Private but Misunderstood? Evidence on Measuring Intimate Partner Violence via Self-Interviewing in Rural Liberia and Malawi*

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Abstract

Women may under-report intimate partner violence (IPV) in surveys due to a variety of social and psychological factors. We conduct a measurement experiment in rural Liberia and Malawi in which women were asked IPV questions via either self-interviewing (SI), which does not require interaction with an enumerator, or face-to-face interviewing (FTFI) with an enumerator. We find that about a third of women incorrectly answer basic screening questions, and that SI generates placebo effects on innocuous questions. Because the probability of responding "yes" to any specific IPV question is less than 50%, and that IPV is typically reported as an index (reporting yes to at least one question in a category of violence), such misunderstanding will tend to *increase* IPV reporting. In Malawi, we find that SI dramatically increases reported IPV, with the incidence of any type of IPV increasing by 13 percentage points on a base of 20%; in Liberia, we find an insignificant and modest increase of 3 percentage points on a base of 39%. Our results suggest SI may spuriously increase reported IPV rates.

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1 Introduction

Intimate Partner Violence (IPV) is a pressing global public health and policy problem, but measuring its true prevalence is challenging because factors including social taboos, emotional pain, fear of retribution, or feelings of shame or embarrassment cause women to hesitate in reporting IPV to friends or family, as well as to physicians or to law enforcement officials (WHO 2012; Garcia-Moreno et al. 2013). Spurred by the lack of systematic data on IPV and recognizing its epidemiological nature, organizations such as the WHO began to run large-scale, multi-country surveys to measure the prevalence of IPV in the 1990s (WHO 1996).[1] These surveys reveal that nearly a third of ever-partnered women have experienced physical or sexual IPV during their lifetime (Devries et al. 2013).

Many public health professionals worry that the true rate of IPV may be higher, and that women may be understating their IPV experience even in surveys. It remains unclear if this is the case. On the one hand, some of the stigmas that drive under-reporting may be mitigated by the confidentiality afforded by a professionally done survey (as articulated in a consent form, for example), and by the fact that the surveyor is unlikely to be known by the survey respondent or her partner, or to have reason to interact with the respondent again. The survey setting also differs critically from that in normal life because the survey *directly asks* about IPV, rather than leaving the onus of initiating the conversation to the woman herself.[2] On the other hand, some of the same stigmas may still apply; for example, the victim may feel ashamed about her situation, hesitate to confide in another individual, or be scared of being overheard (despite survey precautions to guard against this).

To address some of these concerns, an alternative approach that is widely recommended is the use of confidential self-interviewing (SI). In this approach, women self-administer IPV questions privately, which ensures that their answers are shielded even from the enumerator.[3] In this paper,

[1] For example, the WHO multi-country study on women's health and domestic violence was initiated in 1997 and the DHS Program started collecting information on IPV in 1990 (the first IPV module was fielded as part of the standard DHS in Colombia).

[2] In fact, the medical literature has identified one of the key measurement approaches for IPV to simply ask the person. The WHO also recommends direct questioning as the "gold standard" method of measuring IPV. See: https://apps.who.int/iris/bitstream/handle/10665/85239/9789241564625_eng.pdf.

[3] The answers are not fully anonymized, however, since researchers have access to this data later on, but instructions during this part of the survey, and the consent form, clearly indicate that this data will be kept securely, so any risk of data breach is remote. Further, the researchers would have no reason to interact directly with the respondent outside of this research setting.

we evaluate one such interviewing technique which is known as Audio Computer Assisted Self-Interviewing (ACASI). In ACASI, respondents listen to pre-recorded questions via headphones and respond using a touchscreen (in this case, a tablet).[4] The enumerator has no interaction with the respondent during this part of the survey, other than to explain the module at the beginning, and to be available in case the respondent seeks clarification.[5]

The intent of ACASI is that it will destigmatize IPV reporting, which is expected to lead to an increase in reporting. However, there are two other reasons which may muddy the waters (especially when benchmarked against a professionally-administered survey with a trained enumerator). One, self-interviewing lacks any human element, and it is conceivable that respondents may actually be more likely to report sensitive behaviors to a human interviewer since the respondent may perceive the enumerator to be empathetic or build a rapport with her over the course of the survey.[6] If this channel is present, ACASI will actually understate IPV.

A second factor, which is the focus of our paper, is that self-interviewing requires the respondent to understand the questions on her own, and to use the tablet, which may not be easy. This is an especially salient concern in the case of IPV as the standard set of questions for measuring IPV has fairly complex and nuanced language[7] and therefore it may not be straightforward to grasp without the surveyor helping with interpretation. In almost every setting, misunderstanding will tend to cause IPV to be *over*-reported. This is because IPV is measured through a module containing 20 questions which are later indexed into 4 main categories (controlling behavior, emotional violence, physical violence, and sexual violence). Typically, the mean of each of these individual yes/no questions is well under 0.5, so a woman who does not understand the module and randomly answers yes or no will tend to bias the level of reported IPV upwards. This problem will be exacerbated in the indexing (which is set equal to 1 if the respondent reported any form of IPV).

To shed light on these various channels, we conduct a measurement experiment within surveys

[4] Another reason to recommend ACASI is that it is virtually impossible for the interview to be overheard by anyone in close vicinity. However, this is not relevant in our experiment (or in any survey which uses best practice face to face interviewing, since the survey is always conducted privately.

[5] In our survey protocol, the respondent could pause the module to ask questions, and the enumerator could help her to resume from where she left off.

[6] Indeed, Ellsberg et al. (2001) compile anecdotes from debriefings of IPV survey enumerators in Nicaragua recounting how they were moved or distressed by the respondents' IPV experiences, and some even reported that respondents sought their counsel during or at the end of the IPV module.

[7] The WHO's standard questionnaire for measuring IPV, which is widely used for measuring IPV, can be found here: https://www.who.int/gender/violence/who_multicountry_study/Annex3-Annex4.pdf. Our survey module on IPV can be found in the Appendix.

collected as part of an evaluation of an unconditional cash transfer program in rural Liberia and Malawi (Aggarwal et al. 2021). Women were individually randomized into whether the IPV module was asked via face-to-face interviewing (FTFI) or over self-interviewing (SI). Baseline IPV rates differ dramatically across the two samples: the proportion of women experiencing any type of IPV over the past year is 20% in Malawi but 39% in Liberia; as such, we opt to present all results separately by country.

We have three main findings. First, we check for respondents' understanding of the tool through 5 non-sensitive screening questions, for which the answer should universally be yes. These were administered to *all* respondents through SI, irrespective of the modality through which they were asked the IPV module. These questions are (1) Are you a woman?, (2) Do you live in the [location where the survey is being conducted]?, (3) Has it rained in your village in the past year?, (4) Have you slept at all in the past week?, and (5) Have you heard of the Coronavirus? Altogether, we find that about a third of the women in each country sample do not seem to understand the screening questions, as evidenced by not answering "yes" to all of them.[8] Even the responses to the most basic questions on gender and location are not unanimously affirmative, with 2-5% of the women making errors on the gender question and nearly 10% doing so on location. In total, we find that 38% of women in Malawi and 31% in Liberia do not "pass" these screening questions.

Second, after screening, further questions were randomized to be administered either by FTFI or ACASI. At the start of this module, we included a further set of innocuous "placebo" questions; since these are administered either by FTFI or ACASI, we can estimate placebo treatment effects. The placebo includes 4 questions for which the answer could be yes or no: (1) Did you do any farm work in the past year?; (2) Did you go to the market in the past week?; (3) Will you, or anyone in your household, eat any [rice/maize] next week, one time or more?; and (4) Will you, or anyone in your household, eat any type of meat next week, one time or more? If ACASI is accurate, we should find no ACASI effects on these placebo questions (at least for those who cleared screening). Yet, we find placebo effects even for those who passed screening; surprisingly, these placebo effects are similarly sized for those who pass screening and who do not. We interpret these results as

[8]The research team found such responses even during pre-testing, and so repeatedly refined the surveys; however, such reporting remained. While we have no definitive answer to why women answer as they do, one anecdote is that women with young children or who are nursing interpret "sleep" as being about getting restful sleep. We have no explanation for the rain question.

suggesting that even among those who get screened in, many do not understand the questions.[9]

Third, we find that SI increases IPV reporting, but that this increase may be entirely spurious. The increase is dramatic, for all categories of IPV (i.e. controlling behavior, emotional, physical, and sexual IPV): on a given question, 7% of women in Malawi and 15% in Liberia report yes, and ACASI increases this percentage by 5 percentage points in Malawi and 2 percentage points in Liberia. As an index, the effects are even larger, at least in Malawi, where the probability of emotional, physical or sexual IPV increased by 5-10% points, on a base of 20%. In Liberia, the effects are more modest: 1-7% points (significant for only sexual IPV) on a base of 39%. Naively interpreted, the increase in IPV we document would match the narrative that women are hesitant to report IPV, and that FTFI dramatically understates prevalence. However, we know from the screening questions that at least 1/3 of women do not seem to understand ACASI, and the effect sizes for our placebo results are similar to those for IPV. Our interpretation is that ACASI is not appropriate, at least for these populations, and researchers should be extremely cautious about using ACASI.

Our paper is related to a large but as yet inconclusive literature about the effects of ACASI on measuring sensitive behaviors. Studies comparing ACASI and FTFI in a variety of contexts suggest that self-administration increases the reporting of sensitive behaviors.[10] However, since researchers typically do not have an objective measure of the underlying behavior, it is not clear whether this increase is indicative of increased truthful reporting, or miscomprehension. Falb et al. (2016) tested ACASI with adolescent girls in the DRC and in refugee camps along the Sudan-Ethiopia border, and report that self-reported *average* ACASI comprehension levels are only 90% for the DRC and 75% for the Sudan-Ethiopia border, a level similar to our study. Park and Kumar (2021), a concurrent study to ours in Monrovia, Liberia, find that even urban and educated women

[9] In order to allay concerns that some of those who passed screening may be answering "yes" to all questions, and did not in fact understand the module, we also conduct robustness with a 6th screening question, for which the answer should be "no" for most women: "In the past week, have you traveled outside the country?" The placebo effects are nearly identical when we include this question. However, this is imperfect since some women may in fact have traveled abroad (since parts of the study regions are close to international borders and people routinely cross into the neighboring country to buy and sell wares). Therefore, we do not include this in our main set of screening questions.

[10] See Tourangeau and Yan (2007) for a review. There are also examples where FTFI is more effective in some contexts. For example, Fincher et al. (2015) find evidence that FTFI is more effective than ACASI in screening women for IPV in WIC clinics in the US. In one of the few studies set in Africa, Cullen (2020) finds that the likelihood of reporting IPV over ACASI is no higher than reporting it in standard FTFI. In a study set in the context of a syringe exchange program, Newman et al. (2002) find that ACASI increases reporting of stigmatized behaviors but decreases reporting of psychological distress.

struggle with ACASI comprehension.

Our paper is also related to a broader recent literature about survey methodologies aimed at preserving respondent confidentiality; ACASI is only one of these.[11] Other methods rely on indirect responses, such as list experiments or randomized response techniques.[12] There is no consensus on the efficacy of these methods.[13] For example, Chuang et al. (2021) finds logical errors in a list experiment and a randomized response technique focused on sexual and reproductive behavior. A recent set of evaluations compares list experiments with FTFI interviews specifically for measuring IPV and the evidence is mixed. While Aguero and Frisancho (2020) find no difference in IPV reporting between the two methods among urban microfinance borrowers in Lima, Peru, Cullen (2020) finds that the list method leads to substantially larger reporting of IPV among rural women in Nigeria and Rwanda.

The rest of this paper is laid out as follows. Section 2 describes the experiment and data collection. Section 3 presents our main results. Section 4 discusses evidence on potential pathways and heterogeneity. Section 5 concludes.

2 Data and Experimental Design

2.1 Setting

The ACASI experiment we analyze was done as part of an endline survey for a cash transfer RCT in Liberia and Malawi (the transfers were implemented by the NGO GiveDirectly, as part of a USAID-funded study). The study takes place in Bong and Nimba counties in Liberia, and in Chiradzulu and Machinga districts in Malawi. The study includes 300 villages in each country, with half of the villages receiving cash transfers.[14] While we do not evaluate the transfers themselves in this study, one important detail is that villages were included in the study only if they fell below a

[11] Researchers have also tried other unconventional methods to measure IPV indirectly, such as asking female community leaders, but these efforts have not been very successful (Agüero et al. 2020.

[12] In list experiments, yes/no questions about sensitive behaviors are included in a list with other innocuous binary-response questions, and subjects report the number of items for which the answer is "yes" or "no", which allows the researcher to back out the population level prevalence of a behavior without being able to identify whether a specific individual engaged in that behavior. The randomized response technique (RRT) bundles a question with a random event, such as a throw of the dice. Respondents report "yes" if either the truth is "yes" or if the die is a certain number.

[13] See Höglinger and Jann (2018) and Lensvelt-Mulders et al. (2005) for reviews.

[14] The average transfer amount was $500, and was randomized between three amounts ($250, $500, and $750). In Liberia, transfers were also randomized between being paid as "lump sum" or quarterly transfers.

population threshold (as measured in the most recent population census).[15] The reason for this is that transfers were given out universally in treatment villages, and so our partner NGO chose smaller villages to be able to preserve their liquidity.

In Liberia, we implemented the project in two waves: a smaller first wave (90 villages), which had its endline in late 2020; and a bigger second wave (210 villages), which had its endline in September-November 2021. Most of our ACASI protocols were developed, tested, and refined over the course of the Wave 1 endline. Therefore, this sample is excluded from our results, and our results for Liberia are restricted to Wave 2 only. In Malawi, all 300 villages were enrolled at once and the endline was in April-July 2021.[16]

In both countries, we attempted to enroll 10 households per village into data collection for program evaluation, though in some cases we were only able to enroll fewer households.[17] Surveys were targeted at female heads of households (male heads were interviewed only when the female was not present, and could not be reached within a few days of the baseline study. When the male head was interviewed, the IPV module was not asked).

2.2 Questionnaire Design and ACASI Experiment

Measuring Intimate Partner Violence

To measure IPV, we employed WHO's standard Violence Against Women module.[18] The questionnaire includes 20 questions about experience with specific forms of violence, over a time period of 12 months prior to the survey. Following the literature, we group these questions into four categories: controlling behavior, emotional IPV, physical IPV, and sexual IPV. In conducting this module, we followed WHO's ethics protocol for IPV research (WHO 2016).[19] The IPV module

[15] In Malawi, the upper threshold was 100 household per village; in Liberia, it was 125, reflecting the larger village sizes in the study region.

[16] Figure A1 presents the project timeline.

[17] The total sample size for the cash transfer study is 2,715 in Liberia and 2,944 in Malawi. Yet we conducted the IPV module at endline only to women who currently have a partner or have been so in the past 12 months prior to the survey date. For the IPV measurement experiment, we further excluded those who reported to have vision or hearing impairment. We are also excluding the Liberia Wave 1 sample from analysis in this paper. As a result, the total sample size for this paper is 1,737 women in Malawi and 1,231 in Liberia.

[18] The module can be found at: https://www.who.int/gender/violence/who_multicountry_study/Annex3-Annex4.pdf.

[19] The protocol includes: hiring only female enumerator; training enumerators to safely conduct the interviews and to be prepared emotionally for the work; conducting all surveys privately; reiterating consent just before the IPV module; and providing all respondents with an information sheet that listed the services available for women experiencing IPV (including law enforcement and local hospitals).

was administered to all women who had an intimate partner within the 12 months preceding the survey. The sample to which the IPV module was asked is 2,968 women (1,231 in Liberia and 1,737 in Malawi).

ACASI Implementation

In ACASI, respondents listen to questions on headphones and answer questions privately on a tablet. In each country, audio readings of the questions were recorded by an enumerator who was chosen for having clear enunciation. The recorded audio files were uploaded to SurveyCTO, along with an image file containing choice options (i.e. "yes" / "no" / "refuse to answer" / "don't know"). As shown in Figure A2, the resulting interface on the tablet has a speaker icon (which the respondent could touch to listen to the question) and four images (from which the respondent could choose her answer by touching the screen herself).

In the field, the enumerator explained how to take the module, and then demonstrated how to conduct the module by going through a handful of practice questions with the respondent, and making sure that she could clearly hear the audio and accurately choose the option she intends to. When the respondent felt ready to take the actual module, the enumerator handed the tablet over to the respondent for her to take the module. In order to make sure that she had complete privacy while doing so, the enumerator kept sufficient distance to be unable to see the screen but remained in the same room or vicinity to be available to answer questions. When the respondent hands back the tablet, the screen is blank so that the responses are blinded to the enumerator.

Experimental Design

In each survey round for each country, half of the sample was randomly assigned to ACASI and the other half to FTFI. However, before starting the IPV questions, *every* respondent was asked to take 5 "screening" questions via ACASI.[20] The answers to all of these questions are expected to be yes: (1) "Are you a woman?"; (2) "Do you live in [the county/district in which the survey is being conducted]?"; (3) "In the past week, did you sleep?"; (4) "In the past year, did it rain in your village?"; and (5) "Have you heard of the coronavirus?" We also asked one question that would

[20] These screening questions were added after piloting, when it became apparent that women were answering unexpectedly to innocuous placebo questions.

likely be answered "no": "Have you traveled outside the country in the past week?" We do not use this in our main specifications, however, because some women could potentially travel across borders (especially in Nimba county in Liberia, which borders Guinea, and Machinga district in Malawi, which borders Mozambique), due to which "no" is not a perfect benchmark.

After screening, women began questions in their experimental group (ACASI or FTFI). As discussed throughout the paper, this module included questions on IPV; however, it also included questions on psycho-social well-being, as well as "placebo" questions. These placebo questions were meant to be innocuous and free from any social desirability bias or stigma, and were meant to be a further tool to calibrate the effects of ACASI, and included 4 questions: (1) Did you do farm work in the past year?; (2) Did you visit the market in the past week?; (3) Will you eat maize/rice in the next week?;[21] and (4) Will you eat meat in the next week?

Other Subtreatments

To explore possible technical reasons for misunderstanding, we cross-cut multiple sub-treatments. First, we randomized whether the "yes" or "no" option would appear at the top of the screen (Figure A3). This randomization was implemented in order to test whether respondents are more or less likely to pick the first option. Second, in order to examine possible learning effects in which respondents became more comfortable with the method with more experience, we randomized whether the placebo questions come before or after the IPV module.

2.3 Summary Statistics and Balance Check

Table 1 shows summary statistics by country sample, as well as the difference between the ACASI and FTFI groups. Panel A shows household demographics. Because the sample is restricted to women with an intimate partner at any point during the past 12 months, the proportion of women who are currently partnered is very high (97%). The average respondent is about 37-38 years old and lives in a household with 5-6 members. Panel B shows education and mobile phone ownership. Average educational attainment is 5.2 years in Malawi and only 2.5 in Liberia. Sixty-six percent of women in Malawi are literate in English, compared to 31% in Liberia. Mobile phone ownership is similar in the two countries, ranging from 42% in Liberia to 45% in Malawi.

[21] This question is about the staple food, which is maize in Malawi and rice in Liberia.

Panel C shows some indicators of household income and wealth, and reveals that households are better off in Liberia than in Malawi: average total monthly household expenditures are $26 in Malawi and $66 in Liberia, or about $0.17-0.39 in per capita daily expenditures. In Malawi, the average household reports about $160 worth of assets, compared to $410 in Liberia. Most of the households in the study villages are subsistence farmers, and the average monthly non-agricultural income measured in our surveys is $8-10.

Panel D shows a few proximate indicators related to female empowerment. Forty-four percent of women in Malawi have their own income source, compared to 31% in Liberia. The age difference (in years) between husband and wife is 2.9 in Malawi and 4.2 in Liberia.

Turning to Columns 2 and 4, we find 2 outcomes for which the differences are significant at 10% in Malawi (food security and total expenditure, which are both lower in the ACASI group), and none in Liberia. While the randomization appears to show no cause for concern, we present results separately with and without controls, and find no difference in results. In any case, we control for all variables reported in Table 1 for the main analysis.

3 Results

3.1 Screening questions

We start by documenting responses to the five screening questions which were administered to all respondents via ACASI. Results, which are shown in Table 2, suggest major cause for concern. Only 95-98% report being a woman, and 91-93% report living in their county/district of residence. Even more surprisingly, only 78-85% report that they slept in the past week and 83-84% report that it rained in the past year. While we do not have a good explanation for these results, an *ex post* explanation from some of our field staff was that some women interpreted the sleep question as "getting a good night's sleep," to which some women reported no. We do not have a good explanation for the rain question, but again, an *ex post* explanation is that women may have interpreted it as meaning whether it rained "enough." The reasons for misinterpretation of these questions notwithstanding, the bottom line is that even these *simple* questions were very likely misinterpreted, raising concerns about how well the more nuanced IPV questions would be understood.

Taking the questions together, we find that only 62% of the respondents in Malawi and 69%

in Liberia correctly answered all the questions. This finding alone shows that ACASI will be problematic, since presumably the other 31-38% of women will not be able to use ACASI effectively. These women are not randomly selected, and in Table A1, we show that in Malawi less educated women are more likely to fail the screening (though in Liberia the correlation surprisingly goes the other way). The screening results alone make it clear that it is impossible to estimate a population level prevalence using ACASI. Moreover, the opposing directions of the correlation in Table A1 suggests that it may also not possible to predict the suitability of SI for a sample of women *ex ante*.

In any case, to shed further light on the use of SI for measuring IPV, we separate women who "passed" screening from those that did not for the next set of analyses.

3.2 Placebo effects

Next, we examine effect of ACASI on the innocuous placebo questions. Specifically, we run the following regression:

$$Y_{ic} = \beta SI_{ic} \quad ScreenPass_{ic} + \gamma SI_{ic} \quad NonPass_{ic} + \delta ScreenPass_{ic} + \boldsymbol{X}_{ic}^{\emptyset}\boldsymbol{\theta} + \phi_c + \varepsilon_{ic}, \qquad (1)$$

where $ScreenPass_{ic}$ is equal to 1 if individual i chose yes to all of the five questions in Table 2, and 0 otherwise (and $NonPass_{ic}$ is the complement). $\boldsymbol{X}$ is a vector of covariates including all variables in Table 1.[22] The coefficients of interest are β, which represents the SI effects for those who passed the screening, and γ, which is the SI effect for those who did not. We also present p-values for a test of equality of β and γ.

Results are presented in Table 3, separately for Malawi (Panel A) and Liberia (Panel B). In Malawi, for those who did pass screening, we find placebo effects on 3 of 4 questions (visiting the market, eating maize, and eating rice). These effects are large, ranging from 8-15 percentage points. For those that did not pass, there are significant effects on 2 of 4 outcomes. Surprisingly, the effects are, if anything, somewhat large for those that passed; nevertheless, we cannot reject equality for any outcome other than eating maize next week (Column 3). At the bottom of the Panel, we show the effect of SI for the average respondent (i.e. a weighted average of β and γ), and test for significance. Effects are highly significant for 3 of 4 outcomes, and economically large.

[22] Results without controls are shown in Appendix B, and show essentially identical results.

The pattern is largely the same in Panel B, where 2 of 4 outcomes are significant for both those who passed and those who did not, and where equality is not rejected for any outcome.[23]

Table A3 runs a version of these results with a 6th screening question: "Did you travel internationally in the past week?". This question was added to try to include a question for which the answer should be no, and so could address the concern that some of the people who pass screening simply answer yes to everything, and may in fact, not understand screening. However, we do not use it as primary measure because some people do travel across boundaries, especially in Nimba county, Liberia, which borders Guinea. Results are very similar with this screening definition.

Finally, in Table A4 and Table A5, we examine heterogeneity in placebo effects with background characteristics that might be correlated with being able to complete the module, including education, mobile phone access, literacy, and age. Our results from Malawi suggest that these background characteristics have no bearing on comprehension; while there is some suggestive evidence from Liberia these characteristics matter. While this evidence is not definitive, it is suggestive that ACASI might be more effective with educated younger women, who have had more experience with mobile phones,[24] at least in the Liberian context. However, given the contrast in findings from Liberia and Malawi, taken together, these results again underscore the near impossibility of making any *ex ante* judgments about the suitability of ACASI for any given context.

3.3 Implications of placebo effects on measured IPV prevalence

These results show clear placebo effects, even among those who pass screening, and strongly suggest that some of those who pass screening still do not understand the questions. These placebo effects suggest that there will be a spurious effect on IPV reporting in ACASI.

To get some rough sense of the magnitude of this problem, we assume there are 2 types of women: those that understand the question and answer correctly, and others who do not understand and who simply randomly choose yes or no. Based on Section 3.1, we know that at least 38% of women in Malawi and 31% in Liberia do not understand ACASI, as measured by failing screening (though

[23] In Table A2, we decompose the ACASI effect on the probability of choosing "don't know" of "refuse to answer" and find small effects of farm work, market visit, and meat. However, in Malawi, we find a decline in the probability of responding in this manner to the maize question. The overall probability of choosing these options is low for the farm and market question, but 27-29% for the other questions in Malawi. For the main analysis, observations for such responses ("don't know" or "refuse to answer") are dropped.

[24] This is similar to the finding in Falb et al. (2016).

misunderstanding is clearly higher than this, so this is a conservative estimate).

If the true prevalence of an IPV measure is p, then the rate under ACASI will be

$$p_{ACASI} = (1 \quad q) \quad p+q \quad 0.5 \tag{2}$$

where q is the proportion of women who do not understand the module. As shown in the next section, p is about 0.07 in Malawi and 0.15 in Liberia (assuming that the rates reported in FTFI are true prevalence). Thus with a q of 0.38 in Malawi and 0.31 in Liberia, p_{ACASI} could be as high as 0.26 in Liberia and 0.23 in Malawi (an 11-16 percentage point increase). Ultimately, these effects will be even worse, because IPV is typically reported as an index (equal to 1 if a women reported *any* violence in a given category).

3.4 Effect of ACASI on IPV reporting

Next we show the ACASI effects on the main outcome of interest, IPV. In this section, we pool those who pass and did not pass screening (based on the placebo results).[25] We first estimate a regression at the *question* level:

$$IPV_{icq} = \beta SI_{ic} + \boldsymbol{X}_{ic}^{\theta}\boldsymbol{\theta} + \phi_c + \psi_q + \varepsilon_{icq} \tag{3}$$

where IPV_{icq} is the binary indicator of whether individual i in country sample c responded yes to question q, and ψ_q question-level fixed effects. All other notation is the same as Equation (1). We report results separately for each category of IPV: controlling behavior, emotional IPV, sexual IPV, and physical IPV. In a second analysis, we estimate the same equation but for the IPV index, which is set equal to 1 if a respondent reported violence on any question in that category.

The question level results are presented in Table 4 for Malawi (Panel A) and Liberia (Panel B). For Malawi, all effects are statistically significant, and range between 1 (physical IPV) and 9 percentage points (controlling behavior). A specification that pools all question categories together (Column 5) finds a 5 percentage point increase in reporting, also significant. In Liberia, effects are slightly more modest, where only 3 of 5 coefficients are significant, and effect sizes range from 2-5 percentage points. However, as discussed above, these results are well within the bounds suggested

[25] Disaggregated results are shown in Table A6.

by the placebo effects.

In Table 5, we show results at the index level. The findings are qualitatively similar to the ones for individual questions, although results here differ dramatically by country. In Malawi, ACASI increases emotional IPV by 10 percentage points (base 16%), physical IPV by 5 percentage points (base 8%), and sexual IPV by 6 percentage points (base 7%). Across all forms of IPV (not including controlling behavior), ACASI increases prevalence by 13 percentage points, a 65% increase on the base of 20%. In Liberia, effects are positive but surprisingly much more modest: the index of any form of IPV increases by only 3 percentage points (on the much higher base of 39%).[26]

To sum up our findings, we find clear evidence that ACASI dramatically increases IPV reporting (at least in one country, Malawi). While it is possible that some of this increase is indeed indicative of destigmatization, it is also entirely possible that the effects are driven purely by comprehension difficulties. Our results suggest that caution is warranted in using ACASI, at least in settings like these.

4 Investigation of Heterogeneity and Pathways

Debriefing: did technical problems impede understanding?

A simple hypothesis for these results is that technical problems made it hard to understand or complete the ACASI module, and therefore, a technically superior module may eliminate the purported miscomprehension. We believe that this is unlikely as before implementing these protocols, we extensively pre-tested the modules, especially after early results showed similar patterns to those reported here. We carefully tested that the audio instructions were well articulated and read at a reasonable speed, and refined the implementation over time. Nevertheless, technical difficulties could have remained.

To evaluate this, after the respondent handed back the tablet to the enumerator, she asked a handful of debriefing questions about whether the respondent had faced any technical or comprehension difficulties during the module, which we present in Appendix C. As shown in Table C1, only 1-2% reported technical issues; most respondents could hear the module, and felt it was loud

[26] In Table A7, we analyze whether ACASI increases the likelihood of respondents picking "don't know" or "refuse to answer." We find that the probability of these answers is miniscule in FTFI, and SI leads to a small increase in these being chosen.

enough. In Table C2, we regress answers to these technical questions on passing screening. We find no correlation here, which is perhaps not surprising given the low level of technical difficulties. We find no evidence that simple technical problems were the explanation.

On the other hand, we show in Table C3 that 8-12% reported comprehension difficulties with the module, in remembering which picture meant "yes" (a green check) and which meant "no" (a red cross), or in using the tablet. In Table C4, we regress passing screening on these measures of self-reported comprehension. In Malawi, we see no correlation, but in Liberia we see that people who reported understanding the module were more likely to pass screening (though not significantly so). This is consistent with the idea that some people had trouble understanding how the module worked.

Subtreatments

While informative, these are only debriefing questions. To shed further light on this, we randomized several subtreatments to evaluate technical components of the module (results are presented in Appendix D). First, to examine whether the location of the choice options on the screen affects reporting, we randomized the order of the yes and no options. This sub-treatment was motivated by our suspicion that when in doubt, some women may have the tendency to simply choose the first option. We start by analyzing this for the placebo questions in Table D1, and find evidence that respondents were more likely to choose yes when it appears at the top of the choice options in Malawi, although not in Liberia. Surprisingly, however, in Table D2, we find no evidence of the presence of such behavior in either country when it comes to the IPV questions. We have no good explanation for why this may be the case.

Second, in order to check for the possibility that respondents may get better at understanding the module with practice, we randomized the order between the non-sensitive placebo questions and the IPV questions. Specifically, for half the sample (both FTFI and SI), the IPV questions came before the placebo ones, while for the other half, this order was reversed. For the placebo questions (Table D3), we find no effect of ordering, other than for the farm work question in Malawi. However, the effect goes contrary to the expected direction as the placebo effect of SI comes about when the placebos come later (i.e., practice does not help). That said, we do not wish to make much of this lone coefficient, as the placebo effect of SI is the same for "placebos first" and for

"IPV first" in all other cases. For the IPV questions, we report coefficients in (Table D4), and find that IPV reporting increases for sexual IPV if the placebos come first. Overall, for Malawi, the effect of SI on the probability of answering a question "yes" is about 4 percentage points if the IPV questions come first, but 6 points if the placebos come first (p-value = 0.216). We find no effect of the ordering in Liberia. This finding is consistent with the possibility that survey fatigue causes measurement error to increase, though it is also possible that the increase in IPV is real and that women became more familiar with the module over the course of the survey. We leave a further investigation of this channel to future work.

5 Conclusion

In this paper, we test the efficacy of ACASI versus FTFI in eliciting truthful responses regarding IPV from women respondents in the context of a cash transfer experiment in rural Liberia and Malawi. Our results suggest that women do not understand ACASI, as evidenced by the fact that 1/3 of women incorrectly answer basic screening questions and that, even among those who pass, we observe a strong ACASI effect on innocuous placebo questions. This lack of understanding will tend to *increase* IPV reporting, since the rate of IPV is much less than 50%. And indeed, we do find a striking increase in reported IPV in one country (Malawi). However, this result is likely entirely spurious. This is deeply concerning because measurement error goes in the same direction as destigmatization, and so what looks like a decrease in stigma could be purely fictional. SI could therefore give very misleading results.

Our results, combined with our read of the literature, suggest that there may be greater benefit from having well-trained enumerators than from SI in the context of measuring IPV. For example, in a natural experiment in Serbia, respondents of a WHO-run IPV survey ended up getting randomly assigned to either a previously inexperienced but well-trained enumerator (training duration of 2.5 weeks) or to an experienced, professional enumerator, but with less than a day of IPV training.[27] While 21% of the women reported having experienced physical or sexual IPV to the untrained enumerators, 26% reported IPV to the trained ones (Jansen et al. 2004).

Another relevant data quality issue that we want to note from a companion study in the same

[27] This was done in an effort to speed up the fieldwork midway through surveying after the assassination of then Prime Minister Zoran Đinđić in March 2003.

setting (Jeong et al. 2021) is that the time into the survey at the point at which a question is asked appears to impact response quality, with later questions typically receiving responses of a lower quality, a phenomenon known as survey fatigue. While fatigue would be a relevant consideration for any survey, it may be particularly germane for IPV measurement as most surveys place the IPV module at the end - for example, the standard DHS surveys ask about domestic violence at the end; we also chose to always place the IPV module at the end, even as we randomized the location of other survey modules within the survey. While this is usually done to minimize shame or embarrassment stemming from continued interaction with the enumerator after having answered the IPV module, we reiterate our read that concerns about stigmatization from the enumerator are very likely overblown, and purported remedial actions, such as SI or late placement within the survey may be opening up non-obvious channels of bias.

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Table 1: Summary Statistics and Experimental Balance

	(1)	(2)	(3)	(4)
	Malawi[a]		Liberia[b]	
	FTFI	SI	FTFI	SI
	Mean [SD]	- FTFI	Mean [SD]	- FTFI
Panel A. Demographics				
=1 if currently married or has partner	0.97	-0.01	0.97	-0.00
		(0.01)		(0.01)
Age	37.97	-0.94	37.14	0.80
	[12.88]	(0.60)	[11.00]	(0.62)
Number of household members	5.03	-0.02	5.63	-0.10
	[1.78]	(0.09)	[2.26]	(0.13)
Panel B. Education and mobile phone ownership				
Years of education	5.22	0.01	2.48	-0.05
	[3.50]	(0.17)	[3.45]	(0.19)
=1 if able to write/read in English	0.66	-0.01	0.31	0.00
		(0.02)		(0.03)
=1 if has access to mobile phone	0.45	0.03	0.42	-0.02
		(0.02)		(0.03)
Panel C. Household wealth				
Food security index (z-score)	0.00	-0.09*	0.00	0.04
	[1.00]	(0.05)	[1.00]	(0.06)
Total expenditure (monthly)	26.03	-2.13*	65.50	-0.60
	[24.46]	(1.17)	[46.62]	(2.59)
Net value of durables, livestock, and financial asset	162.55	4.24	409.59	45.11
	[235.93]	(11.45)	[802.07]	(51.43)
Non-agricultural income (monthly)	10.27	0.96	7.95	0.86
	[16.73]	(0.81)	[20.73]	(1.16)
Panel D. Empowerment-related outcomes				
=1 if has her own income source	0.44	0.01	0.31	-0.03
		(0.02)		(0.03)
Age difference from spouse	2.94	-0.16	4.17	0.56
	[10.78]	(0.51)	[12.55]	(0.73)
Observations	1,737		1,231	

Note: Sample is restricted to women with an intimate partner over the 12 months prior to the survey, and those who do not report any vision or hearing impairments. Columns 1 and 3 present the mean for the FTFI groups, and Columns 2-4 show the difference between the ACASI and FTFI groups. Standard deviation is in square brackets in Columns 1 and 3 and standard error in parentheses in Columns 2 and 4. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 2: Self-interviewing (SI) Screening Questions

	(1)	(2)
	Mean (=1 if yes)	
	Malawi	Liberia
Questions for which answer should be yes:		
1. Are you a woman?	0.95	0.98
2. Do you live in [the county/district where the survey is being conducted]?	0.91	0.93
3. In the past week, did you sleep, during day or night?	0.78	0.85
4. In the past year, did it rain in your village one time or more?	0.83	0.84
5. Have you heard about Coronavirus?	0.93	0.94
Summary measures for \passing" screening		
=1 if YES to all five questions	0.62	0.69
Observations	1,737	1,231

Note: These five questions were asked in ACASI to everyone included in ACASI measurement experiment.

Table 3: Effect of Self-interviewing (SI) on Placebo Questions

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
SI Screen Pass (β)	-0.01	0.08***	0.13***	0.15***
	(0.01)	(0.03)	(0.03)	(0.03)
SI Non-Pass (γ)	-0.03	0.09**	-0.00	0.07*
	(0.02)	(0.04)	(0.04)	(0.04)
Screen Pass	0.02	0.05	0.03	-0.01
	(0.02)	(0.03)	(0.04)	(0.03)
FTFI Non-Pass mean	0.93	0.43	0.52	0.28
p-value ($\beta = \gamma$)	0.445	0.875	0.018	0.121
Observations	1,718	1,713	1,345	1,228
Effect of SI for the average respondent				
Pooled SI effects	-0.02	0.09	0.08	0.11
p-value	0.132	0.000	0.003	0.000
Panel B. Liberia				
SI Screen Pass (β)	0.00	0.07**	-0.02*	-0.00
	(0.03)	(0.03)	(0.01)	(0.03)
SI Non-Pass (γ)	0.02	0.12**	-0.06**	-0.03
	(0.04)	(0.05)	(0.03)	(0.05)
Screen Pass	0.05	0.09**	0.03	0.06
	(0.04)	(0.04)	(0.02)	(0.04)
FTFI Non-Pass mean	0.77	0.61	0.96	0.65
p-value ($\beta = \gamma$)	0.676	0.449	0.164	0.621
Observations	1,229	1,230	1,196	1,075
Effect of SI for the average respondent				
Pooled SI effects	0.01	0.09	-0.03	-0.01
p-value	0.659	0.001	0.003	0.677

Note: Regressions are at the respondent-question level. Regressions include individual controls (including all variables in Table 1). "Screen Pass" is defined by selecting "yes" to all questions in Table 2. Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 4: Effect of Self-interviewing (SI) on IPV (Individual Questions)

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *individual* question in the following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI	0.09***	0.05***	0.01*	0.03***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
FTFI mean	0.11	0.07	0.03	0.04	0.07
Number of individuals	1,715	1,711	1,712	1,709	1,716
Observations	11,887	6,802	10,181	5,095	33,965
Panel B. Liberia					
SI	0.05***	0.00	0.00	0.03***	0.02**
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
FTFI mean	0.21	0.19	0.09	0.04	0.15
Number of individuals	1,229	1,229	1,229	1,229	1,229
Observations	8,547	4,889	7,328	3,668	24,432

Note: Regressions are at the respondent-*question* level (violence is not aggregated into indexes). See Table 5 for results in which IPV questions are aggregated into indices. Regressions include question-level fixed effects and individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

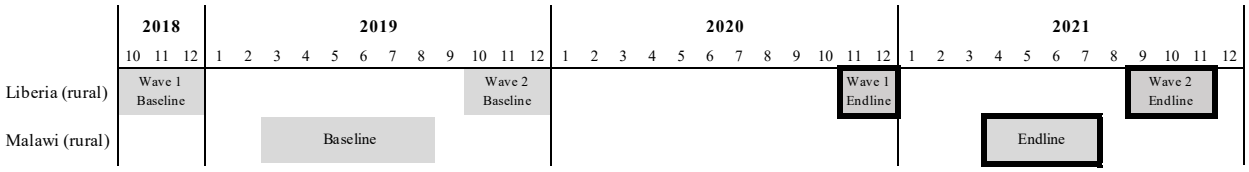
Table 5: Effect of Self-interviewing (SI) on IPV Indices

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *at least one* question in the following category:				Any IPV
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI	0.18***	0.10***	0.05***	0.06***	0.13***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)
FTFI mean	0.38	0.16	0.08	0.07	0.20
Observations	1,737	1,737	1,737	1,737	1,737
Panel B. Liberia Wave 2					
SI	0.07***	0.03	0.01	0.07***	0.03
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)
FTFI mean	0.57	0.35	0.23	0.07	0.39
Observations	1,231	1,231	1,231	1,231	1,231

Note: IPV measures are indexed by category; index is set equal to 1 if the respondent answered "yes" to any question in the category. Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Appendix A: Additional Figures and Tables

Figure A1: Timeline of Survey Activities



Note: Bold rectangles refer to the survey rounds where ACASI vs. FTFI randomization was implemented. Liberia Wave 1 sample is excluded from our results in this paper, as most ACASI protocols were developed, tested, and refined during Liberia's Wave 1 Endline.

Figure A2: Self-interviewing Module

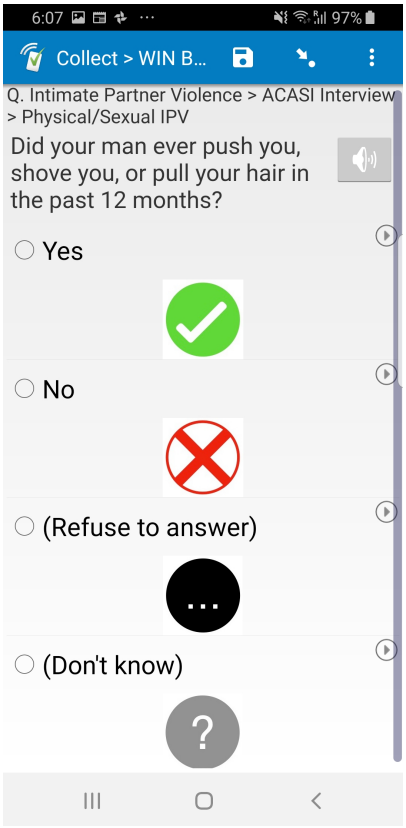
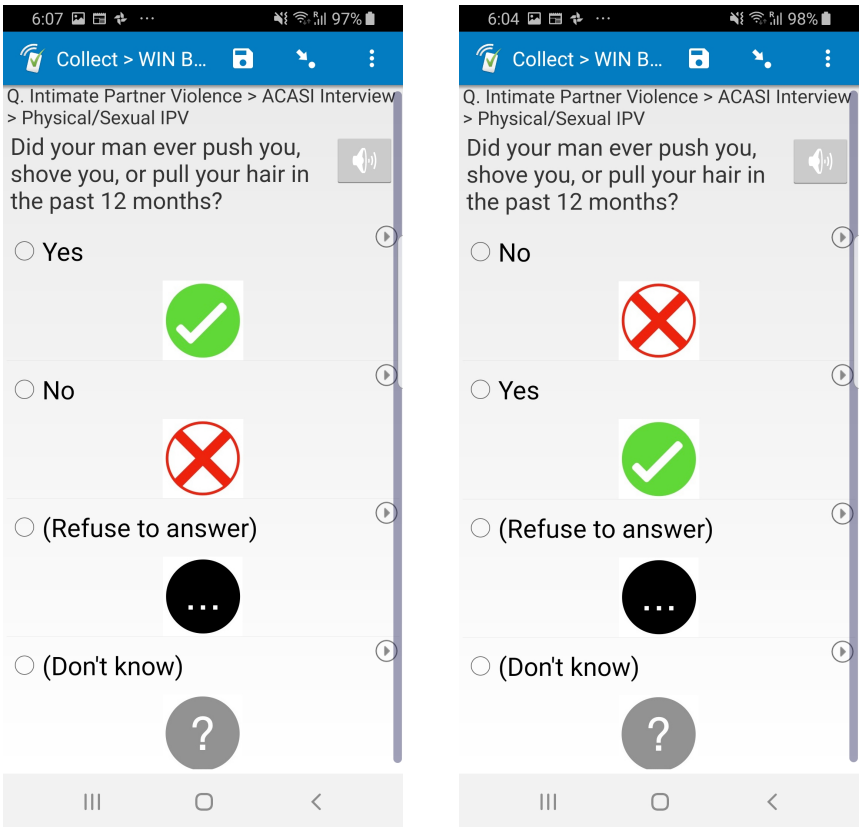


Figure A3: Appearance of Module with "yes" or "no" option appearing first



Notes: Women would see either the display on the left or right.

Table A1: Correlates of "Passing" ACASI Screening Questions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	=1 if passed SI screening[a]							
	Malawi				Liberia			
Years of education	0.011***			0.017***	-0.012***			-0.011*
	(0.003)			(0.006)	(0.004)			(0.006)
=1 if able to write/read in English		0.046*		-0.037		-0.064**		0.013
		(0.025)		(0.038)		(0.029)		(0.044)
=1 if has access to mobile phone			0.009	-0.009			-0.019	-0.031
			(0.023)	(0.024)			(0.027)	(0.028)
R-square	0.006	0.002	0.000	0.013	0.008	0.004	0.000	0.040
Overall mean of outcome	0.62	0.62	0.62	0.62	0.70	0.70	0.70	0.70
Observations	1,737	1,737	1,737	1,737	1,231	1,231	1,231	1,231

Note: Columns 1-3 and 5-7 present bivariate regressions. Columns 4 and 8 include all variables in Table 1, but other coefficients are not reported for space. Standard errors clustered at individual level are in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.
[a] Passing threshold is choosing "yes" for all the five questions in Table 2.

Table A2: Effect of ACASI on Choosing "Don't know" or "Refuse to answer" in Placebo Questions

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
SI	0.013***	0.013**	-0.080***	-0.000
	(0.005)	(0.005)	(0.020)	(0.022)
FTFI mean	0.005	0.007	0.266	0.294
Observations	1,737	1,737	1,737	1,737
Panel B. Liberia Wave 2				
SI	0.004	0.002	0.017*	-0.009
	(0.003)	(0.002)	(0.010)	(0.019)
FTFI mean	0.000	0.000	0.021	0.131
Observations	1,231	1,231	1,231	1,231

Note: Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table A3: Effect of Self-interviewing (SI) on Placebo Questions, Alternative Definition of Passing

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
SI Screen Pass (β)	-0.01	0.07**	0.11***	0.10***
	(0.01)	(0.03)	(0.03)	(0.04)
SI Non-Pass (γ)	-0.03	0.10**	-0.01	0.06
	(0.02)	(0.04)	(0.04)	(0.04)
Screen Pass	0.02	0.06*	0.02	0.05
	(0.02)	(0.03)	(0.04)	(0.04)
FTFI Non-Pass mean	0.93	0.43	0.53	0.26
p-value ($\beta = \gamma$)	0.262	0.660	0.024	0.496
Observations	1,718	1,713	1,345	1,228
Effect of SI for the average respondent				
Pooled SI effects	-0.02	0.08	0.06	0.08
p-value	0.144	0.001	0.021	0.002
Panel B. Liberia				
SI Screen Pass (β)	-0.01	0.08**	-0.01	0.01
	(0.03)	(0.03)	(0.01)	(0.04)
SI Non-Pass (γ)	0.05	0.10**	-0.07***	-0.04
	(0.04)	(0.04)	(0.02)	(0.05)
Screen Pass	0.05	0.05	0.02	0.03
	(0.03)	(0.04)	(0.01)	(0.04)
FTFI Non-Pass mean	0.78	0.64	0.97	0.68
p-value ($\beta = \gamma$)	0.144	0.627	0.048	0.417
Observations	1,229	1,230	1,196	1,075
Effect of SI for the average respondent				
Pooled SI effects	0.01	0.09	-0.03	-0.01
p-value	0.610	0.001	0.003	0.826

Note: Alternatively "Screen Pass" is defined by not only selecting "yes" to all questions in Table 2 but also choosing "no" to the question "Did you travel outside of the country in the past week?" By this alternative definition, 54% in Malawi and 62% in Liberia are in the "Screen Pass" group. Regressions are at the respondent-question level. Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table A4: Heterogeneity in Effects of ACASI on Placebo Questions (Malawi)

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Primary education completion				
SI Primary Educ (β)	-0.02	0.10***	0.06	0.07*
	(0.01)	(0.03)	(0.04)	(0.04)
SI No Primary Educ (γ)	-0.01	0.07**	0.10***	0.16***
	(0.02)	(0.03)	(0.04)	(0.03)
Primary Educ	0.03	0.03	0.04	0.10*
	(0.02)	(0.05)	(0.06)	(0.05)
FTFI No Primary Educ mean	0.93	0.41	0.52	0.22
p-value ($\beta = \gamma$)	0.749	0.659	0.404	0.096
Observations	1,718	1,713	1,345	1,228
Panel B. Access to mobile phone				
SI Mobile (β)	-0.01	0.13***	0.09**	0.09**
	(0.02)	(0.03)	(0.04)	(0.04)
SI No Mobile (γ)	-0.02	0.05	0.07*	0.14***
	(0.02)	(0.03)	(0.04)	(0.03)
Mobile	-0.02	-0.02	-0.01	0.00
	(0.02)	(0.03)	(0.04)	(0.04)
FTFI No Mobile mean	0.95	0.46	0.53	0.26
p-value ($\beta = \gamma$)	0.549	0.096	0.763	0.314
Observations	1,718	1,713	1,345	1,228
Panel C. Able to read/write in English				
SI English (β)	-0.02*	0.10***	0.06*	0.10***
	(0.01)	(0.03)	(0.03)	(0.03)
SI No English (γ)	-0.01	0.06	0.12***	0.15***
	(0.02)	(0.04)	(0.05)	(0.04)
English	0.03	-0.04	0.01	-0.00
	(0.02)	(0.05)	(0.05)	(0.05)
FTFI No English mean	0.92	0.40	0.51	0.23
p-value ($\beta = \gamma$)	0.499	0.385	0.239	0.334
Observations	1,718	1,713	1,345	1,228
Panel D. Age				
SI Below-median Age (β)	-0.03*	0.07**	0.04	0.10***
	(0.02)	(0.03)	(0.04)	(0.04)
SI Above-median Age (γ)	-0.00	0.11***	0.12***	0.13***
	(0.02)	(0.03)	(0.04)	(0.04)
Below-median Age	-0.00	0.05	0.05	0.09*
	(0.02)	(0.05)	(0.05)	(0.05)
FTFI Above-median Age mean	0.94	0.41	0.52	0.27
p-value ($\beta = \gamma$)	0.188	0.397	0.120	0.511
Observations	1,718	1,713	1,345	1,228

Note: Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent signi cance at 1%, 5%, and 10%, respectively.

Table A5: Heterogeneity in Effects of ACASI on Placebo Questions (Liberia)

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Primary education completion				
SI Primary Educ (β)	0.08	0.01	0.01	-0.05
	(0.05)	(0.06)	(0.03)	(0.06)
SI No Primary Educ (γ)	-0.01	0.11***	-0.05***	-0.00
	(0.02)	(0.03)	(0.01)	(0.03)
Primary Educ	-0.11*	0.01	-0.03	-0.07
	(0.06)	(0.07)	(0.03)	(0.07)
FTFI No Primary Educ mean	0.83	0.66	0.99	0.69
p-value ($\beta = \gamma$)	0.113	0.118	0.046	0.421
Observations	1,229	1,230	1,196	1,075
Panel B. Access to mobile phone				
SI Mobile (β)	0.07**	0.05	-0.03	0.01
	(0.03)	(0.04)	(0.02)	(0.04)
SI No Mobile (γ)	-0.03	0.11***	-0.04**	-0.03
	(0.03)	(0.03)	(0.02)	(0.04)
Mobile	-0.06*	0.10***	0.01	0.01
	(0.03)	(0.04)	(0.01)	(0.04)
FTFI No Mobile mean	0.83	0.63	0.97	0.69
p-value ($\beta = \gamma$)	0.025	0.233	0.542	0.584
Observations	1,229	1,230	1,196	1,075
Panel C. Able to read/write in English				
SI English (β)	0.02	0.04	-0.01	0.01
	(0.04)	(0.05)	(0.02)	(0.05)
SI No English (γ)	0.00	0.11***	-0.04***	-0.02
	(0.03)	(0.03)	(0.01)	(0.03)
English	-0.00	0.03	-0.01	-0.01
	(0.04)	(0.05)	(0.02)	(0.05)
FTFI No English mean	0.82	0.66	0.98	0.70
p-value ($\beta = \gamma$)	0.657	0.197	0.251	0.516
Observations	1,229	1,230	1,196	1,075
Panel D. Age				
SI Below-median Age (β)	-0.00	0.09**	-0.02	-0.01
	(0.03)	(0.04)	(0.02)	(0.04)
SI Above-median Age (γ)	0.02	0.08**	-0.05***	-0.02
	(0.03)	(0.04)	(0.02)	(0.04)
Below-median Age	0.04	-0.03	-0.01	0.05
	(0.04)	(0.05)	(0.02)	(0.05)
FTFI Above-median Age mean	0.83	0.68	0.98	0.70
p-value ($\beta = \gamma$)	0.521	0.896	0.213	0.840
Observations	1,229	1,230	1,196	1,075

Note: Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent signi cance at 1%, 5%, and 10%, respectively.

Table A6: Does the effect of ACASI differ between those who pass screening and those who don't? (Individual IPV Questions)

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *individual* question in the following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI Screen Pass (β)	0.08***	0.05***	0.01*	0.03***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
SI Non-Pass (γ)	0.10***	0.06***	0.01	0.03*	0.05***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
Screen Pass	-0.00	-0.00	0.00	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
FTFI Non-Pass mean	0.12	0.08	0.03	0.04	0.07
p-value ($\beta = \gamma$)	0.502	0.765	0.683	0.779	0.791
Number of individuals	1,715	1,711	1,712	1,709	1,716
Observations	11,887	6,802	10,181	5,095	33,965
Effect of SI for the average respondent					
Pooled SI effects	0.09	0.05	0.01	0.03	0.05
p-value	0.000	0.000	0.070	0.001	0.000
Panel B. Liberia					
SI Screen Pass (β)	0.04**	0.01	0.01	0.02*	0.02*
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
SI Non-Pass (γ)	0.06**	0.00	-0.01	0.04**	0.02
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Screen Pass	-0.02	-0.00	-0.01	-0.01	-0.01
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
FTFI Non-Pass mean	0.23	0.21	0.11	0.06	0.16
p-value ($\beta = \gamma$)	0.652	0.925	0.529	0.365	0.902
Number of individuals	1,229	1,229	1,229	1,229	1,229
Observations	8,547	4,889	7,328	3,668	24,432
Effect of SI for the average respondent					
Pooled SI effects	0.05	0.00	0.00	0.03	0.02
p-value	0.001	0.768	0.734	0.007	0.040

Note: Regressions are at the respondent-*question* level (violence is not aggregated into indexes). Regressions include question-level fixed effects and individual controls (including all variables in Table 1). "Screen Pass" is defined by selecting "yes" to all questions in Table 2. Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table A7: Effect of ACASI on Choosing "Don't know" or "Refuse to answer" in IPV Questions

	(1)	(2)	(3)	(4)	(5)
	=1 if don't know or refusal to *individual* question in following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI	0.011**	0.007*	0.011**	0.006**	0.012**
	(0.006)	(0.003)	(0.005)	(0.003)	(0.006)
FTFI mean	0.017	0.009	0.015	0.007	0.017
Number of individuals	1,737	1,737	1,737	1,737	1,737
Observations	12,159	12,159	12,159	12,159	34,740
Panel B. Liberia					
SI	0.007**	0.002	-0.001	0.003**	0.004
	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)
FTFI mean	0.005	0.003	0.007	0.001	0.006
Number of individuals	1,231	1,231	1,231	1,231	1,231
Observations	8,617	8,617	8,617	8,617	24,620

Note: Regressions are at the respondent-*question* level (violence is not aggregated into indexes). Regressions include question-level fixed effects and individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Appendix B: Main results, without controls

Table B1: Effect of Self-interviewing (SI) on Placebo Questions, no individual controls

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
SI Screen Pass (β)	-0.01	0.08***	0.11***	0.11***
	(0.01)	(0.03)	(0.03)	(0.03)
SI Non-Pass (γ)	-0.03	0.09**	-0.02	0.04
	(0.02)	(0.04)	(0.04)	(0.04)
Screen Pass	0.02	0.07*	0.04	0.02
	(0.02)	(0.03)	(0.04)	(0.04)
FTFI Non-Pass mean	0.93	0.43	0.52	0.28
p-value ($\beta = \gamma$)	0.478	0.808	0.019	0.189
Observations	1,718	1,713	1,345	1,228
Effect of SI for the average respondent				
Pooled SI effects	-0.02	0.08	0.06	0.09
p-value	0.150	0.001	0.020	0.001
Panel B. Liberia				
SI Screen Pass (β)	-0.00	0.08**	-0.02**	0.01
	(0.03)	(0.03)	(0.01)	(0.03)
SI Non-Pass (γ)	0.04	0.11**	-0.06**	-0.03
	(0.04)	(0.05)	(0.03)	(0.05)
Screen Pass	0.06*	0.09**	0.03*	0.06
	(0.04)	(0.04)	(0.02)	(0.04)
FTFI Non-Pass mean	0.77	0.61	0.96	0.65
p-value ($\beta = \gamma$)	0.426	0.562	0.166	0.526
Observations	1,229	1,230	1,196	1,075
Effect of SI for the average respondent				
Pooled SI effects	0.01	0.09	-0.03	-0.01
p-value	0.626	0.001	0.002	0.801

Note: Regressions are at the respondent-question level. "Screen Pass" is defined by selecting "yes" to the first five questions in Table 2. Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table B2: Effect of Self-interviewing (SI) on IPV Reporting in Individual Questions, no individual controls

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *individual* question in the following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI	0.09***	0.06***	0.01*	0.03***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
FTFI mean	0.11	0.07	0.03	0.04	0.07
Number of individuals	1,715	1,711	1,712	1,709	1,716
Observations	11,887	6,802	10,181	5,095	33,965
Panel B. Liberia					
SI	0.04***	-0.00	-0.00	0.03**	0.02
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
FTFI mean	0.21	0.19	0.09	0.04	0.15
Number of individuals	1,229	1,229	1,229	1,229	1,229
Observations	8,547	4,889	7,328	3,668	24,432

Note: Regressions are at the respondent-*question* level (violence is not aggregated into indexes). See Table B3 for results in which IPV questions are aggregated into indices. Regressions include question-level fixed effects. Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table B3: Effect of Self-interviewing (SI) on IPV Indices, no individual controls

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *at least one* question in the following category:				Any IPV
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI	0.18***	0.11***	0.05***	0.06***	0.14***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)
FTFI mean	0.38	0.16	0.08	0.07	0.20
Observations	1,737	1,737	1,737	1,737	1,737
Panel B. Liberia Wave 2					
SI	0.06**	0.02	-0.00	0.07***	0.02
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)
FTFI mean	0.57	0.35	0.23	0.07	0.39
Observations	1,231	1,231	1,231	1,231	1,231

Note: IPV measures are indexed by category; index is set equal to 1 if the respondent answered "yes" to any question in the category. "Screen Pass" is defined by selecting "yes" to all questions in Table 2. Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Appendix C: Self-reported technical and comprehension difficulties

Table C1: Debriefing Survey on Technical Issues with ACASI Module

	(1)	(2)
	Mean (=1 if yes)	
	Malawi	Liberia
Was the audio loud enough to hear?	0.99	0.98
Was the audio speaking speed okay?	0.99	0.98
Observations	866	604

Note: Questions were asked only to those in the ACASI treatment group (i.e., the FTFI group did not get these questions).

Table C2: Relationship between Reporting Technical Difficulties and Passing Screening

	(1)	(2)	(3)	(4)
	=1 if passed SI screening[a]			
	Malawi		Liberia	
=1 if said:				
audio loud enough to hear	0.203		-0.047	
	(0.143)		(0.127)	
audio speaking speed okay		0.016		-0.048
		(0.220)		(0.127)
R-square	0.002	0.000	0.000	0.000
Outcome mean when said no	0.42	0.60	0.75	0.75
Observations	866	867	604	603

Note: Standard errors clustered at individual level are in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.
[a] Passing threshold is choosing "yes" for the first five questions in Table 2.

Table C3: Debriefing Survey on Comprehension Issues with ACASI Module

	(1)	(2)
	Mean (=1 if yes)	
	Malawi	Liberia
Was it easy for you to remember the meaning of pictures?	0.90	0.90
Was it easy for you to choose answers on the screen?	0.91	0.88
Was it easy for you to move between questions on the screen?	0.92	0.88
Observations	866	604

Note: Questions were asked only to those in the ACASI treatment group (i.e., the FTFI group did not get these questions).

Table C4: Relationship between Reporting Comprehension and Passing Screening

	(1)	(2)	(3)	(4)	(5)	(6)
	=1 if passed SI screening[a]					
	Malawi			Liberia		
=1 if said:						
easy to remember the meaning of pictures	0.019			0.139**		
	(0.055)			(0.066)		
easy to choose answers on screen		-0.001			0.075	
		(0.057)			(0.060)	
easy to move between questions on screen			-0.003			0.080
			(0.060)			(0.059)
R-square	0.000	0.000	0.000	0.009	0.003	0.003
Outcome mean when said no	0.60	0.62	0.62	0.58	0.64	0.64
Observations	866	865	866	604	604	604

Note: Standard errors clustered at individual level are in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.
[a] Passing threshold is choosing "yes" for the first five questions in Table 2.

Appendix D: Subtreatments

Table D1: Effect of Ordering of Yes and No Options in ACASI on Placebo Questions

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
YES First	-0.02	0.05	0.06*	0.07*
	(0.02)	(0.03)	(0.04)	(0.04)
NO First mean	0.94	0.54	0.58	0.34
Observations	854	851	708	615
Panel B. Liberia				
YES First	-0.00	0.04	0.02	0.00
	(0.03)	(0.04)	(0.02)	(0.04)
NO First mean	0.83	0.74	0.94	0.69
Observations	603	604	583	531

Note: Includes only those who are in the ACASI group (FTFI group excluded). Regressions include country sample fixed effects and individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table D2: Effect of Ordering of Yes and No Options in ACASI on IPV Questions

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *individual* question in the following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
YES First	-0.01	0.00	0.00	-0.00	-0.00
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
NO First mean	0.21	0.13	0.05	0.07	0.12
Number of individuals	858	854	855	852	859
Observations	5,915	3,385	5,062	2,531	16,893
Panel B. Liberia					
YES First	-0.01	-0.02	-0.02	-0.02	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
NO First mean	0.25	0.19	0.10	0.08	0.17
Number of individuals	605	605	605	605	605
Observations	4,187	2,399	3,604	1,796	11,986

Note: Includes only those who are in the ACASI group (FTFI group excluded). Observations at respondent-question level. Regressions include question-level fixed effects and individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table D3: Effect of Placebo Module Position on SI Effects for Placebo Questions

	(1) Farm work (past year)	(2) Market visit (past week)	(3) Maize/Rice (next week)	(4) Meat (next week)
Panel A. Malawi				
SI Placebos First (β)	0.01	0.09**	0.11***	0.11***
	(0.02)	(0.03)	(0.04)	(0.04)
SI IPV First (γ)	-0.04**	0.09***	0.05	0.12***
	(0.02)	(0.03)	(0.04)	(0.04)
Placebos First	0.00	0.00	0.01	0.05
	(0.02)	(0.03)	(0.04)	(0.03)
FTFI IPV First mean	0.94	0.46	0.54	0.26
p-value ($\beta = \gamma$)	0.036	0.999	0.314	0.916
Observations	1,718	1,713	1,345	1,228
Panel B. Liberia				
SI Placebos First (β)	0.02	0.10***	-0.03*	0.01
	(0.03)	(0.04)	(0.02)	(0.04)
SI IPV First (γ)	-0.00	0.07**	-0.04**	-0.04
	(0.03)	(0.04)	(0.02)	(0.04)
Placebos First	-0.01	-0.04	-0.01	-0.05
	(0.03)	(0.04)	(0.01)	(0.04)
FTFI IPV First mean	0.82	0.69	0.98	0.71
p-value ($\beta = \gamma$)	0.613	0.596	0.666	0.362
Observations	1,229	1,230	1,196	1,075

Note: Regressions include individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent signi cance at 1%, 5%, and 10%, respectively.

Table D4: Effect of Placebo Module Position on SI Effects for IPV Questions

	(1)	(2)	(3)	(4)	(5)
	=1 if responded yes to *individual* question in the following category:				All questions pooled
	Controlling Behavior	Emotional IPV	Physical IPV	Sexual IPV	
Panel A. Malawi					
SI Placebos First (β)	0.10***	0.05***	0.02**	0.05***	0.06***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
SI IPV First (γ)	0.08***	0.05***	0.00	0.01	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Placebos First	0.01	0.02	-0.01	-0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
FTFI IPV First mean	0.11	0.06	0.04	0.04	0.07
p-value ($\beta = \gamma$)	0.272	0.913	0.277	0.029	0.216
Observations	11,887	6,802	10,181	5,095	33,965
Panel B. Liberia					
SI Placebos First (β)	0.05**	-0.01	-0.01	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
SI IPV First (γ)	0.05**	0.02	0.01	0.04**	0.03*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Placebos First	0.00	-0.00	0.01	0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
FTFI IPV First mean	0.21	0.19	0.09	0.05	0.14
p-value ($\beta = \gamma$)	0.996	0.427	0.431	0.333	0.540
Observations	8,547	4,889	7,328	3,668	24,432

Note: Observations at respondent-question level. Regressions include question-level fixed effects and individual controls (including all variables in Table 1). Standard errors clustered at individual level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Appendix E: Survey instrument

Non-sensitive placebo questions[28]

1. Did you do any farm work in the past year?
2. Did you go to the market in the past week?
3. Will you, or anyone in your household, eat any [rice/maize] next week, one time or more?
4. Will you, or anyone in your household, eat any type of meat next week, one time or more?

Controlling behavior

1. Did your man ever try to keep you from seeing your friends in the past 12 months?
2. Did your man ever try to stop you from meeting or speaking to your family of birth in the past 12 months?
3. Did your man ever need to know where you are all the time in the past 12 months?
4. Did your man ever stop talking to you or treat you with no interest in the past 12 months?
5. Did your man ever get angry if you speak with another man in the past 12 months?
6. Did your man often think that you are unfaithful in the past 12 months?
7. In the past 12 months, did your man ever expect you to ask for his approval before you go to a health clinic or hospital?

Emotional IPV[29]

1. Did your man ever insult you or make you feel bad about yourself in the past 12 months?
2. Did your man ever make you feel small in front of other people in the past 12 months?
3. Did your man ever mean to scare you (for example, by the way he looked at you, by yelling and bursting things) in the past 12 months?
4. Did your man ever threaten to hurt you or someone you care about in the past 12 months?

Physical IPV[29]

1. Did your man ever slap you or throw something at you that could hurt you in the past 12 months?
2. Did your man ever push you, shove you, or pull your hair in the past 12 months?
3. Did your man ever hit you with his hand or with something else that could hurt you in the past 12 months?

[28] Some questions asked in the ACASI Screening module were reasked later either by SI or by FTFI. For placebo effects analysis, we exclude those questions and include only the four questions listed here, which were not previously asked in the screening module.

[29] For each IPV question, if the answer is "yes", a follow-up question about frequency appears, asking whether it happened (i) one or two times, (ii) three to five times, or (iii) more than five times.

4. Did your man ever kick you, drag you or beat you up in the past 12 months?
5. Did your man ever mean to choke or burn you in the past 12 months?
6. Did your man ever threaten to use or actually use a gun, knife or other weapon against you in the past 12 months?

Sexual IPV[29]

1. Did your man ever physically force you to do man and woman business when you did not want to in the past 12 months?
2. Did you ever do man and woman business when you did not want to because you were afraid of what your man might do in the past 12 months?
3. In the past 12 months, while doing man and woman business, did your man ever force you to do something that made you feel small or bad about yourself?