' and when to choose either?	COVID-19 rise in DV; rise in questions re: divorce and Khul'; difference between two; legal rights; Egyptian law; contact ECWR.
8	The importance of work and how to balance between work and home?	Absence of conflict between work and home; safety via financial security; work's benefit to social relations and esteem; work and tensions with a husband or family; work as a safety net; contact ECWR.
9	The negative effects of Covid-19 on women's work	COVID-19 and labor market; schools; working remotely; combating sexual harassment at the workplace; inappropriate staring; sexual harassment as a crime; contact ECWR.
10	How to deal with workplace harassment?	Definition; lack of justifiability; online harassment; criminality; intervening in a case of harassment; expressing opinions; creating a safe workplace; contact ECWR.
11	How to act if you saw someone harassing a colleague at work?	COVID-19 & changes in workplace; work environment; intervening in harassment; helping a colleague; importance of speaking up; assuring privacy; contact ECWR.
12	Dealing with workplace harassment for new employees	Workplace harassment; seeking training as a new employee; expectations and boundaries; saying no.
13	How can men stand against violence against women?	Need for men's support; COVID-19 and rise of ECWR complaints; men's role in intervening; men's role in regulating anger; no justifiability of anger or violence; blame on women; men standing against violence; contact ECWR.

Table 34: Content of Hosted Videos Delivered via Message

Ep.	Title	Content
1	Statement of the Egyptian Public Prosecutor	Female Genital Cutting (FGC); one family's experience; a family's criminal responsibility.
2	Horrible Stories from Medical Clinics	FGB; doctors' role in limiting FGC; FGC's lack of health benefits; Social relationships in COVID-19.
3	Rape and Sexual Harrassment: To Who and Why?	Rape; current events; parental support for daughters who are victims; minimizing victim blaming; reporting; COVID-19.
4	Underage Marriage	Health implications of underage marriage; laws in Egypt; marriage officials; household life in COVID-19.
5	Mary Asaad & Aziza Hussein	A women's initiative to combat FGC; women's activism; family planning; physical & emotional consequences of FGC; religion & FGC.
6	What do men want from women?	Male & female partnership; research on men's perceptions of manhood; FGC; COVID-19 and domestic violence (DV); a UN initiative combatting DV.
7	Women threatened under curfew	DV against women during COVID-19; reporting DV to police; supporting women facing DV in situations; COVID-19's impacts on women generally; COVID-19 & the economy.
8	FGC & the Internet	FGC; intergenerational relationships; COVID-19 & internet usage.
9	What's the definition of a man?	A divorce after DV; raising children responsible; forgiveness for men & men's expectations; women's views on the justifiability of DV vs. men's.
10	Do women prefer kind or macho (over-protective) men?	Negative effects of over-protectiveness; anecdote about a marriage; spread of negative information about marriage; shifting gender norms and women's preferences; unjustifiability of any form of DV; role of doctors; reporting DV.

Table 35: Content of Television shows hosted on satellite channel.

7.3   Video and Message Delivery

Videos were displayed on a website, *mshlwa7dek.org* (A transliteration of "You are not alone").
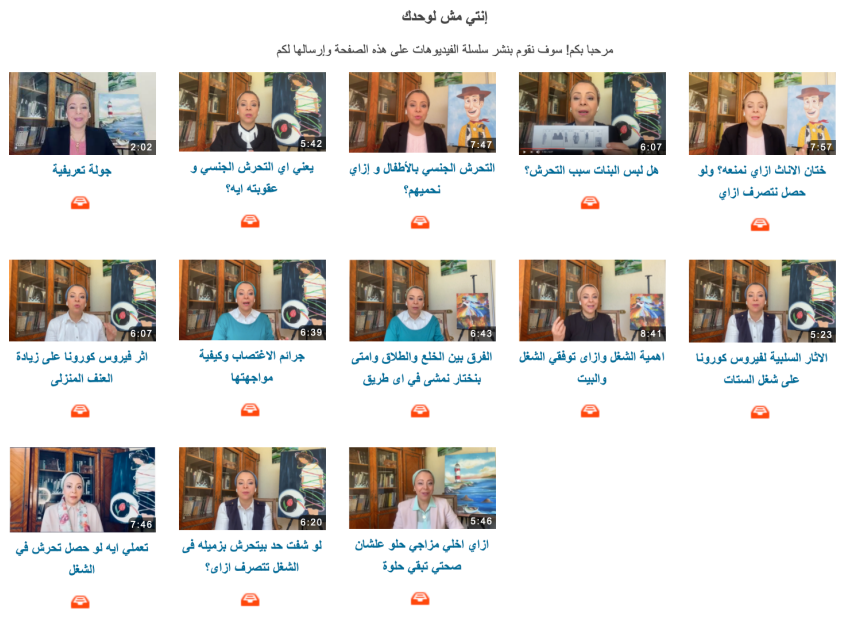
Figure 9: The home page for the website, *mshlwa7dek.org*, contained a link to each video.
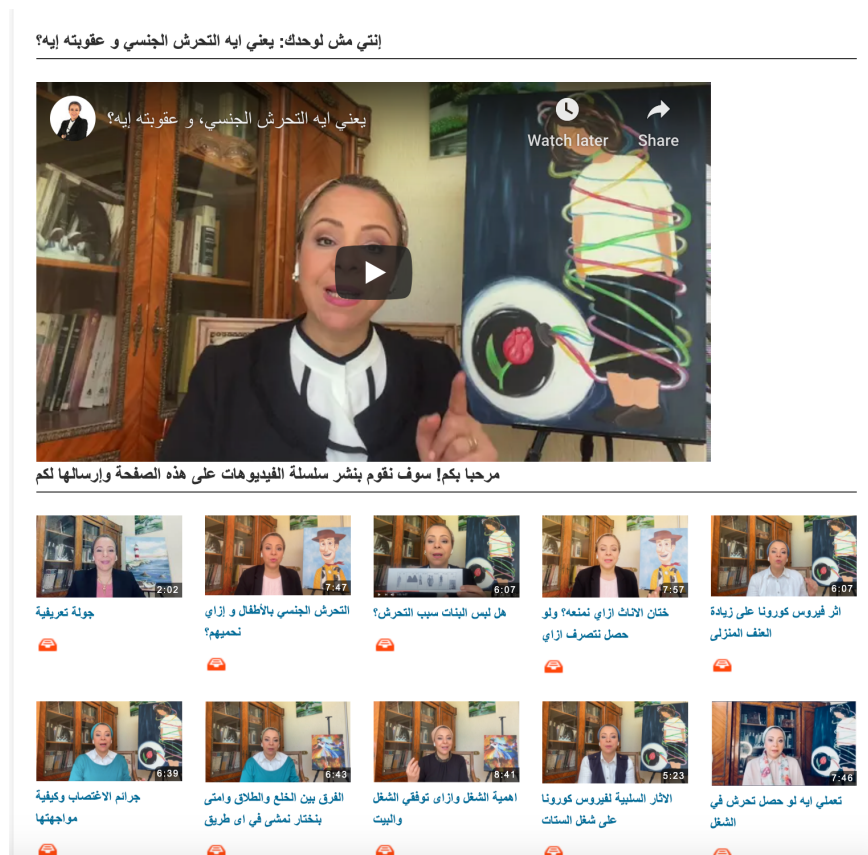
Figure 10: Each video landing page also contained a link to subsequent videos.

Figure 11: A video is delivered via Facebook, and a user responds with information about the definition of sexual assault.

7.4 Map and Sample Representativeness

See map in Figure 1.

8 Survey Instrument

Governorate	Percent Population	Baseline Responses	Percent Baseline
Cairo	0.105	3338	0.582
Alexandria	0.055	733	0.128
Giza	0.086	269	0.047
Asyut	0.048	220	0.038
Dakahlia	0.068	180	0.031
Gharbia	0.054	152	0.026
Sohag	0.052	137	0.024
Minya	0.059	109	0.019
Sharqia	0.074	109	0.019
Minya	0.059	66	0.011
Faiyum	0.036	65	0.011
Beheira	0.066	58	0.01
Luxor	0.013	56	0.01
Beni Suef	0.032	45	0.008
Ismailia	0.013	41	0.007
Suez	0.007	38	0.007
Port Said	0.008	34	0.006
Qena	0.035	27	0.005
Monufia	0.045	21	0.004
Aswan	0.016	20	0.003
Red Sea	0.004	13	0.002
Kafr El Sheikh	0.036	4	0.001
New Valley	0.003	3	0.001
Matrouh	NA	2	0
Damietta	0.015	NA	NA
North Sinai	0.005	NA	NA
South Sinai	0.002	NA	NA
Total	1	5740	1

Table 36: Baseline Responses vs. Population Estimates

Outcome Type	Baseline	Variable name	Endline	Variable name	Coding	Role Baseline	Role Endline
Check data quality = CDQ	Balance = B	Control = C	Heteroegneous effects by whether = HEs	Treatment effect on = T	Ix = Indicator for	DiD = Difference in difference for Partner's show	DiD = Difference in difference for Partner's show
FS: First stage or treatment check	RF: Reduced form or treatment effect on	FE = Female empowerment; DV= Domestic violence; SV= Street violence; SH = Sexual Harassment; SV = Sexual Violence; SA = sexual assault	A: Attitude or Perception; FO = Future Outlook; HB = Hypothetical behavior; K = Knowledge; (R = Reporting and B= Behavior are grouped in PAP as OB=Observed Behavior); RP = Revealed preference				
Demographic Variables							
	What is your gender?	B1	What is your gender?	E1		CDQ	CDQ
	What is your age?	B2	What is your age?	E2	Continuous	CDQ, B, C	CDQ
	What is your current social status?	B3	What is your current social status?	E3	Ix each status	CDG, B, C, HEs mar	CDQ
	How old is your husband?	B4			Continuous	B, C	
	How many years have you been married?	B5			Continuous	B, C	
	Where does your husband live?	B6			Ix husband in household	B, C, HEs husband in household	
	How many of your children of each gender live in your household? - Q12#1 - Male	B7			Continuous	B, C	
	How many of your children of each gender live in your household? - Q12#1 - Female	B8			Continuous	B, C	
	How many children and adult family members (other than your children or husband if applicable)	B9			Continuous	B, C	
	What is your highest level of education?	B10			Continuous / Dummy	B, C, HEs highly educated	
	What is your husband's highest level of education? If married	B11			Continuous / Dummy	B, C, HEs husband highly educated	
	BEFORE the COVID-19 pandemic, what is the main activity on which you spent most of the day? - Selected Choice; Other- text	B12			Ix based home / COVID-19 moved	B, C, HEs based home / COVID-19 moved her to household	
	BEFORE the COVID-19 pandemic, what was the main activity on which your husband spent most of the day? - Selected Choice If married	B13			Ix based home / COVID-19 moved	B, C, HEs based home / COVID-19 moved husband to household	
	Which of these statements comes closest to describing your monthly household income BEFORE the COVID-19 pandemic?	.				B, C	
	Now DURING the COVID-19 pandemic, what is the main activity on which you spend most of the day? - Selected Choice; other - text	B14			Ix based home / COVID-19 moved	B, C, HEs based home / COVID-19 moved her to household	
	Now DURING the COVID-19 pandemic, what is the main activity on which your husband spends most of the day? - Selected Choice; other, text If married	B15			Ix based home / COVID-19 moved	B, C, HEs based home / COVID-19 moved husband to household	
	Which of these statements comes closest to describing your monthly household income now DURING the COVID-19 pandemic?	.					

Baseline Question	Code	Endline Question	Code	Variable	Group	Notes
If the COVID-19 pandemic has led to a decline in your income, which of these statements comes closest to describing why? Select all that apply. - Selected Choice; Other - text	B16			Ix COVID-19 brought financial str	B, C, HEs	COVID-19 brought financial stress

Baseline Question	Code	Endline Question	Code	Variable	Group	Notes
Do you usually watch TV at the following times of day?	B17	Do you usually watch TV at the following times of day?	E17	Ix Morning; Afternoon, evening	B, C	FS: Ix Evening
Do you have any of the following television options?	B18			Ix TV options of Partner's show	B, C, DiD via LASSO	
Of the following television channels, please select the UP TO THREE you view most frequently: - Selected Choice; Text	B19	Of the following television channels, please select the UP TO THREE you view most frequently: - Selected Choice; Text	E19	Ix TV channels of Partner's show	B, C, DiD via LASSO	FS: Ix TV channels of Partner's show
What type of UP TO THREE of the following television shows do you watch the most?	B20	What type of UP TO THREE of the following television shows do you watch the most?	E20	Ix Partner's show type	B, C, DiD via LASSO	FS: Ix Partner's show type
Which show, if any, do you usually watch on Saturday evening? - Selected Choice; Text	B21	Which television show, if any, have you watched on Saturday evening the past two months? - Selected Choice; Text	E21 (slightly diffe	Ix Main shows, T Ix watched Partr	B, C, DiD via LASSO	FS: Ix watched Partner's show
		Did you watch the show Hekayat Partner?	E22	Ix watched Partner's show		FS: Ix watched Partner's show
		Have you heard of the television show Hekayat Partner?	E23	Ix heard Partner's show		FS: Ix heard Partner's show
		How did you hear of it?	E24	Ix heard via WhatsApp		FS: Ix heard via WhatsApp
		In the past two months, did you get a reminder over WhatsApp to watch the television show Hekayat Partner?	E25	Ix got WhatsApp reminder about show		FS: Ix goFS: WhatsApp reminder abouFS: show
		Approximately, how many episodes of the show did you watch?	E26	Continuous		FS: Continuous
		Can you briefly describe the content of an episode or episodes that you watched?	E27	Ix content accurate		FS: Ix content accurate
		Can you briefly tell us which topics of the show you liked the most?	E28	Ix topic accurate		FS: Ix topic accurate
In the past two months, how frequently have you seen TV shows on women's issues, including domestic violence and legal rights?	B29	In the past two months, how frequently have you seen TV shows on women's empowerment and support?	E29		B, C, DiD via LASSO	

Baseline Question	Code	Endline Question	Code	Variable	Group	Notes
How many hours on a typical day do you spend on social media platforms? (Facebook, Twitter, WhatsApp, etc.)	B30			Continuous	B, C	
Which social media and text messaging services do you actively use (at least once a day)? Indicate all that you actively use. - Selected Choice	B31			Ix each	B, C	
Which social media and text messaging services do you actively use (at least once a day)? Indicate all that you actively use. - Other - Text	B32			Ix each	B, C	

Baseline Question	Code	Endline Question	Code	Variable	Group	Notes
In the past two months, how frequently have you seen information or videos on women's issues, including domestic violence and legal rights, on Facebook, Instagram, Twitter, or Youtube?	B33	Over the past two months, how frequently have you seen information or videos on women's empowerment and support on Facebook, Instagram, Twitter, or Youtube?	E33 (slightly diffe	Continuous / Ix at all	B, C	FS: Continuous / Ix at all
In the past two months, how frequently have you received information or videos on women's issues, including domestic violence and legal rights, through WhatsApp?	B34	Over the past two months, how frequently have you seen information or videos on women's empowerment and support on WhatsApp?	E34 (slightly diffe	Continuous / Ix at all	B, C	FS: Continuous / Ix at all

Code	Question (B)	B#	Question (E)	E#	Description	Final
			Over the past two months, did you receive any videos on WhatsApp or Facebook related to women's empowerment in Egypt?	E35	Ix received video	FS: Ix received video
			Did you watch any of the videos that were sent via WhatsApp or Facebook?	E36	Ix watched video	FS: Ix watched video
			If so, approximately how many videos did you watch?	E37	Continuous / Ix at all	FS: Continuous / Ix at all
			Can you briefly describe the content of a video that you watched? - Selected Choice; Description - text	E38	Ix content accurate	FS: Ix content accurate
			Can you briefly tell us which topics of the videos you liked the most? - Selected Choice - description - text	E39	Ix topic accurate	FS: Ix topic accurate
			Please tell us about any additional topics that you would like to know about: - Selected Choice - description - text	E40	Ix topic not covered	FS: Ix topic not covered???

Code	Question (B)	B#	Question (E)	E#	Description	Final
FE, A	Husbands should usually have final say in all decisions concerning the family.	B41	Husbands should usually have final say in all decisions concerning the family.	E41	Continuous / Ix weak or strong ag B, C	RF: Continuous / Ix weak or strong against
FE, A	If a family has to choose which children to educate, the education of men should be prioritized over the education of women.	B42			Continuous / Ix weak or strong ag B, C	
FE, A	If possible, husbands should provide the household income, and women should stay at home taking care of the children, elderly, and housework.	B43	If possible, husbands should provide the household income, and women stay at home taking care of the children, elderly, and housework	E43	Continuous / Ix weak or strong ag B, C	RF: Continuous / Ix weak or strong against
DV, A	Husbands are sometimes justified in yelling at their wives (e.g., when the wife disobeys them).	B44	Husbands are sometimes justified in yelling at their wives (e.g., when the wife disobeys them).	E44	Continuous / Ix weak or strong ag B, C	RF: Continuous / Ix weak or strong against
DV, A	Husbands are sometimes justified in hitting or beating their wives (e.g., when they are under immense financial pressure).	B45			B, C	
FE, FO	In the future, women will have an equal say with their husbands in all decisions concerning the family.	B46	In the future, women will have an equal say with their husbands in all decisions concerning the family.	E46	Continuous / Ix weak or strong fo B, C	RF: Continuous / Ix weak or strong for
FE, FO	In the future, men and women in Egypt will have more equal legal rights, access to education, and economic opportunities.	B47	In the future, men and women in Egypt will have more equal legal rights, access to education, and economic opportunities.	E47	Continuous / Ix weak or strong fo B, C	RF: Continuous / Ix weak or strong for
FE, A			By working outside the household, a woman can gain independence that might be beneficial to the relationship with her husband and children.	E48	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SH, A			If a male colleague always comments on the looks of a female colleague even without being explicitly sexual or making her uncomfortable, it is sexual harassment.	E49	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SH, A			If you see a man sexually harrassing a woman in your workplace, you should interfere to support the woman.	E50	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SH, A			When women wear socially inappropriate clothing or do not wear the hijab, men are sometimes justified in harassing them on the street.	E51	Continuous / Ix weak or strong against	RF: Continuous / Ix weak or strong against
SV, A			Others should interfere if they see a man hitting a woman on the street, even if it turns out the man and the woman are married.	E52	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SH, A			If you see a man sexually harrassing a woman in the street, you should interfere to support the woman.	E53	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SA, A			If a daughter informs her parents she has been sexually assaulted, they should avoid going to the authorities so that the issue does not become public and goes away quietly.	E54	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for
SH, A			If a child in your family tells you that a relative you trust very much has sexually harassed them, you should take them seriously.	E55	Continuous / Ix weak or strong for	RF: Continuous / Ix weak or strong for

FE, A		Female circumcision is important for the marriage of women and might help to protect the integrity and honor of Egyptian families.	E56	Continuous / Ix weak or strong against		RF: Continuous / Ix weak or strong against
		True / False				
SH, A		The verbal harassment that women usually suffer in the street is a form of sexual harassment, and has legal consequences, even if there is no touching or physical contact.	E57	Continuous / Ix true		RF: Continuous / Ix true
FE, A		An important difference between Khul and divorce is that with Khul women can divorce their husband without the need to provide a reason.	E58	Continuous / Ix true		RF: Continuous / Ix true
FE, A		As long as the families of the bride and groom agree, the two can get married even if one is younger than 18 years old.	E59	Continuous / Ix false		RF: Continuous / Ix false
FE, A		Female circumcision has health benefits for women.	E60	Continuous / Ix false		RF: Continuous / Ix false

Behavior and Reporting (part of Observed Behavior)

DV or SV, R, A	In the month BEFORE the COVID-19 pandemic, how frequently did you hear of someone being yelled at by a man or have you yourself experienced this?	B61	In the month BEFORE the beginning of the COVID-19 pandemic, how frequently did you hear of someone being yelled at by a man or have you yourself experienced this?	E61	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
DV or SV, R	In the past month DURING the COVID-19 pandemic, how frequently did you hear of someone being yelled at by a man or have you yourself experienced this?	B62	In the past month DURING the COVID-19 pandemic, how frequently did you hear of someone being yelled at by a man or have you yourself experienced this?	E62	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
DV or SV, R, A	In the month BEFORE the beginning of the COVID-19 pandemic, how frequently did you hear of someone being hit by a man or have you yourself experienced this?	B63	In the month BEFORE the beginning of the COVID-19 pandemic, how frequently did you hear of someone being hit by a man or have you yourself experienced this?	E63	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
DV or SV, R	In the past month DURING the COVID-19 pandemic, how frequently did you hear of someone being hit by a man or have you yourself experienced this?	B64	In the past month DURING the COVID-19 pandemic, how frequently did you hear of someone being hit by a man or have you yourself experienced this?	E64	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
SA, R			In the month BEFORE the beginning of the COVID-19 pandemic, how frequently did you hear of someone being sexually abused by a man or have you yourself experienced this?	E65	Continuous / Ix at all		RF: Continuous / Ix at all
SA, R			In the past month DURING the COVID-19 pandemic, how frequently did you hear of someone being sexually abused by a man or have you yourself experienced this?	E66	Continuous / Ix at all		RF: Continuous / Ix at all

Hypothetical Behavior

DV, HB	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Talk to her husband to solve things between each other?	B67	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Talk to her husband to solve things between each other?	E67	Continuous / Ix likely or very likel B, C	RF: Continuous / Ix likely or very likely
DV, HB	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Talk to her family members or someone she trusts to solve things with her?	B68	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Talk to her family members or someone she trusts to solve things with her?	E68	Continuous / Ix likely or very likel B, C	RF: Continuous / Ix likely or very likely
DV, HB	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Report to designated authorities?	B69	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Report to designated authorities?	E69	Continuous / Ix likely or very likel B, C	RF: Continuous / Ix likely or very likely

Category	Question (B)	B Code	Question (E)	E Code	Response	Flag	RF
DV, HB	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Look for online resources for women affected by domestic violence?	B70	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Look for online resources for women affected by domestic violence?	E70	Continuous / Ix likely or very likel	B, C	RF: Continuous / Ix likely or very likely
DV, HB	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Contact an organization that supports and advises women affected by domestic violence?	B71	Suppose that a friend tells you that she has been affected by domestic violence and asks you for your advice. How likely would you be to recommend her to: Contact an organization that supports and advises women affected by domestic violence?	E71	Continuous / Ix likely or very likel	.	RF: Continuous / Ix likely or very likely
SA or SH, HB			Suppose that a friend tells you that she has been affected by sexual assault or harassment and asks you for your advice. How likely would you be to recommend her to: Talk to her family members of someone she trusts to assist her?	E72	Continuous / Ix likely or very likel	.	RF: Continuous / Ix likely or very likely
SA or SH, HB			Suppose that a friend tells you that she has been affected by sexual assault or harassment and asks you for your advice. How likely would you be to recommend her: Report to designated authorities?	E73	Continuous / Ix likely or very likel	.	RF: Continuous / Ix likely or very likely
SA or SH, HB			Suppose that a friend tells you that she has been affected by sexual assault or harassment and asks you for your advice. How likely would you be to recommend her to: Look for online resources for women affected by sexual assault or harassment?	E74	Continuous / Ix likely or very likel	.	RF: Continuous / Ix likely or very likely
SA or SH, HB			Suppose that a friend tells you that she has been affected by sexual assault or harassment and asks you for your advice. How likely would you be to recommend her to: Contact an organization that supports and advises women affected by sexual assault or harassment?	E75	Continuous / Ix likely or very likel	.	RF: Continuous / Ix likely or very likely

Knowledge, Behavior, and Reporting

Category	Question (B)	B Code	Question (E)	E Code	Response	Flag	RF
DV, K			Please select all of the options that you know of that are available to a woman who has been affected by domestic violence. Please select as many options as you know of. - Selected Choice, Text	E76	Ix online resources, Ix contact organization		RF: Ix online resources, Ix contact organization
SA or SH, K			Please select all of the options that you know of that are available to a woman who has been affected by sexual assault or harassment. Please select as many options as you know of. - Selected Choice Text	E77	Ix online resources, Ix contact organization		RF: Ix online resources, Ix contact organization
DV or SA or SH, K	Which online resources do you know for women affected by domestic violence? List up to five options. - Selected Choice, 1 through 5	B78	Which online resources do you know for women affected by domestic violence, or who face sexual harassment or assault? List up to five options. - Selected Choice, 1 through 5	E78	# valid, # Partner's	B, C	RF: # valid, # Partner's
DV or SA or SH, B	BEFORE the COVID-19 pandemic, did you ever look for or access online resources for women affected by domestic violence?	B79	In the month BEFORE the COVID-19 pandemic, did you ever look for or access online resources for women affected by domestic violence, or who faced sexual harassment or assault?	E79	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
DV or SA or SH, R	Now DURING the COVID-19 pandemic, have you ever looked for or accessed online resources for women affected by domestic violence?	B80	Now DURING the COVID-19 pandemic, in the past month have you ever looked for or accessed online resources for women affected by domestic violence, or who faced sexual harassment or assault?	E80	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
DV or SA or SH, K	Which organizations do you know that support and advise women affected by domestic violence? List up to five options. - Selected Choice, 1 through 5	B81	Which organizations do you know that support and advise women affected by domestic violence, or who face sexual harassment or assault? List up to five options. - Selected Choice, 1 through 5	E81	# valid, # Partner's	B, C	RF: # valid, # Partner's
DV or SA or SH, B	BEFORE the COVID-19 pandemic, did you ever contact an organization that supports and advises women affected by domestic violence?	B82	In the month BEFORE the COVID-19 pandemic, did you ever contact an organization that supports and advises women affected by domestic violence, or who faced sexual harassment or assault?	E82	Continuous / Ix at all	B, C	RF: Continuous / Ix at all

DV or SA or SH, R	Now DURING the COVID-19 pandemic, have you ever contacted an organization that supports and advises women affected by domestic violence?	B83	Now DURING the COVID-19 pandemic, in the past month have you ever contacted an organization that supports and advises women affected by domestic violence, or who faced sexual harassment or assault? E83	Continuous / Ix at all	B, C	RF: Continuous / Ix at all
Revealed Preference:					
RP		Donation	E84	Continuous / Ix at all		RF: Continuous / Ix at all