# User-Centered Approaches to Contraceptive Counseling: Experimental Evidence from Urban Malawi

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**Abstract**

We test how two user-centered approaches to counseling shape women's contraceptive preferences and behavior: 1) tailored counseling that presents contraceptive methods based on women's stated preferences; and 2) prompting women with the choice to invite male partners to counseling. A total of 782 women were randomized to receive tailored or standard counseling, cross-randomized with the prompt to bring partners to counseling. Following counseling, women were offered transport and access to a high-quality family planning clinic for one month. Women who received tailored counseling were 17.3 percent more likely to be discordant between their stated preferred method and method use. Women who were prompted with the choice to invite their partners were 14.5 percent less likely to change their stated preferred method but 15.8 percent more likely to use their stated method. While both approaches aim to facilitate user-centered contraceptive decision-making, neither necessarily yields strictly preferred outcomes for women.

*Keywords:* family planning; user-centered design; counseling; male involvement; Malawi

*JEL codes:* I12, I15, I31, J12, J13, J16.

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# 1 Introduction

Autonomy is a cornerstone in the process of health decision-making, embodying the principle that individuals should have the right to make choices about their own care (Bensing, 2000; Kilbride and Joffe, 2018; Rothman, 2001). The central role of the individual in health decision-making, which is rooted in a demand for recognition of personal values and preferences, has shaped the transition of the patient-provider relationship away from provider-driven service delivery, which has often been characterized as paternalistic, to where the individual takes a more active role in determining their care (Hewitt-Taylor, 2003; Lee and Lin, 2010; Sandman et al., 2012).

Patient-centered decision-making is particularly fundamental to a high-quality family planning and reproductive health program (Kols et al., 1999). In family planning, the client, as the key actor in her decision to contracept and bear children, is distinct from many other contexts in health decision-making where providers play a leading or even exclusive role in determining a patient's pathway to care. A high-quality family planning program would therefore prioritize the right to "full, free, and informed choice" over contraception and method choice[1] such that clients are able to realize an autonomously determined preference free from coercion[2] (Dehlendorf et al., 2014; Senderowicz, 2020).

To promote informed choice, family planning programs dedicate significant resources into

[1] "Informed choice" in family planning is a central part of the Programme for Action (PoA) that was adopted during the 1994 International Conference on Population and Development (ICPD) in Cairo. The conference provided a global forum for reshaping the population policy discourse away from a "population control" narrative and towards a rights-based approach to family planning and reproductive health (UNFPA, 2014). Recent work by Newman and Feldman-Jacobs (2015), Senderowicz (2020), and others have updated the definition of "informed choice" to include "full, free, and informed choice" and have also proposed approaches to integrate this framework into existing and future programs.

[2] Coercive practices in family planning programs reflect a deep and problematic history and have ranged from overt attempts at reproductive control, such as forced sterilization or provider refusal to remove methods (Connelly, 2010; Reilly, 2015; Senderowicz and Kolenda, 2022; Vicziany, 1982) to more subtle efforts, such as the provision of incentives for specific methods or biased counseling (Bullington et al., 2023a; Senderowicz, 2019).

providing complete and accurate information so that clients are informed of all methods that are available to them. As a result, clients typically do not receive methods without receiving a consultation session with a family planning counselor. A large literature has highlighted the importance of counseling on decision-making in family planning and reproductive health (Athey et al., 2023; Dehlendorf et al., 2016; Kim et al., 1998; Lettenmaier and Gallen, 1987). However, little is known about how the choice environment for contraception, the processes through which information is actually presented during counseling, shape women's preferences and determine how women make choices about 1) their decision whether or not to contracept; and 2) their choice of contraceptive method (Miller et al., 2020).

Because of the high value placed on informed choice, family planning programs often require counselors to discuss a large number of contraceptive methods and multiple method-specific attributes (e.g. a method's effectiveness at preventing pregnancy, convenience to use, risk of side effects, duration of effectiveness, among others) per discussed method with a client during a single session. This information-intensive approach to counseling, which compels a client to interpret a large volume of data across multiple dimensions, may be counterproductive and could even inhibit informed choice by reducing the salience of counseling while simultaneously increasing the potential for choice overload (Iyengar and Kamenica, 2006). To date, evidence of choice overload and its consequences in family planning is scarce, although the potential to facilitate decision-making by minimizing choice overload has been recognized (Moos et al., 2003; Stevens and Berlan, 2014).

Given that the key goal of programs is to meet women's reproductive needs, being able to effectively facilitate a woman's stated preferences for contraception to be concordant with her eventual contraceptive behavior would have significant implications for service provision. Measuring concordance is challenging because contraceptive and fertility preferences are fluid over a woman's reproductive lifetime and are sensitive to relatively small changes in her environment (Johnson-Hanks et al., 2018; Sennott and Yeatman, 2012), to the extent that she might change her mind frequently over a relatively short time such that her initially

stated preference for contraception (what she says that she wants to do) could differ greatly from her method use (what she actually does). Empirical evidence on the extent to which women's stated contraceptive preferences are concordant with their contraceptive behavior is limited, although recent studies in both high- and low-income settings have highlighted that a significant proportion of women may not be using the method that they prefer and are not satisfied with their current contraceptive use (Huber-Krum et al., 2021; Lagasse Burke and Lindberg, 2023; Rothschild et al., 2021). A high prevalence of non-preferred method use, in turn, may contribute to method discontinuation[3], unintended pregnancy, and other adverse fertility outcomes (Jain and Winfrey, 2017; Upadhyay et al., 2012).

## 2 Study Objectives

In this study, we identify the causal impact of two user-centered approaches to family planning counseling on women's contraceptive preferences and decision-making by means of a randomized controlled trial. We investigate two channels that have been theorized to play a role in contraceptive decision-making, and particularly concordance between women's use (or non-use) of contraception and their stated contraceptive preferences. We also evaluate the extent to which women's stated preferences are, in fact, realized when access is improved.

We first explore the role of tailored counseling that seeks to improve salience and reduce cognitive overload by tailoring information to women's own stated preferences for contraceptive method attributes, which may be more directly relevant for women's decision-making than their stated preferences for methods themselves (Marshall et al., 2016). Our approach emphasizes the role of the individual client as the focal point of interaction, where 1) a client's stated preferences are first elicited; 2) the content of counseling and method infor-

[3]Discontinuation of contraception is not a negative outcome if women are discontinuing because they prefer to no longer use contraception. However, evidence from Burke and Potter (2023) and others show that women who are discordant are more likely to discontinue because they do not prefer their current method, and not necessarily because they prefer to stop contraceptive use altogether.

mation that is presented reflects the client's elicited preferences (Costello et al., 2001). To date, there is little systematic evidence on the effectiveness of tailored counseling approaches in meeting women's contraceptive preferences to achieve contraceptive concordance (Burke and Potter, 2023).[4] Our study tests the extent to which a counseling process that presents information on a woman's most valued method attributes, in fact, may allow her to reinforce and better realize her contraceptive preferences.

In addition, we investigate the role of male involvement in counseling. Studies have shown that men's attitudes towards family planning play a key role in shaping women's sexual and reproductive health behaviors.[5] To date, experimental studies of male engagement in family planning have focused on how the inclusion of men affects women's receipt of counseling (D'Exelle and Ringdal, 2022) or contraceptive use (Ashraf et al., 2014; McCarthy, 2019). However, less is known about how giving women the choice *ex ante* whether to involve (or exclude) their male partners affects their partners' participation in counseling (conditional on being invited) and women's own family planning outcomes.

Taken together, our approaches seek to effectively center the woman as the key decision-maker. More broadly, the combination of these two approaches speak to the ongoing tension in family planning between facilitating contraceptive agency (where women are the exclusive decision-makers) and promoting partner involvement, shedding light on how user-centered counseling could be designed to jointly achieve these goals.[6]

We find that tailored counseling induces women to change their stated ideal contraceptive method, particularly among women who were already users at the time of counseling. However, tailored counseling does not result in a substantive change to a woman's method

[4]Most recently, evidence from Athey et al. (2023) in Cameroon finds that shared decision-making increases women's uptake of long-acting reversible contraceptives (LARCs), particularly when accompanied by financial discounts.

[5]We refer to work by Ashraf et al. (2014); Bawah (2002); D'Exelle and Ringdal (2022); El-Khoury et al. (2016); Jejeebhoy et al. (2015); Link (2011); Sternberg and Hubley (2004).

[6]We present a more extensive review of the literature and our contributions to the evidence base in Section B in the Appendix.

use; in fact, we find suggestive evidence that tailored counseling may reduce the likelihood of adoption among non-users. On the other hand, women who were initially satisfied with their current method were more likely to state a new ideal method after exposure to tailored counseling. We observe a higher level of discordance between women's stated ideal method and actual method use following receipt of tailored counseling, particularly among contraceptive users. This finding suggests that tailored counseling may allow a woman to report a new method as ideal. On the other hand, offering tailored counseling may also contribute to decision deferral, particularly if a woman is unable to follow through on her change in preference by switching or adopting her new method of choice.

Women who were prompted with the choice to invite their partners are less likely to change their stated ideal method, particularly if their partners are satisfied with their prior contraceptive use. Furthermore, among women whose partners are satisfied with their use, those who were reminded of their choice to invite their partners to counseling are more likely to be concordant between their stated ideal method following counseling and their eventual method use. Taken together, the invitation to involve their male partners allows women to follow through their stated method from counseling and exhibit a higher level of concordance.

Our findings contribute to a nascent evidence base that brings together insights from the behavioral sciences to better inform contraceptive decision-making (Stevens and Berlan, 2014). In addition to facing structural barriers to access, women may face cognitive biases that hamper care-seeking and uptake of family planning services. One such bias is information overload, which may contribute to decision deferral and regret (Ashton et al., 2015). Our tailored intervention is informed by evidence that this type of bias likely exists at the time of counseling, which is often a woman's point of entry into care (Athey et al., 2023). Our study also examines intra-household bargaining in the context of contraceptive decision-making. Building on collective models of the household (Chiappori and Mazzocco, 2017), we examine how shifting the choice to women over their partner's involvement impacts: a) women's decision to involve their partners, and b) subsequent uptake of services.

Finally, our study speaks to a growing literature on the measurement of concordance between stated preferences and subsequent revealed behavior. We benefit from a multi-point follow-up strategy to be able to assess the relative stability (or lack thereof) in women's contraceptive preferences and behavior over time following counseling. Through our longitudinal design, we are able to estimate contraceptive concordance by identifying women's preferences, both stated and revealed, and the extent to which our interventions enabled women to follow through on their stated method choice.

The rest of the paper is organized as follows. In Section 3, we present a simple conceptual framework and describe the context where our study is situated. Section 4 describes our experimental design and data. Section 5 describes the empirical strategy. Section 6 presents and discusses our descriptive and experimental findings, and we conclude in Section 7.

# 3 Conceptual Framework and Background

## 3.1 Conceptual Framework

Our tailored counseling and partner involvement interventions are motivated by frameworks that have examined the role of choice architecture on decision-making (Hensher, 2006; Hogarth and Einhorn, 1992). Figure 1 presents a conceptual illustration of our theory of change.

**Figure 1 About Here.**

### 3.1.1 *Tailored Counseling*

In designing our tailored counseling approach, we draw on evidence that has noted how cognitive load (and choice overload) may lead to higher levels of impatience and primacy bias, in which individuals prioritize information that is offered to them first when making decisions (Deck and Jahedi, 2015). Bordalo et al. (2012) demonstrated that consumers who are at risk of cognitive overload are more likely to overweigh attributes that are more salient to them over the range of choices that they face. When faced with a small number of well-defined

alternatives, individuals examine all attributes across all presented alternatives and are able to make trade-offs when necessary. However, when the choice set gets large, strategies such as ordering structuring complex choices or adopting other heuristics are employed (Iyengar and Kamenica, 2006). As the number of choices increases, framing and choice architecture are more likely to affect decision-making (Thaler et al., 2010); limiting complexity may therefore be welfare-improving if preferences can be articulated and fulfilled.

We predict that tailored counseling allows women to more effectively state their contraceptive preferences based on their most preferred method attribute. Women who receive tailored counseling may therefore be more likely to change their stated preferred contraceptive method following counseling, particularly if they were more susceptible to cognitive overload *a priori*. However, stating preferences more effectively may not necessarily translate to behavior if women face access constraints or if their stated preferences do not reflect of their true latent demand for contraception. This discordance between women's stated preferences and behavior would indicate that their reported preferences may also be influenced by factors such as social desirability to report a different method, hypothetical bias to report an ideal method that she does not believe that she could ever use, indifference or weak preferences, imperfect information about methods, or simply cheap talk.

### 3.1.2 *Partner Engagement*

Experimental evidence on spousal concordance and the role of male involvement in family planning remains mixed. Our approach to male involvement is most closely related to the approaches by D'Exelle and Ringdal (2022) and Ashraf et al. (2014); however, our design is distinct in the following critical ways. As a means to make partner involvement decisions user-centered, women who are assigned to the partner invitation treatment arms are prompted, and given the choice *ex ante*, whether or not they wish to invite their partners to counseling. This approach differs from prior studies in which couples who jointly consent to be counseled together are recruited. These couples, and particularly the male partners who

choose to attend counseling, are not representative of an average couple, where the male partner is often absent from counseling. We shift the decision of endogenous selection into counseling on to women, recognizing that male partners who are invited and who attend (conditional on being invited) may be compositionally different from partners who were not invited or who were invited but did not attend. To this end, our approach to give women the *choice* would also capture women's demand for joint counseling.

Our conceptual framework leads us to make the following predictions. By prompting women with the choice to invite their partners, the prompt itself may, in fact, influence women's stated preferences by compelling them to consider their partners' preferences, independently of whether or not they *actually* invite their partners. Specifically, women's stated preferences may shift to align with their partners' preferences simply by being exposed to the prompt. In recognizing that her partner may participate in counseling, should she choose to invite him, the way in which a woman may report and subsequently act on her contraceptive preferences will likely change simply due to her partner's potential presence. A woman's decision to invite her partner to counseling may likely depend on whether 1) she believes that her partner's contraceptive preferences are concordant with her own; and 2) she believes that her partner is supportive. These invited partners who are more supportive may, in turn, provide these women with the means to act on their stated preferences, improving contraceptive concordance. However, concordance in this case will need to be interpreted with caution, since the outcome is reflective of a woman's *jointly determined* stated preferences with her partner, and not necessarily her own individual preferences.

## 3.2 Study Setting: Lilongwe, Malawi

We conduct our field experiment in Lilongwe, the capital of Malawi. Malawi presents an interesting case for the study of family planning. Contraceptive prevalence has increased significantly over the last decade, from around 43 percent among married women in 2010 to almost 60 percent in 2015, which is one of the highest in Sub-Saharan Africa (Bongaarts and

Hardee, 2019; Government of Malawi, 2015).[7] In spite of this increase, unmet need for family planning[8] has remained high, and more than 37 percent of women reported discontinuing their method use within a year of adoption, among whom half discontinued their method for non-fertility related reasons. This high rate of discontinuation suggests that barriers exist to a woman's decision-making process for choosing the "right" method that aligns with her preferences (Bradley et al., 2009). To this end, our focus on contraceptive preferences, method use, and the (dis)concordance between the two is relevant even in a context where general access to reproductive health services is relatively high.

Contraceptive counseling with a service provider is predominantly the first step for women to learn about, choose, and receive family planning services (Malawi Ministry of Health and Malawi Reproductive Health Directorate, 2014). In public health facilities in Malawi, women receive an initial group counseling session with a counselor, followed by a brief (an estimated 3 to 5-minute) individual session, at which time they may receive a method. As per the Ministry of Health (MOH) and Malawi Reproductive Health Directorate (RHD) guidelines, a counseling session is typically administered to women with a family planning flipchart (Figure A.3), which describes 13 methods that are organized in order of the method's effectiveness to preventing pregnancy (Malawi Ministry of Health, 2009). Given the limited time for individual counseling, there is often little opportunity for women to receive clarification that they may seek; meanwhile, time-constrained service providers may not be able to fully elicit a client's preferences before administering counseling that best aligns with her preferences. Finally, most counseling sessions in Malawi, particularly group counseling, are targeted to female clients, with few opportunities for men to participate.

[7] Interestingly, the distribution of contraceptive methods has not changed significantly in Malawi over time: injectable contraceptives (30 percent), intra-uterine devices (IUDs) (11.5 percent), and female sterilization (10.9 percent) have remained the most popular methods among married women (National Statistical Office (NSO) and ICF Macro, 2017).

[8] Women with an unmet need for family planning are those who either want to limit births or delay childbearing for at least two years, but who are not using any method of contraception (Bradley et al., 2012; Potts, 2000; Westoff and Ochoa, 1991).

# 4 Experimental Design and Data

## 4.1 Experimental Design

Our study is a four-arm randomized controlled trial that was conducted with a sample of 782 women from Lilongwe. Additional details of the sampling strategy can be found in Section C in the Appendix, respectively. A baseline survey was implemented from July to September 2019, which was followed by a three-month family planning counseling intervention that was rolled out from September to December 2019. Immediately after the counseling session, women were offered a free package of family planning services for a month, which included free transportation to a local private clinic and reimbursement for all family planning services. A follow-up survey was administered with women either at the clinic, by phone, or through a home visit after one month of exposure to the intervention. Figure 2 outlines the general framework of the entire field experiment, and additional details of the experiment can also be found elsewhere (Karra and Zhang, 2020).

**Figure 2 About Here.**

## 4.2 Sample

We screened 1,122 households and obtained an initial sample of 782 women who, at the time of the baseline survey: 1) were married; 2) were between the ages of 18 and 35; 3) lived in the city of Lilongwe (permanent residents); 4) were not pregnant and had not given birth in the 6 months prior to the initial screening; 5) had neither been sterilized nor had a hysterectomy; 6) had given birth to at least one child (one live birth) in their lifetime and 7) lived with their husbands at the time of the screening. Given that randomization was administered at the individual woman level, only one eligible woman was selected from each household in order to minimize possible contamination across intervention and control arms.[9]

[9]If multiple women from the same household were potentially eligible to be recruited, we chose the youngest eligible woman to participate. We also ensured that the selected participants were

### 4.3 Baseline Survey

Women who were identified as eligible and who consented to participate in the study received a comprehensive baseline survey in their homes. The baseline survey instrument was comprised of modules from the household and women's questionnaires of the Malawi Demographic and Health Survey (MDHS), where information on marriage, fertility, family planning, reproductive health, and child health are elicited (National Statistical Office (NSO) and ICF Macro, 2017). Modules on intra-household decision-making, women's empowerment, and partner preferences from the World Bank's Living Standards Measurement Study (LSMS), the FP2020 and PMA2020 surveys, and other related family planning surveys were also added to supplement the standard MDHS questionnaire. Finally, detailed data on women's marital history, their perceived relationships with their partners, and their perceptions around their partners' fertility and contraceptive preferences were collected.

As part of the baseline survey, detailed data on women's reproductive preferences and history, contraceptive knowledge and use, contraceptive preferences, and future intentions to use contraception were collected. To better understand preferences around contraception, women were asked to identify and rank the contraceptive attribute(s) that were most important to them when considering a contraceptive method[10]. Women were given an extensive list of method attributes (e.g. does she prefer that a method has a lower incidence of side effects, a method that is more effective at preventing pregnancy, etc.), from which they could choose as many options as they wished. Women were then asked to narrow down the list to the three attributes that they preferred most in an ideal contraceptive method. Each woman was given 20 counters and was asked to place the counters on a placemat that listed their top three method attributes. Specifically, they were asked to distribute counters across all

sufficiently distant (at least five households apart) from each other, which also served to minimize spillover effects between treated and control women who lived in the same neighborhood.

[10]Specifically, women were asked: "In choosing a contraceptive method, what feature(s) would be most important to you?"

attributes based on the level of significance with which they held that particular attribute in choosing a method. If a woman mentioned fewer than three attributes, she was asked to assign counters only to those attributes that she mentioned.

## 4.4 Randomization and the Intervention

### 4.4.1 *Counseling Session - Introduction*

Following the baseline survey, women who participated in the study were randomized into one of four experimental arms: a control group (T0, N = 108), an intervention group in which women were prompted with the choice to invite their partners to counseling (T1, N = 223), an intervention group where women received tailored counseling (T2, N = 225), and an intervention group where women received both tailored counseling and the choice to invite their partners (T3, N = 228).

Following randomization, women were offered one free family planning counseling session in their homes. Six nursing practitioners from the Kamuzu College of Nursing in Lilongwe were hired and trained by a master trainer from the Malawi RHD. The master trainer reviewed a range of family planning and reproductive health counseling topics with counselors, including: fertility awareness and return to fertility following pregnancy, maternal and child health risks associated with short birth spacing, contraceptive-related side effects and contraindications, and common myths and misconceptions around particular methods and family planning, more broadly. We also enlisted the support of the Malawi RHD and several international nongovernmental organizations (Population Services International, Marie Stopes International, among others) who work on family planning in Malawi to support the development of training materials and counseling resources. Counselors were trained on how to implement each type of counseling intervention and were also trained in survey research methods, which allowed them to document their observations and experiences with clients during sessions. Counselors were instructed by the research team on how to travel through neighborhoods to identify respondents. As this was the first time that counselors would be

meeting respondents, additional training on how to build rapport were conducted with the master trainer.[11]

### 4.4.2 *Pre-Counseling Survey*

Just before each counseling session was administered, counselors conducted a short survey to confirm women's pregnancy status, contraceptive use, fertility preferences, and stated contraceptive preferences.

### 4.4.3 *Counseling for Control Group T0*

Following the pre-counseling survey, women who were assigned to the control arm T0 were counseled on the full range of **13 available family planning methods**. Counselors employed the standard-of-care contraceptive method flipchart that is provided by the MOH and RHD to counsel women on each method, following the order of methods in the flipchart.

### 4.4.4 *Counseling for Intervention Group T1*

Women who were assigned to intervention arm T1 were prompted by the counselor that they could invite their partners to participate in a joint family planning counseling session, if they chose[12]. Following the invitation, women and their partners (if they chose to invite them) jointly received counseling on the full range of 13 available family planning methods with the same standard counseling flipchart used by counselors in intervention arm T0. If

[11] With this said, the provision of door-to-door family planning services through community health workers (known as Health Service Assistants in Malawi) is common practice in this context, so there was little concern from the research team that respondents would not be accustomed to being approached by health workers in their homes.

[12] Following a brief introduction to the counseling session, the counselor informed women of their choice to invite their partners with the following prompt: "In addition, you are welcome to invite your husband to this counseling session if you choose. It is your choice as to whether or not you would like to invite your husband to the counseling session." If a woman consented to participate in counseling, the counselor followed up to confirm her choice whether or not to invite her partner to counseling through the following statement: "As I mentioned, you have the opportunity to invite your husband to the counseling session. Would you like to invite him to receive counseling with you?"

a woman chose to invite her partner, the counselor would ask the woman to reschedule the counseling session to a date and time when both the woman and her partner could be available. If a joint session could not be scheduled within two weeks from the initial visit, then the counselor would return to administer individual counseling with the woman.

#### 4.4.5 *Counseling for Intervention Group T2*

Women who were assigned to intervention arm T2 were counseled on a subset of methods that were chosen based on the respondent's reported preferences before counseling. The objective of this intervention arm was to minimize choice overload and increase the salience of counseling by reorienting a woman's decision-making away from a most preferred method to her most preferred method *attribute*, which was identified through the elicited ranking exercise of her top three most valued attributes at baseline. Just prior to counseling, the counselor confirmed the top-ranked attribute with the woman and administered a pre-designed tailored flipchart (an abbreviated version of the full flipchart) that presented a subset of up to 5 methods that were most aligned with her reported top attribute[13]. Methods that were presented on each of the attribute-specific flipcharts were assigned based on classifications from a recent technical consultation conducted by the World Health Organization (WHO) and the United States Agency for International Development (USAID) (Festin et al., 2016). Particular emphasis was placed on making the order of presentation salient, whereby women were reminded and primed to consider the relative ranking of methods along their stated attribute. Counselors then counseled women on the subset of methods. In addition to limiting the number of methods that are presented, our approach centers information around preferred method features, as opposed to methods themselves, in order to improve salience and promote client attention.

[13]The contraceptive methods that were presented to women in the tailored counseling group were based exclusively on women's top-ranked attribute. Heterogeneity analyses show that the results do not vary substantively by the weights that were allocated to their top method attribute (results available upon request).

### 4.4.6 *Counseling for Intervention Group T3*

In a similar fashion to intervention arm T1, Women who were assigned to intervention arm T3 were prompted with the choice to invite their partners to participate in a joint family planning counseling session. Just prior to counseling, counselors confirmed the woman's highest ranked attribute. In following the counseling protocol for T2, the counselor counseled the woman (and her partner, if he was invited) on a targeted subset of up to five contraceptive methods that most closely aligned with her most preferred attribute using a tailored, condensed flipchart.

### 4.4.7 *Post-Counseling Survey*

Immediately following the counseling session, counselors conducted a brief survey with all women to assess their experiences with counseling and to document changes in women's preferred choice of contraceptive method before and after counseling.

### 4.4.8 *Post-Counseling Package of Services*

Following the counseling session and completion of the post-counseling survey, all women and their partners who participated in counseling were offered a multicomponent package of services for a one-month period. This package of services was designed to overcome multiple barriers to access to care, particularly geographic and financial accessibility constraints. Women were not informed about this package of services until *after* they completed the post-counseling survey. Not informing women until after the survey serves two purposes. First, any potential pressure that women would have felt to report a demand for family planning services in response to being offered a means to access these services is averted if women were not anticipating an offer. Second, by eliciting women's stated preferences beforehand, we are able to more directly infer the extent to which these stated preferences are reflective of women's *ex-ante* latent demand for contraception, absent of any concurrent change to their (perceived) access. We can therefore track outcomes and concordance following the

offer to see whether: 1) women's contraceptive behavior changes in response to the offer and in concordance with their stated preferences; 2) women's stated preferences at follow-up change in response to the offer and in concordance with their contraceptive behavior; or 3) both 1) and 2).

Key components of the package include:

1. **Transportation Service**: Women and invited partners were offered a free transportation service from their homes to the Good Health Kauma Clinic, a high-quality private family planning clinic in Lilongwe.[14] The transportation service was provided by a private taxi driver who was hired for the duration of the study. Respondents could make an appointment with the driver through a project field manager[15], who would coordinate transport with the driver to the Kauma Clinic during the clinic's working hours.

2. **Coverage of all Family Planning Services**: Women and participating partners were financially reimbursed for any out-of-pocket expenditures that they incurred for receiving family planning-related services at the Kauma Clinic. Costs that were eligible for reimbursement included costs for procuring contraceptive methods, consultation fees, lab test fees, treatment costs for any contraceptive-related side effects and contraindications, and expenses associated with switching and discontinuation of methods. Each couple was allocated a reimbursement amount of 17,500 MWK ($25.00 USD),

[14]The Kauma Clinic was recommended by our implementing partners at PSI Malawi and the Malawi RHD for offering high-quality family planning and reproductive health services, including the insertion and removal of long-acting methods, by trained clinicians. The clinic also had demonstrated a high capacity for the treatment of contraceptive-related side effects and contraindications, administering effective referrals for sterilization, and conducting follow-up counseling with clients as needed. Throughout the study period, a full range of contraceptive methods was found to be available at the Kauma Clinic, there were no reported or observed stockouts of methods, and client waiting times at the clinic were low. Providers at the Kauma Clinic were trained on both insertions and removal services for clinical methods that required them (IUDs, implants).

[15]All participants were provided 100 MWK in mobile credit, which covered any communication costs between the participant, field team, and driver.

which could be redeemed by the couple over multiple visits at the clinic over the service period.

When being introduced to the Kauma Clinic, women were informed that all contraceptive methods that they were counseled on would be available to them at the clinic. The Kauma Clinic was chosen because it was identified to be a high-quality clinic with well-trained service providers and a full range of family planning services, with no stockouts and low waiting times. The clinic offered a full range of contraceptive methods, including the IUD, injectables, implants, pills, the male and female condom, female diaphragm, and contraceptive jellies and foams[16]. Providers at the Kauma Clinic were trained on both insertions and removal services for clinical methods that required them (IUDs, implants). For information-based contraceptive methods (Two-Day Method (TDM), Standard Days Method (SDM), the Lactational Amenorrhea Method (LAM), rhythm method), women could receive additional counseling for these methods, along with any related materials (e.g., Cyclebeads for SDM), at the Kauma Clinic.

## 4.5 Follow-Up

All women were resurveyed with an abbreviated version of the questionnaire that was administered at baseline after one month of exposure to the post-counseling services. Follow-up surveys were administered in three ways: 1) a clinic-based survey that was administered to all women (and participating husbands) who visited the Kauma Clinic; 2) a phone follow-up survey that was administered to women who did not visit the Kauma Clinic; and 3) a home-based follow-up survey that was administered to women who did not visit the Kauma Clinic and who were also unavailable for a phone survey.

[16]Women who demanded sterilization services (either male or female) were directly referred to the Banja La Mtsogolo (BLM) Clinic near the Kauma Clinic in Lilongwe, where sterilizations were provided as an outpatient service. All costs related to the receipt of sterilization at the BLM Clinic, including transport, were covered for the one-month service period.

Our final analytic sample is comprised of 675 women[17] (86.3 percent of the baseline sample) who were offered the intervention and who participated in at least one of the follow-up surveys. Figure A.1 presents a participant recruitment and retention flowchart that indicates how our final analytic sample was derived. Table F.5 compares women in our final analytic sample to those women who attrited over the study period. We note that attritors are slightly (1.22 years) younger than non-attritors, and a higher proportion (7 percentage points, p.p.) of non-attritors reported having male partners who were supportive of their use of family planning methods relative to attritors. In general, however, we do not find significant evidence of differential loss to follow-up across observable characteristics.

## 4.6 Key Outcomes

The measurement of contraceptive concordance is a key contribution of this study. Current approaches to estimating contraceptive preferences assume that a woman's true, latent preferences are captured through the elicitation of her stated preferences at one point in time. The use of directly elicited stated preference measures, particularly those that are derived from static cross-sectional data, raises several causes for concern because they provide little to no scope for cross-validating either the stability or the strength of these preferences. A large body of research in consumer demand and behavior has shown how the direct elicitation of static measures of preferences in cross-sectional survey data are likely subject to significant bias and measurement error (de Corte et al., 2021).[18] The magnitude and direction of

[17] As per the eligibility criteria for the study, women who reported that they were not pregnant at the time of the baseline screening were eligible for the study. At the time of counseling, however, 17 women reported that they had become pregnant since baseline, and 20 women reported that they were pregnant when they were interviewed at follow-up. For these women, no information on their current method use is collected, and hence they are excluded from analyses that use these variables as outcomes.

[18] In health, the general literature comparing stated and revealed preferences has found that individuals tend to overstate their valuation of a particular good, service, or outcome, known as hypothetical bias, which can lead to biased and inconsistent estimates of relative value (Fifer et al., 2014). Johansson-Stenman and Svedsäter (2008) draw on evidence from psychology and behavioral economics, which suggests that people have a positive self-image, and therefore an incentive, to overstate their preferences, particularly for "moral" and social goods. Other studies have suggested

bias when accounting for these dynamic preferences is unclear and cannot be inferred from a cross-section, where preferences and behavior are jointly identified. Additional discussion of the limitations of these approaches in the context of contraceptive decision-making is presented elsewhere (Bachrach and Morgan, 2013; Karra, 2022; Müller et al., 2022).

At each survey wave, we elicit the following key measures of contraceptive preferences and behavior:

- We identify women's most preferred contraceptive method attributes, which are elicited through the relative ranking exercise described above.

- We document women's stated preferences for contraception, which are measured separately for users and non-users using hypothetical framing. Users are asked whether they would prefer to switch their method[19], while non-users are asked whether they would like to adopt a method in the future[20]. We identify a woman's stated ideal method based on her response to these questions.

- We measure a woman's contraceptive use, which is elicited using the standard set of questions for identifying method use, as prescribed by the MDHS[21] (National Statistical Office (NSO) and ICF Macro, 2017).

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that people derive positive utility from expressing attitudes that show social responsibility (Taylor and Brown, 1994), especially when this expression does not result in actions that are binding ("cheap talk") (Kahneman and Knetsch, 1992).

[19]Specifically, users are asked "If you had the choice and ability to switch to another family planning method, would you choose to switch?" and are presented with a full range of methods to choose from, including the choice to discontinue altogether.

[20]Specifically, non-users are first asked "Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?" If a non-user says that they may use a method in the future, they are subsequently asked "Which method would you want to use?" and are presented with the full range of method options.

[21]The standard survey workflow in the MDHS first captures women's current use of contraception by asking: "Are you currently doing something or using any method to delay or avoid getting pregnant?" If a woman responds affirmatively, she is asked about her current method use from a list of 13 methods, which are ordered by their relative effectiveness at preventing pregnancy. If a woman reports using multiple methods, the survey logic follows the sequence for the reported method that is the most effective at preventing pregnancy, i.e. highest on the list.

Using the elicited measures of preferred contraceptive attributes, method preferences, and contraceptive use above, we investigate the effect of our two interventions on four primary outcomes:

1. An indicator of whether a woman's stated ideal method changed between counseling and follow-up.

2. An indicator of whether a woman's contraceptive method use changed between counseling and follow-up.

3. An indicator of whether a woman's stated ideal method at the end of counseling is discordant with her actual method use at follow-up.

4. An indicator of whether a woman's stated ideal method at follow-up is discordant with her actual method use at follow-up.

Table A.1 describes each of these outcomes in more detail. Each outcome aims to capture the extent to which our user-centered approaches to counseling affect women's stated preferences and either contemporaneous or intertemporal discordance. By measuring discordance, we infer the extent to which women were, in fact, able to translate their preferences into behavior.

# 5 Empirical Specifications

Our main empirical specification is comprised of an intent-to-treat (ITT) analysis using our endline analytic sample as follows:

$$Y_{1,ia} = \alpha_1 + \beta_S \cdot Tailored_{ia} + \mathbf{X}_{ia}\mathbf{\Gamma_1} + \delta_a + \varepsilon_{1,ia} \tag{1}$$

$$Y_{2,ia} = \alpha_2 + \beta_H \cdot Husb_{ia} + \mathbf{X}_{ia}\mathbf{\Gamma_2} + \delta_a + \varepsilon_{2,ia} \tag{2}$$

where $Y_{ia}$ is the outcome variable of interest for woman $i$ living in area $a$; $Tailored_{ia}$ is an indicator of assignment to the tailored counseling intervention arm; $Husb_{ia}$ is an indicator of

assignment to the partner invitation intervention arm; and $\mathbf{X}_{ia}$ is a vector of individual-level control variables that are measured at baseline and that were used to stratify-randomize women into treatment arms, namely age, baseline contraceptive use, and a woman's most preferred method attribute. Table A.1 describes these variables in detail. Our adjusted analyses also include area fixed effects, $\delta_a$, and we present heteroskedastic-robust standard errors in all specifications.

# 6 Results

## 6.1 Descriptive Statistics

### 6.1.1 *Sample Balance*

Table 1 presents a balance table across the four intervention arms by baseline covariates. The first panel in the table compares the sample of women who were randomized to either the partner invitation (T1 or T3) or no partner invitation (T0 or T2) treatment arms, and the second panel compares the sample of women who were randomized to either the tailored counseling (T2 or T3) or standard counseling (T0 or T1) treatment arms. We find evidence of balance in a range of baseline covariates across each of the respective treatment arms.

**Table 1 About Here.**

### 6.1.2 *Sample Description*

Out of 782 women who were interviewed at baseline, a total of 679 respondents (87 percent) reported that they were using a contraceptive method. The distribution of contraceptive methods among all women (the contraceptive method mix) is presented in the first column of Table A.2. Around 45 percent of women (or 51.4 percent of current users) reported using injectables, which is consistent with national estimates showing injectables as the most popular contraceptive method in Malawi (National Statistical Office (NSO) and ICF Macro, 2017). Implants are the second most commonly used contraceptive method among

current users (30 percent of all women, or 34.6 percent of current users), followed by oral contraceptive pills (7 percent of all women, or 8.2 percent of current users).

A total of 413 women (53 percent) cited method effectiveness as the most important attribute to consider when choosing a contraceptive method, while 13 percent of women reported the prevalence of side effects in a method to be their most valued attribute, and 11 percent of women identified method duration to be the most important attribute. Table A.3 presents the distribution of women's most valued attribute for contraceptive methods as well as the corresponding tailored flipchart that was used to counsel women who were assigned to the tailored counseling group. Among the 777 women who responded, around 59 percent of women placed all twenty counters on their top attribute (Figure A.2), suggesting that the first attribute that they mentioned was the primary (if not the only) determining factor when choosing a contraceptive method.

### 6.1.3 *Women's Counseling Experience*

A list of customized flipcharts that were used in the tailored counseling process, along with their corresponding attributes, is presented in Figure A.4 and A.5. The blue flipchart, which presents the subset of methods that are classified to be the most effective in preventing pregnancy, was the most commonly used flipchart to counsel women who were assigned to the tailored counseling sessions (Table A.3). Notably, the average counseling time in the tailored counseling session was 1.3 minutes shorter compared to the time taken for standard counseling, suggesting that relatively more time was spent discussing each particular method during a tailored counseling session. Details on counseling times for each treatment arm is presented in Section D.

Among the 638 women who received both a counseling session and who were successfully followed up, 67 women visited the Good Health Kauma Clinic during the intervention period to receive family planning services. For the remaining 571 women who did not visit the clinic, they were interviewed through either a phone-based or a home-based survey at least 31 days

after the counseling session. To this end, we are able to guarantee that each woman was given at least one month to visit the clinic and receive family planning services before they were contacted at follow-up.

### 6.1.4 *Partner Engagement*

Among 701 women who were reached for counseling and who consented to continue with the study, 401 women were randomized to the invitation arm where they were prompted with the choice to invite their partner to counseling. Among these women, 113 women reported that they wanted to invite their partners to the session, and 112 women actually attended counseling with their partners. Among the 288 women who did not invite their partners to counseling, 245 women (85 percent) reported that their partners were unavailable and would therefore not be able to participate in a counseling session, while 3 percent of women reported that they did not want to invite their partners or be jointly counseled[22].

Prior to starting the counseling session, the counselor conducted a private interview with the male partner to document his fertility preferences and experiences with family planning. The counselor elicited the partner's most valued attribute(s) when choosing a contraceptive method[23] and his most preferred contraceptive method (for either himself or for his wife)[24]. Columns (3) and (4) of Table A.2 present the distribution of women and their male partners' stated ideal contraceptive method, respectively. From Column (4), 49

[22]Women could (and did) provide multiple reasons as to why their partners were not invited to counseling. Given our inability to follow up with partners who were not present at counseling, we are unable to confirm whether partners who were not invited were actually unavailable, or whether there may be other reasons why men were not invited.

[23]The question that was asked to elicit male partner's most valued attribute in choosing a contraceptive method was the same question that was asked of women: "In choosing a contraceptive method, what feature(s) would be most important to you?" To ensure that the tailored counseling session was woman-centered, the methods that were presented to women or the couple during the session were selected exclusively based on women's reported top-ranked attribute.

[24]The question that was asked to elicit the male partner's most preferred contraceptive method was, again, the same question that was asked of women: "If you could choose any contraceptive method that you want (either for yourself or for your wife), which method would you want or would you want your wife to use?"

percent of partners chose implants as their stated ideal contraceptive method, followed by injectables (35 percent). Figure A.6 presents the distribution of the male partner's most preferred attribute. In a similar fashion to their wives (as is shown in Table A.3), 45.5 percent of interviewed partners chose effectiveness at preventing pregnancy as their most important method attribute, followed by "no risk of harming health" (28.6 percent) and method duration (16.1 percent).

## 6.2 Intent-to-Treat Results

In the experimental results that follow, we present four main types of findings. First, we explore the extent to which a tailored counseling compels women to: a) switch their stated ideal method, and b) follow through on their choice of ideal method. Second, we investigate the extent to which partner invitations induce women to: a) invite their partners, b) switch their stated ideal method (possibly in response to their partner's potential presence), and c) follow through on their choice of ideal method. Third, we conduct subgroup analyses to identify heterogeneity in intervention impact and explore potential mechanisms underlying the observed treatment effects. In the Appendix, we discuss potential interaction effects of the two interventions.

### 6.2.1 *Tailored Counseling*

Table 2 presents the intent-to-treat (ITT) results of the impact of tailored counseling relative to the standard counseling practice on outcomes for the full analytic sample. Column (3) of Panel A shows that women who were assigned to tailored counseling were 3.8 p.p. (control mean: 0.42) more likely to change their stated ideal method between counseling and follow-up compared to women who were assigned to the standard counseling group. While these estimates are not significant at conventional levels, the signs of the effects are consistently positive throughout the analysis. Furthermore, women who received tailored counseling were no more likely to change their method use from counseling to follow-up (Table 2, Panel B).

When examining discordance, we observe that women who received tailored counseling

were 7.5 p.p. (control mean: 0.43) more likely to be discordant between their reported ideal method following counseling and their observed method use at follow-up (Column (3) of Table 2, Panel C). Furthermore, women who received tailored counseling were 9.0 p.p. (control mean: 0.52) more likely not to report their method use at follow-up as ideal (Column (3) of Table 2, Panel D). Taken together, these findings suggest that women who received tailored counseling were more likely to exhibit discordance between their stated ideal contraceptive method and contraceptive use at follow-up. Moreover, since women were not altering their method use over time, tailored counseling may also have acted as a reminder of women's inability to act on their latent method preferences and, as a result, may have exacerbated their level of discordance with their current method (non-)use.

**Table 2 About Here.**

### 6.2.2 *Partner Invitations*

We next explore how the partner invitation intervention[25] affects women's stated preferences for contraceptive methods and their realization of these preferences over time.

Column (3) of Panel A of Table 3 shows that women who were assigned to the partner invitation group were 7.1 p.p. (control mean: 0.49) less likely to change their stated ideal contraceptive method from counseling to follow-up. These findings contrast with the results from our tailored counseling intervention. Women who were assigned to the partner invitation arm were also 3.5 p.p. (control mean: 0.16), but not significantly, more likely to switch their method use between counseling and follow-up (Column (3) of Table 3, Panel B)[26].

[25]We also conduct an instrumental variable (IV) analysis of the main effects of the partner invitation intervention on outcomes as in Table 3, where we leverage the random assignment to the partner invitation intervention as an instrument for the partner's presence at counseling. While the findings from the IV analysis are concordant with the main results, the IV results may hard to interpret, and some assumptions for this analysis might be questionable (e.g. the exclusion restriction). For these reasons, we mainly focus on the ITT results in the main text and present the IV results in the Appendix. Additional details of the IV analysis are presented in Section L in the Appendix.

[26]We also conduct an instrumental variable (IV) analysis of the main effects of the partner

Column (3) of Panel C of Table 3 shows that, in contrast to tailored counseling, women who were assigned to the partner invitation group were 8.4 p.p. (control mean: 0.53) less likely to be discordant between their stated ideal method immediately following counseling and their actual method use at follow-up. These findings suggest that inviting partners to counseling may have served as an effective incentive for women to realize their stated method preferences following the counseling session or as an incentive for them to consistently state their method use, which may be known to their partner, as ideal. While women who were assigned to the partner invitation group were more likely to report a reduction in discordance between their post-counseling stated ideal method and follow-up method use, we find these women's level of discordance at follow-up to be no different from that experienced by women who were not encouraged to invite their partner (Column (3) of Panel D of Table 3). This finding implies that although women were more likely to achieve concordance in the potential presence of their partner, the choice of the stated method may have been induced by their partner's potential presence and may no longer be reflective of a woman's own contraceptive preference. We test this conjecture in Section 6.3.2 by stratifying women into two groups based on their partner's satisfaction with their method use at baseline.

Taken together, our ITT results highlight a key trade-off that women may face when seeking family planning. Women who have a preference for using contraception may consider inviting their partners to counseling if they believe that their partners are supportive of their contraceptive use and would provide them with the means to seek services. However, in recognizing that their partners may also have their own contraceptive preferences, women may be compelled to adjust their preferences, and particularly their stated preferences, for contraception to be more concordant with their partner's preferences. As a result, under the circumstance that a woman and her male partner have different contraceptive preferences,

invitation intervention on the same outcomes, where we use the random assignment to partner invitation groups as an instrument for the partner's presence at counseling. The stronger and positive two-stage least squares (2SLS) estimates in Panel B of Table A.4 suggest that partner invitations may have compelled women to switch to another method over the study period.

women would be more likely to change their stated preferences to be aligned with their partner's stated preferences. Given that the option to invite male partners does not induce women to act on their own individual contraceptive preferences, these women were more discordant between their stated ideal preferences and method use due to the lack of partner support. Section I in the Appendix provides more evidence for this channel by examining the impact of the partner invitation intervention by method type.

**Table 3 About Here.**

## 6.3 Subgroup Analysis

In this section, we present several subgroup analyses to identify underlying variation in the impacts of the tailored counseling intervention and the partner invitation intervention. We run stratified analyses based on women's prior contraceptive use and male partner satisfaction with women's contraceptive use. We also present stratified analyses by women's contraceptive method type in the Appendix.

### 6.3.1 *Women's Prior Contraceptive Use*

*Tailored Counseling*

To understand the means through which the tailored counseling intervention may have affected outcomes, we stratify the sample of women by non-users (Table 4) and current users (Table 5) of contraception, respectively.

Among non-users of contraception before counseling, tailored counseling does not induce women to change their stated ideal preference for non-use over time (Table 4). In contrast, women who were assigned to tailored counseling were 12.8 p.p. (control mean: 0.48) less likely, though not significantly, to adopt a contraceptive method from counseling to follow-up. The fact that non-users of contraception who received a tailored counseling session were marginally less discordant at counseling and were no more discordant at follow-up between their non-use and stated ideal method suggests that the tailored counseling intervention may

have served to reinforce these women's underlying preference for, and subsequently realized, non-use of contraception.[27]

**Table 4 About Here.**

Among current users of contraception, the tailored counseling intervention significantly increases women's likelihood to change their stated ideal method over the counseling session (from pre-counseling to post-counseling), but this change in women's stated preferred method does not translate to a change in their actual method use (Panel A of Table 5). Specifically, we observe no impact of tailored counseling on switching or discontinuation behaviors among women who were already users of contraception at the time of counseling. As a result, these women were more likely to be discordant between their stated ideal method and method use following counseling (Panel B of Table 5). These findings provide suggestive evidence that tailored counseling may have provided current contraceptive users with salient information that induced them to reflect on each method relative to their current method preferences and use, which in turn contributed to a change in their stated ideal method, but not a change in their method use, over time.

**Table 5 About Here.**

In Appendix K, we show that tailored, attribute-based counseling is most effective in inducing a woman to change her stated ideal method when her stated ideal method is concordant with her top method attribute and is therefore included in her set of counseled methods.[28] This evidence suggests that women's preferences may be reference-dependent

[27] In addition to the user-centered interface, a shorter, tailored counseling session provides more time for targeted communication between counselors and clients, which may more effectively serve to address any information gaps that are identified over the course of the session.

[28] As can be seen in Appendix K, when the attribute-based counseling session included the the woman's pre-counseling stated ideal method (i.e. her top method attribute and stated ideal method are concordant *ex ante*), a woman is more likely to change her stated ideal method over time. In contrast, when a woman's stated ideal method prior to counseling was not included in the attribute-based tailored counseling session (i.e. her top method attribute and stated ideal method are discordant *ex ante*), she was less likely to change her stated ideal method over time.

such that they anchor new information relative to and weigh alternatives against their current preferred method.

In Appendix M, we show that women who had more knowledge about contraceptive methods at baseline were more likely to respond to the tailored counseling session and change their stated ideal method following counseling (Table M.1). On the other hand, women who knew of fewer contraceptive methods at baseline were not as likely to respond to the tailored counseling session (Table M.2), suggesting that issues of salience and anchoring as part of tailored counseling may not be as relevant for their decision-making. For these women who had less prior information, their preferences and subsequent choices may therefore less likely be confounded from a more extensive counseling session.

*Partner Invitations*

Among non-users of contraception, the partner invitation intervention does not have a significant effect on changes to their stated ideal method or changes to their method use over time. However, non-users of contraception who were assigned to the partner invitation intervention were 13.7 p.p. more likely to be discordant at follow-up (control mean: 0.81), which is significant at the 10 percent level (Table A.12).

Among current users, women who were assigned to the partner invitation arm were significantly less likely to change their stated ideal method from pre-counseling to post counseling sessions (7.1 p.p, control mean: 0.24), and even more so between counseling and follow-up (9.0 p.p, control mean: 0.50). In contrast, we do not observe a significant impact of the partner invitation intervention on the switching or discontinuation behaviors of current users of contraception. As is shown in Panel B of Table A.13, women who were assigned to the partner invitation intervention were strongly less likely to be discordant between their stated ideal method and method use at both the counseling stage and follow-up, which may reflect the *ex ante* alignment between their method use and their partner's stated ideal method (Table A.13).

### 6.3.2 *Partner Satisfaction with Women's Method Use*

We examine possible pathways through which partner invitations may have contributed to women's contraceptive decision-making following counseling. We first stratify women into two groups by their partner's level of satisfaction with their contraceptive (non-)use at baseline. Among women whose partners were satisfied with their method (non-)use, the offer to invite their partners to counseling significantly reduced these women's likelihood of changing their stated ideal contraceptive method following counseling. However, these women were no more likely to change their contraceptive method over time and were less likely to be discordant between their stated preferred methods and actual method use (Panel B of Table 6). This higher concordance is most likely derived from the *ex ante* alignment of women's preferences with their partners' preferences, rather than from changes to women's contraceptive behavior. From Panel B of Table 6, we clearly observe higher levels of concordance between these women's stated ideal methods and method use following counseling. Moreover, the method used by these women during counseling was more likely to remain as their stated ideal choice of method at follow-up, underscoring a consistent degree of alignment between their stated preferences and behavior over time.

**Table 6 About Here.**

For women whose partners were not satisfied with their contraceptive method (non-)use at baseline, the partner invitation intervention induced these women to change their stated ideal method to a greater extent across the intervention and follow-up period. However, the offer of partner invitations does not induce these women to change their use of contraceptive methods, resulting in higher contraceptive discordance at follow up (Table 7). This is in salient contrast to those women whose method use was aligned with their partner's preferences and, as a result, were more likely to be concordant. Specifically, we observe that these women were already exhibiting significant discordance between their method use and their stated ideal method at the time of counseling, which may reflect the lack of partner support

over their method use *ex ante* (Panel B of Table 7).

Taken together, the findings from Tables 6 and 7 provide suggestive evidence that women's satisfaction with their actual method use hinges upon their partner's satisfaction with their choice of method; any misalignment in preferences and use may induce women to change their stated preferences for methods, rather than their actual method use, to be better aligned with their partner's preferences but at the cost of being more discordant with their own preferences.

**Table 7 About Here.**

# 7 Conclusions

By means of a randomized controlled trial, we explore how user-centered approaches to contraceptive counseling shape women's preferences and affect subsequent decision-making around family planning. We implement two interventions, a shorter, tailored counseling session and a partner invitation intervention, to women in urban Malawi. Women who were assigned to tailored counseling are less likely to be using their stated ideal method following counseling and are significantly more likely to be discordant between their stated method preferences and actual contraceptive behavior. In contrast, women who are prompted with the choice to invite their partners to counseling are less likely to change their stated ideal contraceptive method over time and are more likely to use their stated ideal method reported at the end of the counseling session. These women, however, are no more likely to report their method use at follow-up as their ideal contraceptive method of choice.

Admittedly, limitations exist with our current study. While we have independently tested the effects of two user-centered counseling approaches on women's decision-making process and realization of preferences, the current sample size is too small to allow for a rigorous assessment of interaction effects; we present exploratory results from a joint analysis in Section J in the Appendix. The limitations to our inference are exacerbated by our resource constraints, which allowed us to provide women and couples with only one month's

worth of complete transport coverage and services at the clinic. Based on our prior work in Malawi, one month may be too short of a service period to allow women and couples to seek more complete care and fully actualize their stated preferences, particularly for women who recently received an injectable and would need to wait longer before they could switch methods. On the other hand, a shorter service period may encourage women to seek care sooner, particularly if shorter deadlines reduce procrastination behaviors, although evidence on the impact of deadlines on contraceptive uptake is mixed (McConnell et al., 2018). Future iterations of this intervention would be well served by expanding both the service period and follow-up to at least a year, which would allow for the examination of longer-term outcomes related to contraceptive adoption, switching, and discontinuation, pregnancy and fertility, concordance, and reproductive well-being.

Finally, while the way in which women realize their preferences in response to receiving a certain type of service is observable, it is not as straightforward to identify women's individual preferences, particularly in the presence of their husbands or other household members who can influence both their reported and realized choices. Even though our study provides the dynamic assessment of both stated preferences and subsequent behavior, the fact that there is no standardized approach to eliciting contraceptive and fertility preferences gives us no clear point of reference against which we can benchmark our findings. To this end, additional research is warranted to better understand women's own preferences that are expressed without their partner's participation.

In assessing the generalizability of our study findings, similar family planning interventions in other settings documented lower baseline measures of contraceptive access and use prior to the introduction of those programs. This suggests that we may observe different effects on outcomes (particularly on method adoption and contraceptive concordance) if our user-centered interventions were rolled out in settings where baseline use and access to services is not as high. When already considering the relatively short duration of our program period, we argue that our analysis provides an estimate for a lower bound of the true

underlying effects of our interventions on outcomes.

Our study design and research findings offer a number of insights that are directly relevant for programs, policy, and practice. Since the 1994 ICPD Conference in Cairo, demands for a shift towards a rights-based approach to reproductive health have emphasized that all people should have access to safe, effective, affordable, and acceptable methods of contraception of their choice (Blanc and Tsui, 2005; Cates and Maggwa, 2014; Starrs et al., 2018). These calls for action have also emphasized that while family planning programs should be situated within the broader global development agenda, they need to be implemented within a person-centered, rights-based approach in which individuals are able to make autonomous decisions about their own sexual and reproductive lives.

Our study takes a step forward to operationalizing person-centered approaches with a suite of low-cost, implementable, and scalable interventions that aim to redistribute decision-making and promote agency among women. Our attribute-based counseling offers new insights into how the orientation of information around method features that the woman prefers might improve salience and quality, which in turn allows women to more effectively reflect on their preferences. Relatedly, our partner invitation intervention sheds light on how giving women the choice whether or not to invite their partners to counseling may induce them to take their partners' preferences into account. Taken together, the lessons learned from this study are suited to inform the implementation of user-centered family planning and reproductive health programs that promote women's autonomy and agency.

With this said, the programmatic implications from our study may not be as straightforward. While both user-centered approaches seek to prioritize women's preferences and enable them to more effectively make informed contraceptive choices, neither approach seems to offer strictly preferred outcomes for women. On the one hand, improved salience through shorter, tailored counseling may allow women to more effectively identify their contraceptive preferences over a shorter set of methods that reflect their most preferred attribute. The counseling intervention also encourages key subgroups of women (e.g. current contraceptive

users) to change their stated contraceptive preferences over time. This finding, combined with the relatively higher amount of counseling time spent on each method in the tailored session, implies that women who received tailored counseling may have received more salient information that allowed them to reflect on the methods being discussed and change their minds. However, these preferences may not be fully realized in the short run, suggesting that women who change their preferences may face other demand-side barriers to behavior change that were not fully addressed through our intervention design.[29] Complementary interventions would therefore need be tested and implemented to allow women to overcome other potential individual and intra-household constraints that cannot be mitigated through tailored counseling alone.

Relatedly, future iterations that incorporate tailored counseling would do well to more flexibly test key dimensions of our approach to see which components may be improved, particularly for those women who may be less informed about contraception or who may be more uncertain about their preferences *ex ante*. Varying the number of methods presented, expanding the number of attributes against which methods are presented beyond the top attribute, revisiting the measurement of method and attribute preferences, and validating the mapping between elicited method attributes and counseled methods may all be potential ways to improve the user-centered counseling experience.

In contrast, joint counseling with partners provides women with the means to change their contraceptive behavior, but may also crowd out women's own preferences for contraception. By giving her the choice to invite her partner to participate in counseling, a woman's stated preferences may internalize her partner's preferences, and possibly at the expense of her individual preferences. This might lead to either an increase in discordance between her

[29]Since all women receive full and free access to family planning for the entire service period, we hypothesize that remaining barriers that women face are likely to be more demand-based. Examples of potential remaining barriers may include other intra-household constraints that might be imposed by women's partners or other actors, procrastination or other delays to seeking care, risk aversion, and uncertainty, among others. It may also be that women's stated method preferences may not, in fact, reflect their latent demand for contraception.

stated ideal method at counseling and her own latent personal preferences for a method (if her contraceptive preferences are indeed discordant from her partner's) or it may even improve concordance and well-being if a woman had the same preferences as her partner. Involving partners may, in principle, have both positive and negative effects, and women may be better placed to screen which partners should be targeted to mitigate any adverse outcomes. Through our intervention, women are provided with an opportunity to determine:

1. whether they believe that their partners' preferences are concordant with their own;
2. whether or not their partners would be supportive of their preferences and would approve of their choices; and
3. whether their partners are able to attend counseling even if they were invited.

The male partners that eventually attend may, in turn, have preferences that are more aligned with those women who chose to invite them. To this end, our intervention reflects a more user-centered approach in which women are provided with more individual autonomy over their receipt of family planning counseling and are less reliant (if at all) on their partners for seeking care.

Our study highlights the complex interplay between women and their partners, who may often play a significant role. Moreover, our intervention design and findings directly call attention to a fundamental tension that family planning programs and the reproductive health field continue to face and debate. Specifically, the choice of program design may shift agency and decision-making capacity between women and their partners such that trade-offs may have to be made if preferences cannot be aligned. On the one hand, programs that prioritize women's preferences through user-centered decision-making may better reinforce women's reproductive autonomy, but possibly at the expense of their partners' preferences and participation. In contrast, the involvement of male partners in family planning may facilitate joint decision-making but may put women in a position where they may be compelled to compromise. By following current practices, our intervention directly enables women with

the choice to invite or not, but potentially at the expense of their partners' inclusion. In the absence of more clear-cut evidence, our findings call for a deeper investigation into the trade-offs that women face between 1) making autonomous decisions that better reflect their individual preferences and reproductive agency, and 2) incorporating their partner's preferences to make "jointly / socially better-off," but perhaps not necessarily "individually better off", decisions. Evidence from such efforts would greatly inform the development of women-centered family planning programs as well as the broader discourse on how such programs contribute to individual and social well-being more generally.

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# 8 Tables

Table 1: Summary Statistics

| | All | Yes | No | Difference |
|---|---|---|---|---|
| **A. Partner Invitation Group** | | | | |
| Age (years) | 26.27 | 26.33 | 26.18 | -0.16 |
| Total no. of children at baseline (BL) | 2.03 | 2.09 | 1.95 | -0.13 |
| Desired no. of children at BL | 3.49 | 3.46 | 3.53 | 0.07 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.64 | 0.65 | 0.63 | -0.02 |
| Education: Secondary | 0.33 | 0.32 | 0.34 | 0.02 |
| Education: Higher | 0.02 | 0.02 | 0.01 | -0.00 |
| Currently working (1 = yes) | 0.57 | 0.57 | 0.58 | 0.01 |
| Age at first cohabitation (years) | 18.04 | 18.01 | 18.08 | 0.07 |
| Current use of FP (1 = yes) | 0.86 | 0.85 | 0.86 | 0.01 |
| Current FP method: Injectables | 0.50 | 0.50 | 0.52 | 0.02 |
| Current FP method: Implants | 0.35 | 0.37 | 0.33 | -0.05 |
| Top attribute: Effectiveness | 0.53 | 0.52 | 0.55 | 0.03 |
| Weight given to top attribute | 16.46 | 16.53 | 16.36 | -0.17 |
| Wants to switch methods (1 = yes) | 0.35 | 0.33 | 0.39 | 0.06 |
| Husband supports FP (1 = yes) | 0.92 | 0.91 | 0.92 | 0.01 |
| Prior knowledge | 4.72 | 4.77 | 4.65 | -0.12 |
| Observations | 675 | 390 | 285 | 675 |
| **B. Tailored Counseling Group** | | | | |
| Age (years) | 26.27 | 26.34 | 26.17 | -0.17 |
| Total no. of children at baseline (BL) | 2.03 | 2.01 | 2.06 | 0.05 |
| Desired no. of children at BL | 3.49 | 3.47 | 3.52 | 0.04 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.64 | 0.65 | 0.63 | -0.02 |
| Education: Secondary | 0.33 | 0.31 | 0.34 | 0.03 |
| Education: Higher | 0.02 | 0.02 | 0.01 | -0.01 |
| Currently working (1 = yes) | 0.57 | 0.58 | 0.57 | -0.01 |
| Age at first cohabitation (years) | 18.04 | 18.06 | 18.01 | -0.04 |
| Current use of FP (1 = yes) | 0.86 | 0.86 | 0.85 | -0.00 |
| Current FP method: Injectables | 0.50 | 0.50 | 0.50 | -0.00 |
| Current FP method: Implants | 0.35 | 0.35 | 0.36 | 0.00 |
| Top attribute: Effectiveness | 0.53 | 0.53 | 0.54 | 0.01 |
| Weight given to top attribute | 16.46 | 16.49 | 16.42 | -0.06 |
| Wants to switch methods (1 = yes) | 0.35 | 0.37 | 0.33 | -0.05 |
| Husband supports FP (1 = yes) | 0.92 | 0.92 | 0.91 | -0.01 |
| Prior knowledge | 4.72 | 4.69 | 4.75 | 0.06 |
| Observations | 675 | 387 | 288 | 675 |

Notes: Currently working refers to women's work status at the baseline. First cohabitation age is the age at which a woman started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 possible counters) that the woman assigned to her top method attribute. Intention to switch methods is captured by the woman's answer to the question: Husband supports FP is defined on a Likert scale from the question: This variable takes 1 if a woman's husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. Prior knowledge refers to prior knowledge about contraception, namely, the number of contraceptive methods the respondent heard about at baseline. *** 1%, ** 5%, * 10%.

Table 2: Treatment Effect of Tailored Counseling

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Tailored Counseling | 0.043 | 0.043 | 0.038 |
| | [0.040] | [0.040] | [0.040] |
| N | 635 | 635 | 635 |
| Control mean | 0.42 | 0.42 | 0.42 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Tailored Counseling | -0.003 | -0.004 | -0.003 |
| | [0.031] | [0.030] | [0.030] |
| N | 638 | 638 | 638 |
| Control mean | 0.18 | 0.18 | 0.18 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Tailored Counseling | 0.087** | 0.083** | 0.075** |
| | [0.040] | [0.039] | [0.039] |
| N | 638 | 638 | 638 |
| Control mean | 0.43 | 0.43 | 0.43 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Tailored Counseling | 0.101*** | 0.098*** | 0.090** |
| | [0.040] | [0.039] | [0.039] |
| N | 635 | 635 | 635 |
| Control mean | 0.52 | 0.52 | 0.52 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table 3: Treatment Effect of the Partner Invitation

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Partner Invitation | -0.073** | -0.073** | -0.071** |
| | [0.040] | [0.040] | [0.040] |
| N | 635 | 635 | 635 |
| Control mean | 0.49 | 0.49 | 0.49 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Partner Invitation | 0.040* | 0.037 | 0.035 |
| | [0.030] | [0.030] | [0.030] |
| N | 638 | 638 | 638 |
| Control mean | 0.16 | 0.16 | 0.16 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Partner Invitation | -0.086** | -0.093*** | -0.084** |
| | [0.040] | [0.039] | [0.039] |
| N | 638 | 638 | 638 |
| Control mean | 0.53 | 0.53 | 0.53 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Partner Invitation | -0.041 | -0.046 | -0.041 |
| | [0.040] | [0.039] | [0.039] |
| N | 635 | 635 | 635 |
| Control mean | 0.60 | 0.60 | 0.60 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table 4: Treatment Effect of Tailored Counseling, Among Non-Users

| | | | |
|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) |
| Tailored Counseling | -0.015 | 0.130 | -0.128 |
| | [0.124] | [0.140] | [0.124] |
| N | 63 | 63 | 63 |
| Control mean | 0.39 | 0.48 | 0.48 |

| | | | | |
|---|---|---|---|---|
| **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Tailored Counseling | 0.129 | -0.015 | -0.073* | -0.044 |
| | [0.130] | [0.106] | [0.050] | [0.034] |
| N | 63 | 63 | 63 | 63 |
| Control mean | 0.70 | 0.87 | 0.96 | 1.00 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table 5: Treatment Effect of Tailored Counseling, Among Current Users

| | | | | |
|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.064** | 0.033 | -0.011 | 0.009 |
| | [0.033] | [0.042] | [0.026] | [0.018] |
| N | 575 | 572 | 575 | 575 |
| Control mean | 0.15 | 0.42 | 0.11 | 0.04 |
| **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Tailored Counseling | 0.065* | 0.094** | 0.102*** | 0.081** |
| | [0.041] | [0.042] | [0.041] | [0.042] |
| N | 575 | 572 | 575 | 572 |
| Control mean | 0.40 | 0.48 | 0.36 | 0.49 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table 6: Treatment Effect of the Partner Invitation, Among Women whose Partners are Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation | -0.086** | -0.122*** | 0.001 | 0.018 | 0.007 |
| | [0.037] | [0.047] | [0.012] | [0.026] | [0.020] |
| N | 468 | 466 | 468 | 468 | 468 |
| Control mean | 0.24 | 0.52 | 0.02 | 0.07 | 0.04 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation | -0.086** | -0.075* | -0.141*** | -0.092** | |
| | [0.046] | [0.047] | [0.046] | [0.047] | |
| N | 468 | 466 | 468 | 466 | |
| Control mean | 0.47 | 0.57 | 0.48 | 0.58 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table 7: Treatment Effect of the Partner Invitation, Among Women whose Partners are Not Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation | 0.171* | 0.323*** | 0.041 | 0.078 | 0.047 |
| | [0.108] | [0.125] | [0.062] | [0.094] | [0.053] |
| N | 62 | 61 | 62 | 62 | 62 |
| Control mean | 0.16 | 0.32 | 0.03 | 0.10 | 0.03 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation | -0.014 | 0.245** | 0.152 | 0.257** | |
| | [0.137] | [0.136] | [0.127] | [0.128] | |
| N | 62 | 61 | 62 | 61 | |
| Control mean | 0.61 | 0.55 | 0.61 | 0.58 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

# 9 Figures

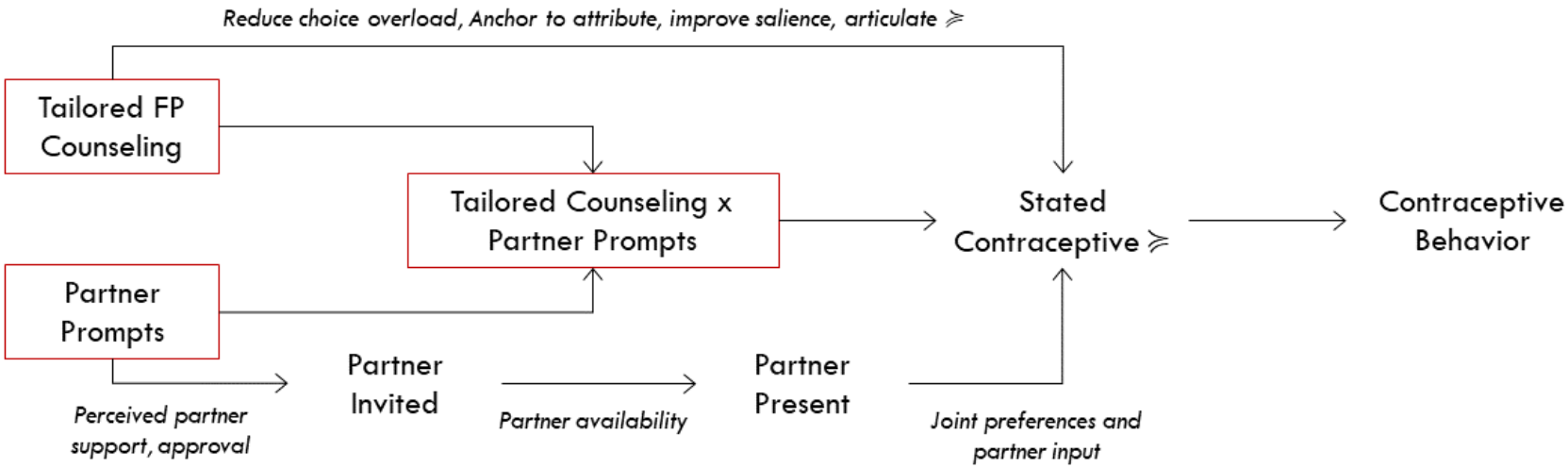


Figure 1: Conceptual Framework

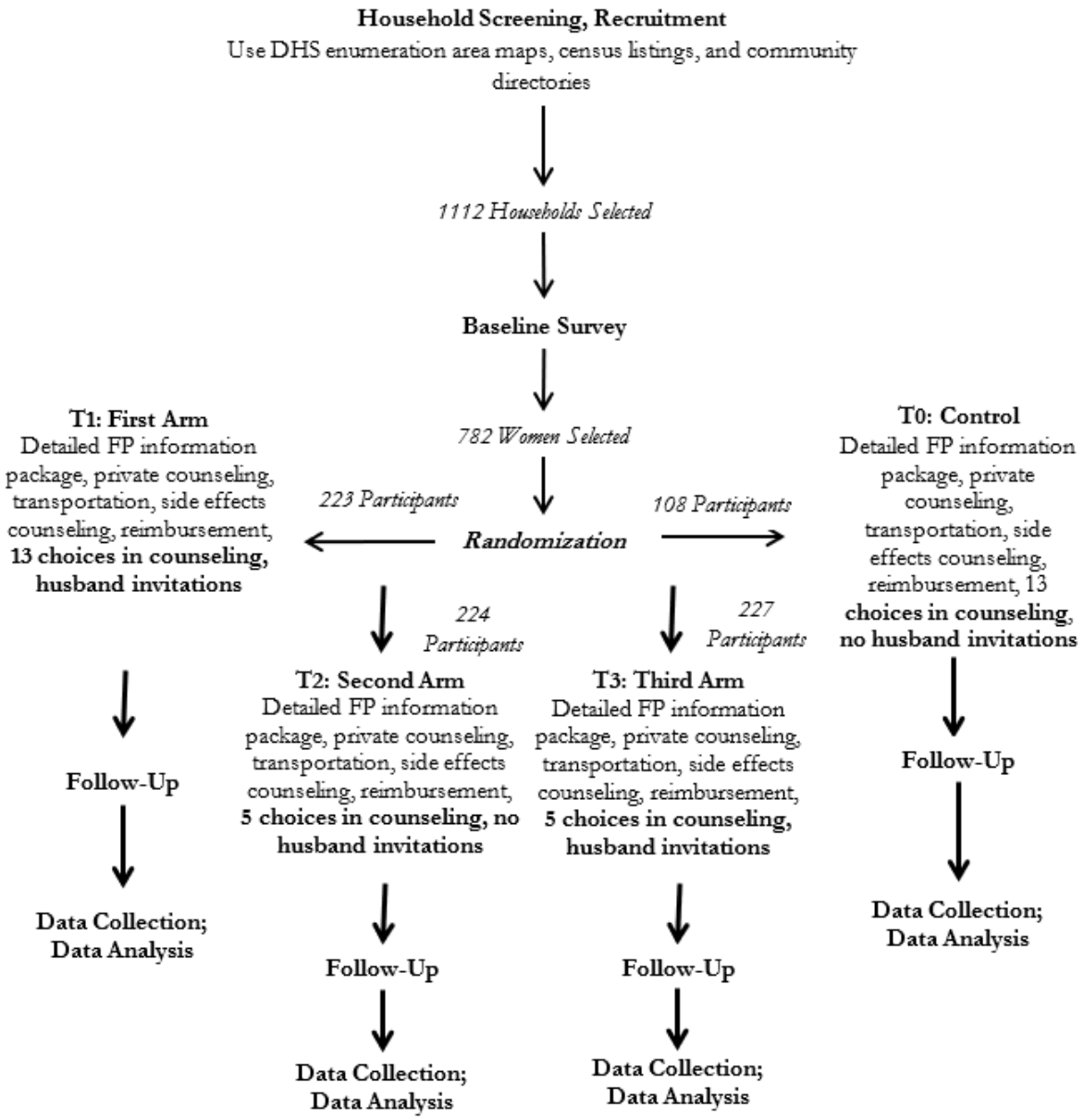


Figure 2: Experimental Design

# A Tables and Figures

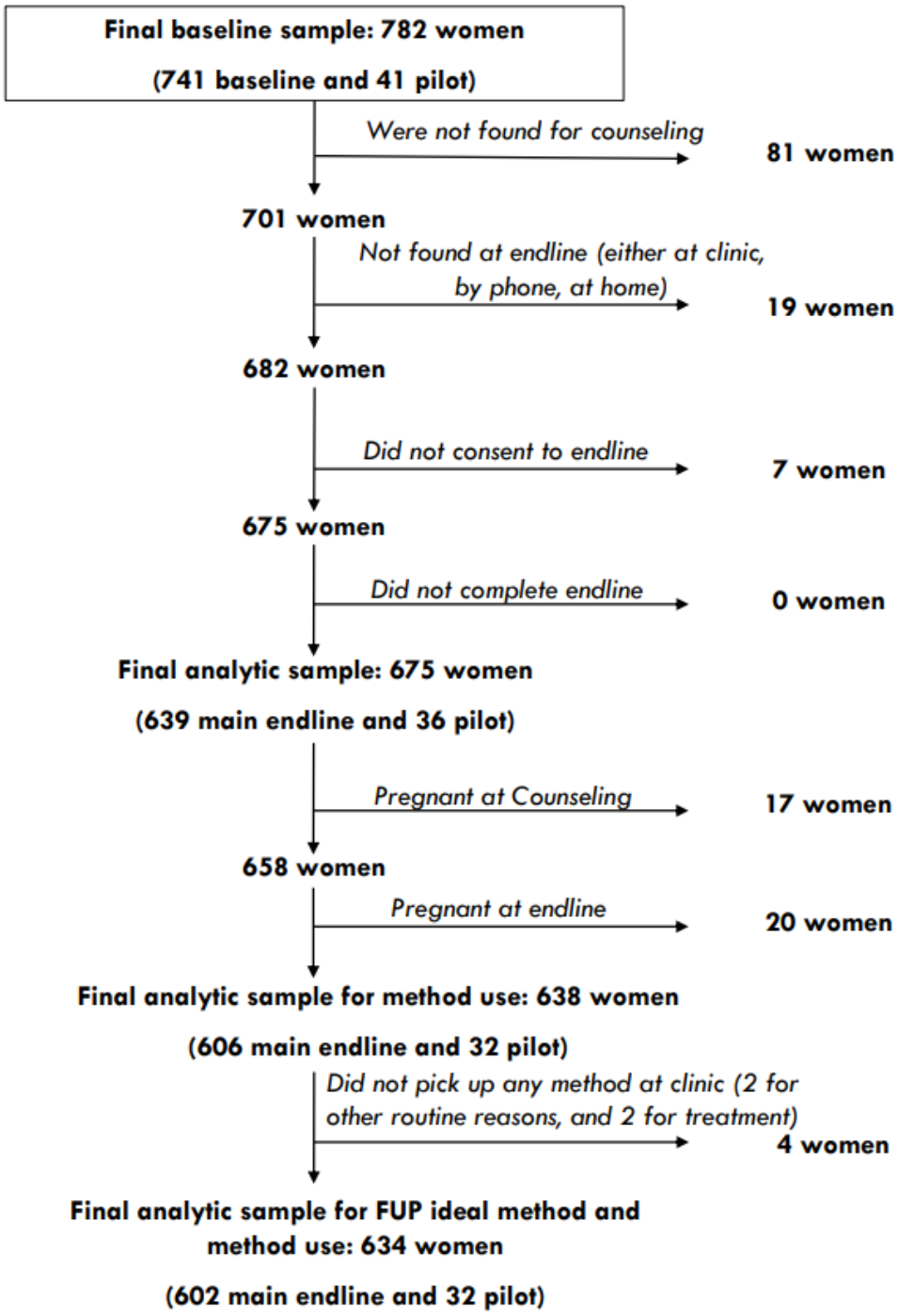


Figure A.1: Participant Flowchart - Analytic Sample

Notes: The average time gap between the baseline survey and receipt of counseling was 73 days, and the average time gap between counseling and follow-up was 61 days. As a result, 17 women who were not pregnant at baseline reported being pregnant when revisited for counseling, and 20 additional women were found to be pregnant at follow-up.

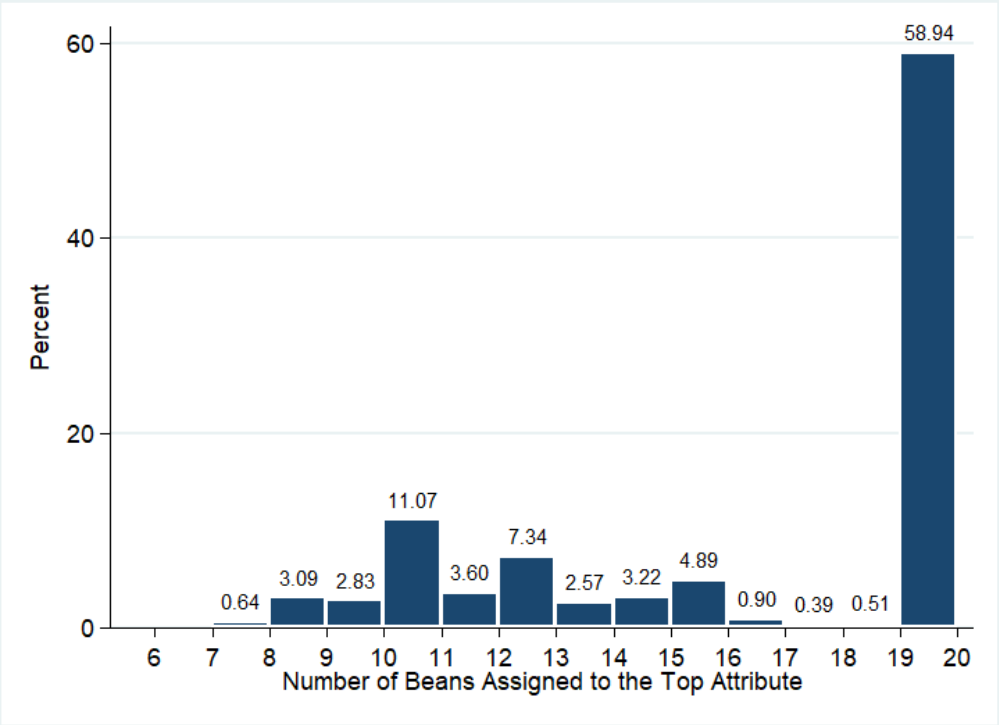


Figure A.2: Number of Counters Assigned to the Top Method Attribute

Notes: This figure presents the distribution of the number of counters that women allocated to their top-ranked method attribute at baseline.

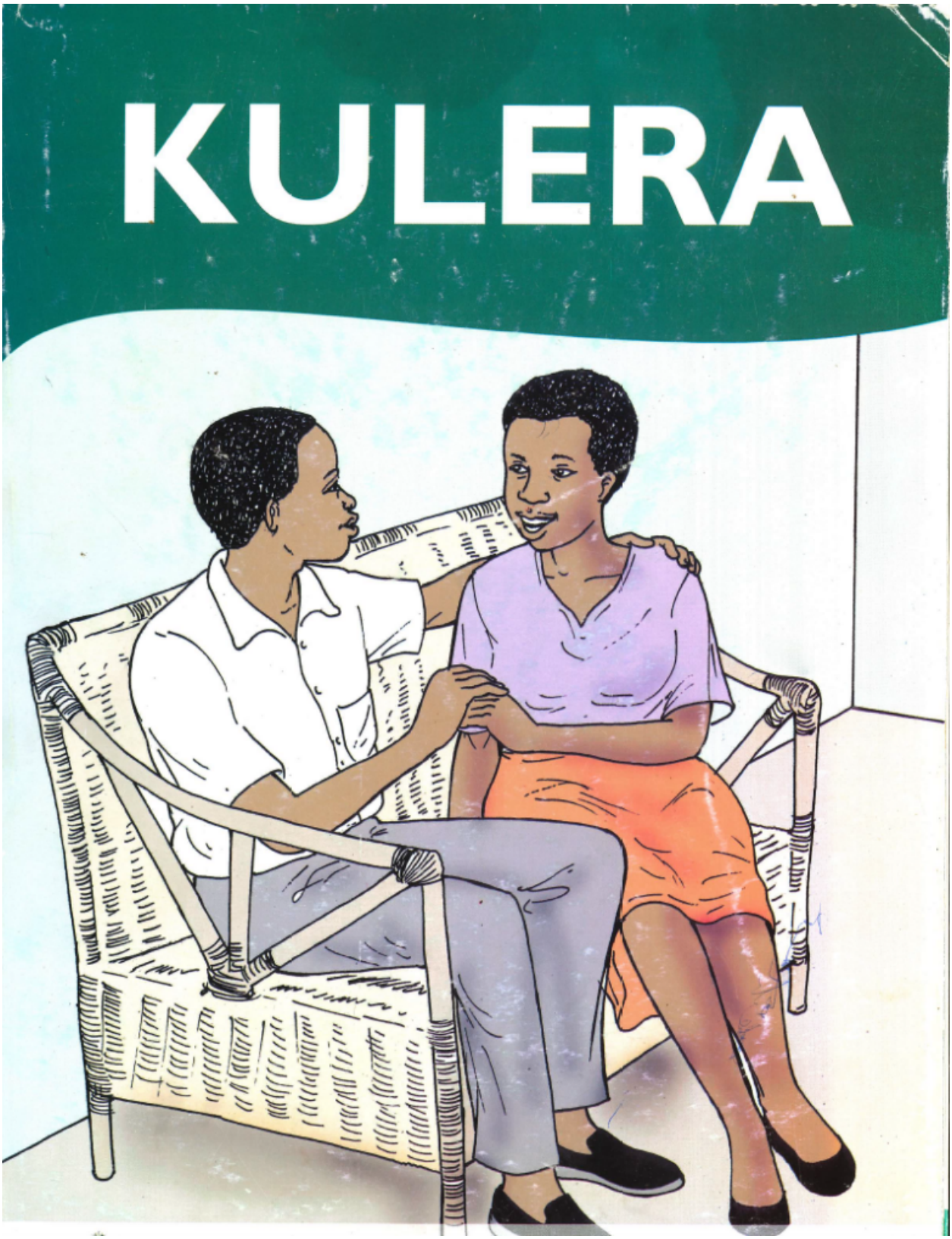


Figure A.3: Family Planning Flipchart

**FLIP CHARTS - ATTRIBUTES AND METHODS**

| FLIP CHART COLOR | METHODS | ATTRIBUTES |
|---|---|---|
| BLUE | 1. Sterilization<br>2. IUD<br>3. Implants<br>4. Injectables<br>5. Pill | Effective at preventing pregnancy<br>Duration of effect/lasts long |
| PURPLE | 1. LAM<br>2. Two-day method<br>3. Rhythm Method<br>4. Standard Days Method<br>5. Condoms | No risk of harming health<br>No effect on monthly bleeding<br>No unpleasant side effects<br>Low-cost<br>No risk of infertility<br>Non-hormonal<br>No need to go to the clinic to obtain |
| PINK | 1. Condoms<br>2. Two-day method<br>3. Rhythm Method<br>4. Standard Days Method<br>5. IUD | Immediate return to fertility |
| YELLOW | condoms | Protects against HIV/STI |
| GRAY | 1. IUD<br>2. Implants<br>3. Sterilization<br>4. Pills<br>5. Injectables | Want to try something new / tired of old method<br>My doctor recommended it to me<br>My husband wanted me to use this method<br>Other women in my family have used this method<br>Friends have used this method<br>Easily available at clinic |
| ORANGE | 1. Sterilization<br>2. IUD<br>3. Implants<br>4. Injectables | No need to remember to use |

Figure A.4: Attribute-Method-Flipchart Mapping - 1

| | | |
|---|---|---|
| **WHITE** | 1. Two-day method<br>2. Rhythm Method<br>3. Standard Days Method<br>4. Sterilization<br>5. IUD<br>6. Implants | No need to go to the clinic to resupply |
| **RED** | 1. LAM<br>2. Two-day method<br>3. Rhythm Method<br>4. Standard Days Method<br>5. Injectables | Concealable |
| **BLACK** | 1. Sterilization<br>2. IUD<br>3. LAM<br>4. Implants<br>5. Injectables<br>6. Pills | Doesn't interfere with sex |
| **GREEN** | 1. IUD<br>2. Implants<br>3. Sterilization<br>4. Pills<br>5. Injectables<br>7. Condoms<br>8. LAM<br>9. Two-day method<br>10. Rhythm<br>11. Standard Days Method | **CONTROL GROUP ONLY** |

Figure A.5: Attribute-Method-Flipchart Mapping - 2

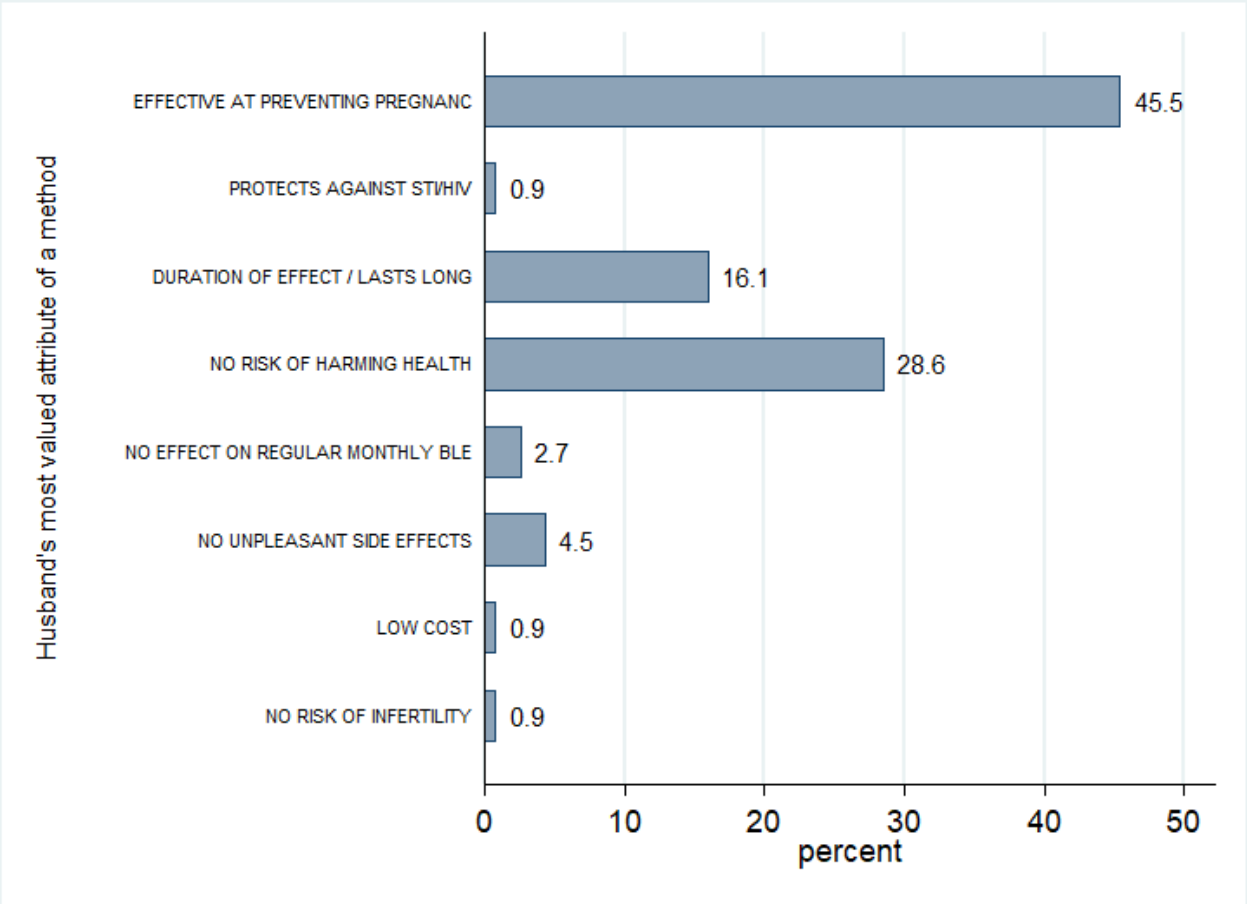


Figure A.6: Partner's Most Valued Attribute for Choosing a Method

Notes: 112 male partners answered this question.

Table A.1: Descriptions of Variables

| Variables | Variable Descriptions |
|---|---|
| **Outcomes** | |
| Change in Stated Ideal Method from Counseling to Follow-up | Binary: woman's ideal method differs from counseling to follow-up |
| Change in Method Use from Counseling to Follow-up | Binary: woman's method use at counseling differs from method use at follow-up |
| Discordance: Post-Counseling Ideal Method and Follow-up Method Use | Binary: woman's ideal method at counseling differs from method use at follow-up |
| Discordance: Stated Ideal Method and Method Use at Follow-up | Binary: woman's method use differs from ideal method at follow-up |
| Post-Counseling Ideal Method | At the end of each counseling session, women were asked: "If you could go to the clinic today, which contraceptive method would you use?" We use women's answers to this question to understand a woman's stated preferred method immediately following counseling |
| Follow-up Method Use | At the follow-up, women were asked, "Are you currently doing something or using any method to delay or avoid getting pregnant?" If they were currently on a method, counselors further probed which method they were currently using from a list of 16 options: Female Sterilization, Male Sterilization, IUD, Injectables, Implants, Pill, Condom, Female Condom, Diaphragm / Foam / Jelly, Two Day Method, Standard Days Method, Lactational Amenorrhea Method, Rhythm Method, Withdrawal, Other Modern Method, and Other Traditional Method. Responses to this question were used to identify women's contraceptive method use at follow-up |
| Concordance: Post-Counseling Ideal Method and Follow-up Use | The dependent variable of concordance is defined as a binary variable taking 1 if a woman's post-counseling ideal method matches her reported method use at follow-up |
| Follow-up Ideal Method | In the phone-based survey and the home-based survey, women were asked, "if you could freely choose a family planning / contraceptive method to use, which method(s) would you like to choose?" We use women's answer to this question as their stated ideal method at the follow-up stage. For women who visited the clinic, women were asked their purpose of their clinic visits: starting a method, refilling / renewing a method, switching methods, or treatment of side effects of contraceptive methods. We consider the contraceptive method women started, renewed, or switched to as their stated ideal method at the clinic visit session. For the two women who came to the clinic only for counseling, we do not assign a stated ideal method |
| Concordance b/w Stated Ideal Method and Method Use at Follow-up | For all method types, we examine the concordance between women's stated ideal method and method use at the follow-up session. This dependent variable takes on a value of 1 if their stated ideal method concords with their method use at the follow-up session; and 0 otherwise |
| **Covariates** | |
| Age | Age of woman, in years |
| Total no. of children at baseline (BL) | The woman's total number of children |
| Desired no. of children | The woman's desired number of children |
| Education: None | Binary: the highest educational attainment is none (1 = yes) |
| Education: Primary | Binary: the highest educational attainment is primary (1 = yes) |
| Education: Secondary | Binary: the highest education attainment is secondary (1 = yes) |
| Education: Higher | Binary: the highest educational attainment is higher (1 = yes) |
| Currently working | Binary: currently working, worked in last 7 days, or worked in the 12 months (1 = yes) |
| Age at first cohabitation | Age of woman when she first cohabited with her (first) husband, in years |
| Current use of FP | Binary: the woman was on a contraceptive method at BL (1=yes) |
| Current FP method: Injectables | Binary: the woman was using injectables at BL (1=yes) |
| Current FP method: Implants | Binary: the woman was using implants at BL (1=yes) |
| Top attribute: Effectiveness | Binary: woman's most valued method attribute is effectiveness at BL (1 = yes) |
| Weight given to top attribute: | Number of beans (out of 20) given to top attribute mentioned |
| Wants to switch methods | Binary: whether the woman intends to switch to another method at BL (1 = yes) |
| Husband supports FP | Binary: partner is strongly supportive or supportive of FP use at BL (1 = yes) |

Table A.2: Distribution of Method Use and Stated Ideal Contraceptive Method at Baseline

| | Among all women | | Among women whose male partner participated in the counseling session | |
|---|---|---|---|---|
| | (1) Current Method | (2) Woman Ideal | (3) Woman Ideal | (4) Husband Ideal |
| None | 0.13 | 0.02 | 0.02 | 0.03 |
| Female Sterilization | | 0.12 | 0.10 | 0.02 |
| Male Sterilization | | | | 0.01 |
| IUD | 0.01 | 0.03 | 0.03 | 0.02 |
| Injectables | 0.45 | 0.31 | 0.28 | 0.35 |
| Implants | 0.30 | 0.43 | 0.49 | 0.46 |
| Pill | 0.07 | 0.05 | 0.05 | 0.03 |
| Condom | 0.02 | 0.01 | 0.01 | 0.04 |
| Standard Days Method | 0.01 | 0.02 | 0.01 | |
| Rhythm Method | | | | 0.01 |
| Withdrawal | 0.02 | 0.00 | 0.00 | 0.04 |
| Other Modern Method | | 0.00 | 0.00 | 0.01 |
| Other Traditional Method | 0.00 | 0.01 | 0.02 | 0.04 |
| Observations | 777 | 773 | 112 | 112 |

Note: Column (1) shows the current method use at baseline among 777 women (679 current users + 98 non-users). Column (2) displays women's ideal method at baseline among 773 women (679 current users + 88 non-users who will pick up a method in the future + 6 non-users who will not pick up any method in the future). Column (3) presents the distribution of women's reported ideal contraceptive method among the 112 women whose husband participated in the counseling session. Column (4) presents the distribution of male partner's reported ideal contraceptive method among the 112 husbands who were present at the counseling session.

Table A.3: Distribution of Top Attribute Desired in a Contraceptive Method at Baseline

| | (1) | (2) |
|---|---|---|
| Effective at preventing pregnancy | 0.53 | Blue |
| No unpleasant side effects | 0.13 | Purple |
| Duration of effect / lasts long | 0.11 | Blue |
| No risk of harming health | 0.09 | Purple |
| No effect on regular monthly bleeding | 0.06 | Purple |
| No need to remember using the method | 0.03 | Orange |
| Will be able to get pregnant when I want | 0.01 | Pink |
| Can be used for a long time without need to visit clinic or re-supply | 0.01 | White |
| No need to go to a clinic to obtain the method | 0.01 | Purple |
| Protects against STI/HIV | 0.01 | Yellow |
| No risk of infertility | 0.01 | Purple |
| Friends have used this method | 0.00 | Gray |
| Easily available at the clnic | 0.00 | Gray |
| Low cost | 0.00 | Purple |
| My doctor recommended it to me | 0.00 | Gray |
| Should not be hormonal | 0.00 | Purple |
| Does not interrupt sex | 0.00 | Black |
| Other women in my family have used this method | 0.00 | Gray |
| Can be used without anyone else knowing | 0.00 | Red |
| Other | 0.01 | Green |
| Observations | 775 | |

Notes: The distribution presented in Column (1) is based on women's responses to the question: "In choosing a contraceptive method, what feature(s) would be most important to you?". Column (2) presents the colored flipchart that women who were assigned to the tailored counseling session received based on their reported top attribute.

Table A.4: Instrumental Variable (IV-2SLS) Results of Partner Invitation

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Partner Invitation Uptake | -0.251** | -0.252** | -0.243** |
| | [0.140] | [0.140] | [0.139] |
| N | 635 | 635 | 635 |
| Control mean | 0.49 | 0.49 | 0.49 |
| First Stage F | 148.75 | 147.54 | 146.74 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Partner Invitation Uptake | 0.138* | 0.128 | 0.120 |
| | [0.104] | [0.102] | [0.102] |
| N | 638 | 638 | 638 |
| Control mean | 0.16 | 0.16 | 0.16 |
| First Stage F | 150.39 | 149.22 | 148.64 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Partner Invitation Uptake | -0.295** | -0.319*** | -0.288** |
| | [0.138] | [0.136] | [0.134] |
| N | 638 | 638 | 638 |
| Control mean | 0.53 | 0.53 | 0.53 |
| First Stage F | 150.39 | 149.22 | 148.64 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Partner Invitation Uptake | -0.142 | -0.160 | -0.142 |
| | [0.137] | [0.135] | [0.133] |
| N | 635 | 635 | 635 |
| Control mean | 0.60 | 0.60 | 0.60 |
| First Stage F | 148.75 | 147.54 | 146.74 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.5: Instrumental Variable (IV-2SLS) Results of Partner Invitation, Among Non-Users

| | | | |
|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) |
| Partner Invitation Uptake | 0.035 | 0.164 | -0.345 |
| | [0.327] | [0.453] | [0.391] |
| N | 63 | 63 | 63 |
| Control mean | 0.22 | 0.44 | 0.44 |
| **B. Discordance** | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Partner Invitation Uptake | 0.236 | 0.485* | -0.008 | 0.004 |
| | [0.390] | [0.304] | [0.146] | [0.204] |
| N | 63 | 63 | 63 | 63 |
| Control mean | 0.74 | 0.81 | 0.96 | 0.96 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.6: Instrumental Variable (IV-2SLS) Results of Partner Invitation, Among Current Users

| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | |
|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation Uptake | -0.242** | -0.308** | 0.106* | 0.032 |
| | [0.115] | [0.147] | [0.082] | [0.063] |
| N | 575 | 572 | 575 | 575 |
| Control mean | 0.24 | 0.50 | 0.08 | 0.05 |
| **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Partner Invitation Uptake | -0.342*** | -0.190* | -0.466*** | -0.194* |
| | [0.142] | [0.144] | [0.143] | [0.144] |
| N | 575 | 572 | 575 | 572 |
| Control mean | 0.50 | 0.57 | 0.50 | 0.57 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.7: Instrumental Variable (IV-2SLS) Results of Partner Invitation, among Women whose Partners are Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation Uptake | -0.301** | -0.431*** | 0.004 | 0.064 | 0.025 |
| | [0.131] | [0.170] | [0.043] | [0.089] | [0.069] |
| N | 468 | 466 | 468 | 468 | 468 |
| Control mean | 0.24 | 0.52 | 0.02 | 0.07 | 0.04 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation Uptake | -0.299** | -0.266* | -0.494*** | -0.326** | |
| | [0.161] | [0.165] | [0.163] | [0.165] | |
| N | 468 | 466 | 468 | 466 | |
| Control mean | 0.47 | 0.57 | 0.48 | 0.58 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.8: Instrumental Variable (IV-2SLS) Results of Partner Invitation, Among Women whose Partners are Not Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation Uptake | 0.449* | 0.831*** | 0.108 | 0.205 | 0.122 |
| | [0.274] | [0.348] | [0.140] | [0.232] | [0.133] |
| N | 62 | 61 | 62 | 62 | 62 |
| Control mean | 0.16 | 0.32 | 0.03 | 0.10 | 0.03 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation Uptake | -0.036 | 0.628** | 0.398* | 0.660** | |
| | [0.327] | [0.346] | [0.301] | [0.315] | |
| N | 62 | 61 | 62 | 61 | |
| Control mean | 0.61 | 0.55 | 0.61 | 0.58 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.9: Treatment Effect of the Partner Invitation, Mediated by Partner Participation

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Partner Invitation | -0.087** | -0.087** | -0.088** |
| | [0.043] | [0.043] | [0.044] |
| Partner Invitation Uptake | 0.049 | 0.050 | 0.059 |
| | [0.057] | [0.057] | [0.058] |
| N | 635 | 635 | 635 |
| Control mean | 0.49 | 0.49 | 0.49 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Partner Invitation | 0.021 | 0.016 | 0.013 |
| | [0.032] | [0.032] | [0.032] |
| Partner Invitation Uptake | 0.067* | 0.073* | 0.076* |
| | [0.048] | [0.047] | [0.048] |
| N | 638 | 638 | 638 |
| Control mean | 0.16 | 0.16 | 0.16 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Partner Invitation | -0.066* | -0.075** | -0.072** |
| | [0.043] | [0.042] | [0.042] |
| Partner Invitation Uptake | -0.067 | -0.061 | -0.043 |
| | [0.057] | [0.055] | [0.056] |
| N | 638 | 638 | 638 |
| Control mean | 0.53 | 0.53 | 0.53 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Partner Invitation | -0.033 | -0.040 | -0.042 |
| | [0.043] | [0.042] | [0.042] |
| Partner Invitation Uptake | -0.028 | -0.021 | 0.004 |
| | [0.057] | [0.057] | [0.057] |
| N | 635 | 635 | 635 |
| Control mean | 0.60 | 0.60 | 0.60 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.10: Treatment Effect of the Partner Invitation

| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | |
|---|---|---|---|---|
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| **A. Stated Ideal Method and Method Use** | | | | |
| Partner Invitation | -0.052* | -0.071** | 0.034* | 0.011 |
| | [0.032] | [0.040] | [0.022] | [0.017] |
| N | 638 | 635 | 638 | 638 |
| Control mean | 0.24 | 0.49 | 0.07 | 0.04 |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| **B. Discordance** | | | | |
| Partner Invitation | -0.084** | -0.041 | -0.125*** | -0.049 |
| | [0.039] | [0.039] | [0.038] | [0.039] |
| N | 638 | 635 | 638 | 635 |
| Control mean | 0.53 | 0.60 | 0.54 | 0.61 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.11: Treatment Effect of Tailored Counseling

| | | | | |
|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.044* | 0.038 | -0.014 | 0.006 |
| | [0.032] | [0.040] | [0.023] | [0.016] |
| N | 638 | 635 | 638 | 638 |
| Control mean | 0.17 | 0.42 | 0.10 | 0.04 |
| **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Tailored Counseling | 0.075** | 0.090** | 0.104*** | 0.079** |
| | [0.039] | [0.039] | [0.039] | [0.039] |
| N | 638 | 635 | 638 | 635 |
| Control mean | 0.43 | 0.52 | 0.41 | 0.53 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.12: Treatment Effect of the Partner Invitation Intervention, Among Non-Users of Contraception

| | | | |
|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) |
| Partner Invitation | 0.010 | 0.046 | -0.097 |
| | [0.102] | [0.140] | [0.122] |
| N | 63 | 63 | 63 |
| Control mean | 0.22 | 0.44 | 0.44 |
| **B. Discordance** | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Partner Invitation | 0.067 | 0.137* | -0.002 | 0.001 |
| | [0.122] | [0.091] | [0.045] | [0.063] |
| N | 63 | 63 | 63 | 63 |
| Control mean | 0.74 | 0.81 | 0.96 | 0.96 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table A.13: Treatment Effect of the Partner Invitation, Among Current Users

| | | | | |
|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation | -0.071** | -0.090** | 0.031 | 0.010 |
| | [0.034] | [0.043] | [0.025] | [0.019] |
| N | 575 | 572 | 575 | 575 |
| Control mean | 0.24 | 0.50 | 0.08 | 0.05 |
| **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP |
| Partner Invitation | -0.101*** | -0.056* | -0.137*** | -0.057* |
| | [0.042] | [0.042] | [0.041] | [0.042] |
| N | 575 | 572 | 575 | 572 |
| Control mean | 0.50 | 0.57 | 0.50 | 0.57 |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

# B A Review of the Evidence

## B.1 User-Centered Approaches in Family Planning

Programs and interventions that have successfully incorporated user-centered approaches are often informed by insights from the behavioral sciences, including sociology, economics, and cognitive psychology. User-centered design (UCD) approaches to product and program development have been adopted in a range of fields and disciplines, including architecture, marketing, organizational behavior, and, more recently, human-robot interaction (HRI) research (Doroftei et al., 2017; Reich-Stiebert et al., 2020).[30]

Recently, UCD approaches have received increased attention in the health sector, particularly in the development and implementation of new health programs and services (Dabbs et al., 2009; Johnson et al., 2005; Ratwani et al., 2015; Rodriguez et al., 2007). In the context of family planning, however, the study of user-centered approaches is scarce, which is surprising when considering that contraceptive decision-making is preference-sensitive (Dehlendorf et al., 2017). With the goal of introducing a more patient-centered approach to contraceptive counseling, Dehlendorf et al. (2017) developed a tablet-based contraceptive decision support tool, "*My Birth Control*," to facilitate shared decision-making between providers and patients. An assessment of this decision support tool by Holt et al. (2020) finds that the tool encouraged providers to incorporate clients' method preferences into discussions of birth control, which may serve to improve patient-provider relationships in counseling without the need for extensive provider training. To date, most approaches have been identified as time consuming to administer and do not offer clear insight as to how gaps between preferences and subsequent behavior can be addressed (Burke and Potter, 2023).

[30] In exploring the role of UCD on teamwork, coordination, and group-level outcomes, a study by Lai et al. (2010) finds that increased engagement between users, combined with user-dictated interactions, can improve outcomes. Similarly, Oviatt (2006) finds that human-centered design of interfaces minimizes users' cognitive load, and effectively frees up users' mental resources to improve performance.

A few user-centered approaches to family planning counseling have been tested in low-income settings. One such approach, the Population Council's Balanced Counseling Strategy (BCS), was developed to be an interactive, client-friendly approach to counseling that uses job aids, an algorithm (decision-tree), a set of counseling cards on methods, and corresponding brochures for each method (León et al., 2008; Population Council, 2012). A recent evaluation of the BCS finds that the approach was linked to increased postpartum family planning use, especially among women who received support from husbands (Hasyati et al., 2020). In addition, evidence from a trial in Cameroon found promising effects of an app-based shared decision-making counseling tool on women's uptake of long-acting reversible contraceptives (LARCs) (Athey et al., 2023). While interest in BCS and other user-centered approaches to counseling has grown over time, most assessments have focused on their impact on contraceptive uptake; to date, few studies have examined how these approaches contribute to broader concordance between behavior and preferences. Relatedly, user-centered counseling approaches which anchor women to features that they seek in a method, as opposed to methods themselves, have been hypothesized to be more effective in helping women to express their preferences for contraception and make corresponding choices over contraceptive methods (Burke and Potter, 2023).

## B.2 Male Involvement in Family Planning

Spousal and familial preferences for family planning have been identified as a key determinant of women's own access to and use of family planning. Moreover, men are also important as family planning clients and have their own sexual and reproductive health needs and concerns, which also deserve the attention of the health care system and providers. Studies have shown that men are not actively engaged in most issues of maternal and child health, and particularly in issues concerning reproductive health (Sharma et al., 2018). Men's limited involvement in and reluctance to support family planning might be explained by: 1) perceived side effects of female contraceptive methods, which may disrupt sexual activity, 2) the limited

choice of available male contraceptives, 3) general perceptions that reproductive health is considered to be "a woman's domain" and is of little relevance or concern for men, 4) discordance in preferences for children, and 5) concerns that women's contraceptive use may lead to promiscuity and extramarital sexual relations (Adelekan et al., 2014; Kabagenyi et al., 2014). To date, the role of men in family planning decision-making remains poorly understood, particularly in low- and middle-income settings.

A number of studies (El-Khoury et al., 2016; Sternberg and Hubley, 2004) have shown that including men in family planning counseling may increase women's use of family planning services through two potential channels. First, counseling provides men with information on methods or services, including services that women may demand (Lundgren et al., 2005; Shattuck et al., 2011). In addition, counseling husbands and wives together provides a platform for increased spousal communication and offers couples the opportunity to discuss their fertility and method preferences (Hartmann et al., 2012; Lasee and Becker, 1997; Sharan and Valente, 2002). These findings are also confirmed in a series of cross sectional studies that find a positive link between spousal communication and contraceptive use (Bawah, 2002; Jejeebhoy et al., 2015; Link, 2011; Oni and McCarthy, 1991).

A few impact evaluations have found that involving or targeting men as part of the counseling process leads to increased engagement with family planning services and higher contraceptive uptake.[31] On the other hand, evidence from a field experiment in Zambia finds that women who were given a voucher for family planning services together with their

[31] A study in Jordan in which women were randomly assigned to receive individual counseling or joint counseling with their husbands finds that receipt of couples counseling led to a higher uptake of modern methods compared to no counseling, but uptake was not significantly different from receiving individual counseling (El-Khoury et al., 2016). A study in Ethiopia finds that a greater proportion of couples who were jointly visited by a counselor at home were using modern contraceptives following the home visit (Terefe and Larson, 1993). In Malawi, a peer-delivered educational intervention that exclusively targeted men shows that male involvement leads to increased contraceptive use (Shattuck et al., 2011). More recently, a field experiment in rural Tanzania finds that women who consulted with a family planning counselor together with their husbands experienced a larger reduction in pregnancies and a larger increase in reported contraceptive use (McCarthy, 2019).

husbands, when compared to women who were given the voucher alone, were less likely to seek family planning services and use contraception and were more likely to have a pregnancy (Ashraf et al., 2014). In contrast, a trial in Tanzania by D'Exelle and Ringdal (2022), who follow the Ashraf et al. (2014) design by randomizing couples into three treatment groups (wife only, husband only, and couple), find that shifting family planning decision-making to husbands or having the couple make decisions jointly increases the likelihood of attending a counseling session and using contraceptives.

In addition, our study does not provide any direct financial incentive or monetary payment (namely, no direct transfer of cash) to participants for any services or to cover any costs incurred, which serves to minimize any coercion through income effects.[32] Finally, our study evaluates how the potential role of male partners in counseling affects broader outcomes beyond simply contraceptive use, including women's stated ideal preferences for contraception, contraceptive behavior (adoption, but also switching and discontinuation), and the concordance between preferences and use over time.

## B.3 Advancing Measurement: Contraceptive Concordance

The 1994 International Conference on Population and Development (ICPD) in Cairo marked a turning point in family planning and reproductive health within the broader global development agenda. In particular, the conference laid out a mandate for the global family planning community and programs to center rights-based approaches to sexual and reproductive health, in which individuals are able to make decisions about their own sexual and reproductive lives, free from coercion (Blanc and Tsui, 2005; Cates and Maggwa, 2014; Hardee et al., 2014). To date, however, the ideological base for promoting these approaches is better developed than the evidence base, with limited guidance on how such approaches can be effectively operationalized. Currently, there are no standard approaches to measuring

[32]Specifically, financial coverage for all services are directly arranged with service providers so that women do not have to provide any payment of any type over the course of the study period.

rights-based family planning and reproductive health outcomes; instead, programs continue to rely on longstanding indicators such as contraceptive use or fertility, neither of which is a measure of rights-based reproductive healthcare that the field seeks to prioritize.[33] These limitations have been highlighted in recent discourses, which have articulated the need for new proposals in the measurement (Bingenheimer et al., 2023).

Recent efforts to conceptualize person-centered, rights-based approaches to measurement have done so through the lens of contraceptive autonomy, which proposes the need to estimate an alignment between a person's contraceptive preferences and their behavior, creating a bijective mapping between what they want and what they do (Senderowicz, 2020). Though conceptually appealing, the extent to which these approaches are successful hinges on their ability to effectively measure women's contraceptive preferences. To date, there is no standardized approach to measuring contraceptive preferences, and current proposals to measure preferences have primarily relied on: 1) retrospective recall to the time when women made their contraceptive choice[34]; 2) direct elicitation of a stated preference at the time when women are interviewed[35]; or 3) a cross-sectional elicitation of preferences using hypothetical or future-oriented framing[36] (Burke and Potter, 2023).

We build on these efforts by leveraging dynamic measures of stated preferences for contraception and for contraceptive attributes, behavior, and concordance. Each of these measures, which are defined in the Key Outcomes section, are elicited over four survey waves per

[33]Even as an increasing number of family planning programs have been successful in increasing contraceptive uptake, it is important to note that a woman's family planning preferences are not necessarily realized, and her welfare is not necessarily improved, simply from an increased use of contraceptive methods alone - this has been reiterated by reproductive rights researchers, policymakers, and advocates alike (Senderowicz, 2020).

[34]An example of retrospective recall is noted in Bullington et al. (2023b): "Was [your current method] the method you wanted?"

[35]An example of a direct elicitation can be found in the measurement of preference-aligned fertility management (PFM) as proposed by Holt et al. (2023) and Rothschild et al. (2023): "Do you currently want to be using any method to prevent pregnancy - that is, to keep it from happening?"

[36]An example of such a framing can be found in Huber-Krum et al. (2021): "If you could choose any family planning method you wanted, which method would you choose, now or in the future if any?"

woman. The longitudinal design confers a number of advantages over existing indicators, which are predominantly measured as part of cross-sectional surveys. Specifically, we construct dynamic outcomes that identify: 1) changes in women's stated preferred contraceptive method (her stated ideal method) over time; 2) changes in women's contraceptive behavior over time; 3) changes in women's contraceptive concordance over time, which we are able to infer both as a contemporaneous concordance measure between women's stated ideal method and her contraceptive behavior in the same survey wave, as well as a lagged concordance measure that captures the alignment between a woman's past stated ideal method and her subsequent contraceptive behavior. These measures seek to advance our scope of inference beyond current approaches by: 1) validating the stability of preferences and behavior over time; 2) determining the extent to which women are able to achieve concordance by actualizing their preferences over time; and 3) inferring the potential consequences of preference-behavior discordance.

# C Sampling Strategy

A detailed sampling strategy can be found in the published study protocol (Karra and Zhang, 2020). Using the most recent MDHS and census maps of Lilongwe's enumeration areas and listings of households and neighborhoods, we employed a 2-stage sample selection procedure based on the sampling strategy used by the MDHS. In the first stage, we randomly selected defined enumeration areas in Lilongwe to be screened. In the second stage, enumerators proceeded door-to-door to screen households in each selected enumeration area for potentially eligible women. Enumerators screened each household that they approached to determine if any woman who was living in that household (1) met our inclusion criteria and (2) consented to participate in our study. To make this determination, enumerators used a recruitment script to verify eligibility and presented the eligible woman with a consent form to participate in the study. The recruitment script and the consent form can be found in the Multimedia Appendix of Karra and Zhang (2020). Written (or verbal) informed consent was obtained

from all participating women before proceeding to administering the survey.

Recruitment from the selected enumeration areas ceased after at least 700 women were found who met the eligibility conditions, consented to participate in the study, and were administered the baseline survey. The minimum sample size was chosen to ensure that we have sufficient statistical power to measure the impacts of our interventions on key outcomes of interest Karra and Zhang (2020). Given that randomization was administered at the individual woman level, only one eligible woman was selected from each household in order to minimize possible contamination across intervention and control arms. If multiple women from the same household were potentially eligible to be recruited, we chose the youngest eligible woman in the household to participate. We also ensured that the selected participants were sufficiently distant (at least five households apart) from each other, which also served to minimize spillover effects between treated and control women who lived in the same neighborhood.

A total of 1122 households were approached, and 782 women were selected in accordance with the following eligibility criteria to complete the baseline survey: (1) they were married, (2) they were aged between 18 and 35 years at baseline, (3) they lived in the city of Lilongwe (were permanent residents), (4) they were neither pregnant at baseline nor had given birth in the last 6 months, (5) they had neither been sterilized nor had undergone a hysterectomy, (6) they had given birth to at least one child (one live birth) in their lifetime, and (7) they lived with their husbands / partners at the time of the screening.

# D Counseling Times

The average counseling time for all women who received the counseling alone is 15.9 minutes (excluding women whose male partner also participated in the study). The counseling time for women who were assigned to tailored counseling (T2 and T3) is 1.3 minutes shorter compared to women who were assigned to standard counseling (T0 and T1) (15.3 minutes versus 16.6 minutes, respectively)(Figure D.1).

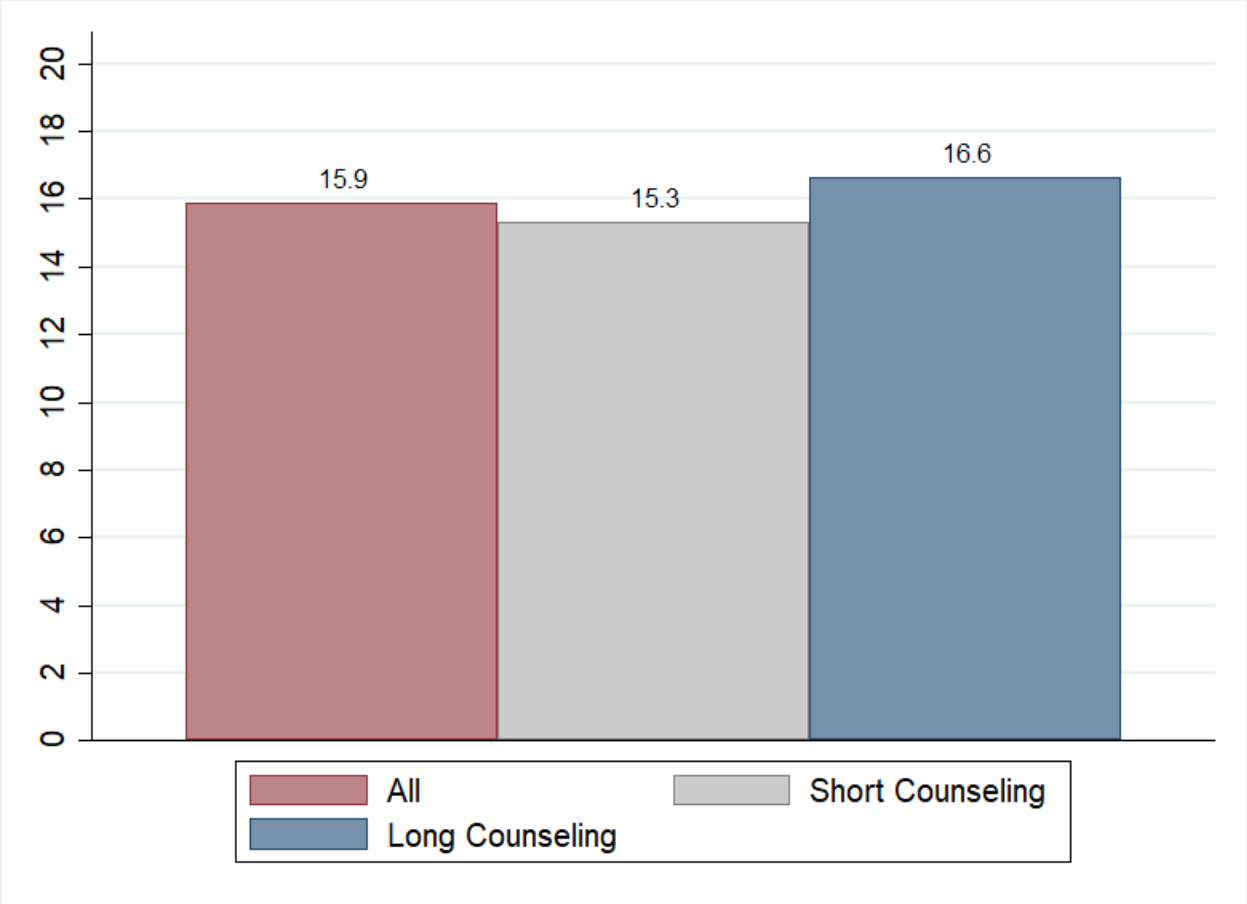


Figure D.1: Counseling Time, by Tailored Counseling Intervention

We compare counseling times between the individual counseling (T0 and T2) and partner invitation (T1 and T3) counseling groups. The average counseling time for women who were assigned to the partner invitation arms is 1.8 minutes longer than the average counseling time for women who were not assigned to the partner invitation arms. The average counseling time for the entire sample is 16.6 minutes[37] for all respondents (Figure D.2).

As part of our intervention monitoring and quality assurance protocols, we recorded excerpts from counseling sessions with our Android tablets; unfortunately, we do not have sufficient information from these recordings to infer how the two counseling approaches might

[37]The average counseling time for the entire sample differs from that in the previous tailored counseling analysis, because we include all women who were counseled. In the previous comparison, we only focus on women who were counselled alone and exclude those whose partners joined the counseling session.

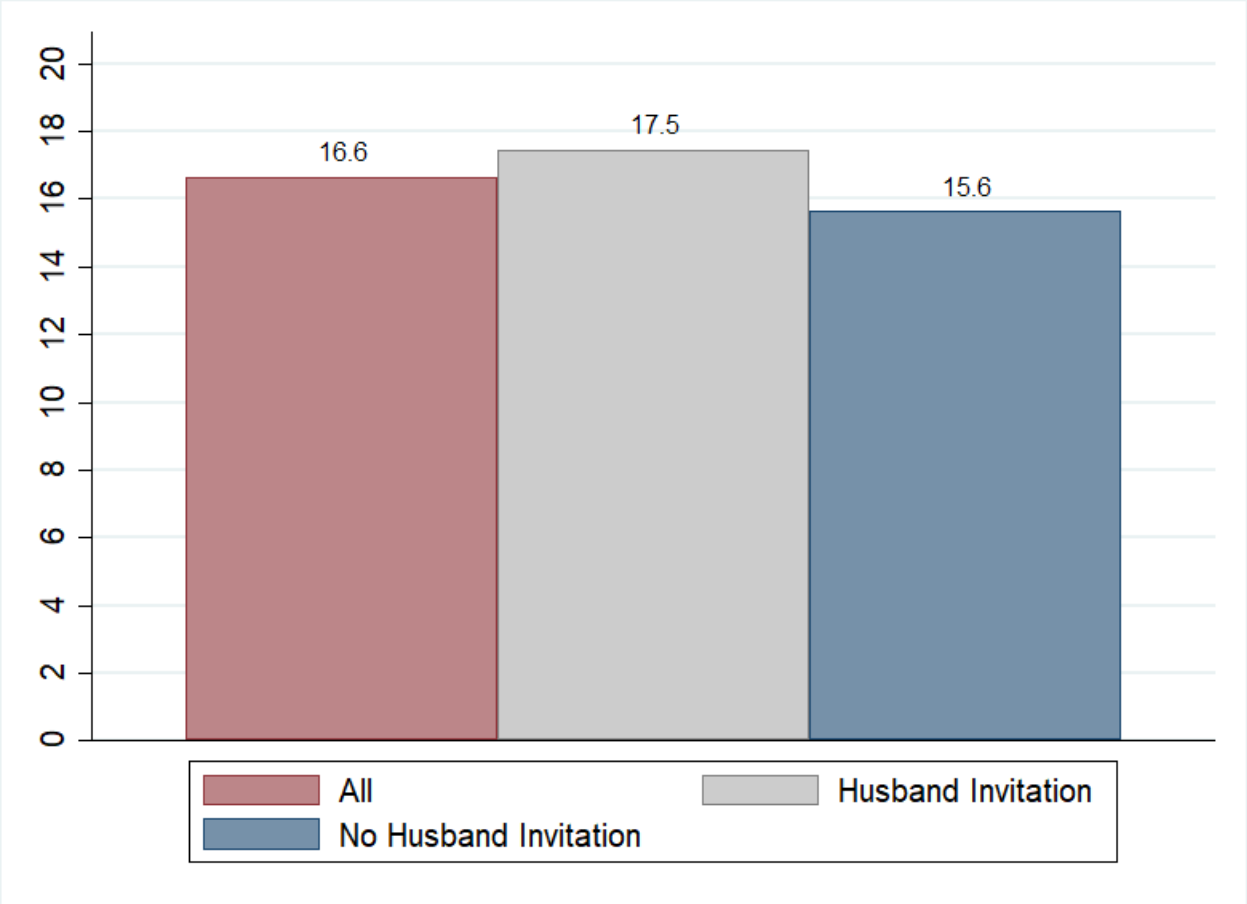


Figure D.2: Counseling Time, by Partner Invitation Intervention

have been differently received by clients. We therefore rely on observations from our team of counselors, who noted that clients who participated in the shorter, tailored counseling sessions were more likely to ask questions and engage with the counselor for a longer period following the presentation of methods. Counselors noted that this was particularly true if any partners were also present at counseling, which significantly lengthened the counseling time. Unfortunately, we do not have the granularity with which the counseling time is split between direct counseling (where the counselor was providing information) and time to answer questions in our quantitative data from the counseling session.

Relatedly, we note that the average time each counselor spent to discuss each contraceptive method in the standard long counseling group is around 1.28 minutes (16.6 minutes / 13 methods). On the other hand, counselors spend more than twice the average time

per method in the tailored counseling group, with average counseling times ranging from 2.55 minutes to 3.83 minutes (depending on the number of methods in the corresponding treatment group which ranged from 4 to 6 methods). This observation suggests that with more time being spent on each contraceptive method during a counseling session, clients might have more opportunities to ask questions and more conscientiously shape their preferences for contraceptive methods, which would allow women to more effectively reflect on the methods being discussed and, in turn, realize their preferences.

# E Switching Preferences to the Ideal Method

At baseline, counseling, and follow-up, women were asked to state their ideal contraceptive method[38] and confirm their choice if they were found to have switched their choice of stated ideal method since the previous interview. Table E.1 presents the proportion of women who reported changes to their stated ideal contraceptive method or method use over the various phases of the study. From Panel A, more than half of surveyed respondents (55.9 percent) changed their stated ideal contraceptive method between baseline and follow-up, a duration of 4.6 months. An estimated 46.2 percent of women reportedly changed their stated ideal contraceptive method between the baseline and post-counseling stages (an average of 73 days), while 41.5 percent of women changed their stated ideal method in the period following counseling and prior to the follow-up session (an average of 65 days). Over the course of the counseling session (between pre- and post-counseling surveys), 17.1 percent of women changed their reported stated ideal method.

When asked about intentions to switch methods, a consistently large proportion of women expressed an interest in switching from their current contraceptive method if given the choice and means. At baseline, 36.7 percent of users said that they would like to switch to another

[38] At all stages of the study, women's stated ideal contraceptive method was elicited using the following question: "If you could freely choose a contraceptive / family planning method, which method(s) would you like to use?"

method if given the chance; this proportion rose to 42.2 percent at the time of counseling, and fell slightly to 34.2 percent at follow-up (Panel B of Table E.1).

While women's stated ideal method was changing over time, these changes to their stated preferences may not, in fact, have resulted in subsequent changes to their contraceptive behavior. Around 19.0 percent of women switched to a different contraceptive method (either adoption of a new method, switching to a different method, or discontinuing altogether) between baseline and counseling, prior to the rollout of the intervention and approximately 17.9 percent of women were found to have switched methods between counseling and follow-up (Panel C of Table E.1).

Table E.1: Changes to Stated Ideal Contraceptive Method and Method Use over Time

| **A. Changes to Stated Ideal Contraceptive Method** | | | |
|---|---|---|---|
| | Baseline | Pre-Counseling | Post-Counseling |
| Baseline | X | X | X |
| Pre-Counseling | 44.75% (311/695) | X | X |
| Post-Counseling | 46.19% (321/695) | 17.12% (120/701) | X |
| Follow-up Sessions | 55.88% (399/714) | 44.79% (301/672) | 41.52% (279/672) |
| **B. Intention to Switch Contraceptive Method** | | | |
| | Baseline | Counseling | Follow-up |
| Intention to Switch Methods | 36.67% (249/679) | 42.15% (255/605) | 34.22% (194/567) |
| **C. Changes to Contraceptive Method Use** | | | |
| | Baseline | Counseling | Follow-up |
| Baseline | X | X | X |
| Counseling | 18.97% (129/680) | X | X |
| Follow-up Sessions | 24.26% (165/680) | 17.87% (114/638) | X |

In summary, women's preferences for contraceptive methods seem to be malleable over time. Moreover, changes in women's stated preferences do not necessarily align with their actual switching behavior over time. This discordance suggests that barriers to women's realization of their method preferences may continue to exist.

# F Selection

### F.0.1 *Availability for Counseling*

Out of the 782 women who participated in the study, 701 women were reached for the counseling intervention, while 81 women were not available to participate in counseling[39]. To understand if women who attrited from the sample were systematically different from those who remained within the sample at the counseling stage, we compare these two groups of women in Table F.1.

Women who were reached for counseling were less interested in changing methods at baseline if given the choice compared to women who were not reached for counseling by 17 p.p. (mean: 0.37). These differences suggest that the impacts of our two user-centered interventions on preferences and change in method use would likely be larger if the interventions were to be rolled out to a more generalizable population of women and couples.

### F.0.2 *Which type of woman invited her husband?*

Among women who were randomly assigned to the partner invitation group, those who were willing and encouraged their partners to participate in the counseling session tended to be similar across a number of characteristics relative to those women who were also offered the invitation but who did not invite their husbands to counseling. Table F.2 presents comparisons of characteristics between women who invited their partners (compliers) and women who were offered the invitation but who did not invite their partners (non-compliers). Our results show that while most of the differences between these groups are not significant at conventional levels, compliers were slightly younger than non-compliers when they first cohabitated with their partner, and non-compliers were marginally more likely to be users

[39]Of the 81 women who did not receive counseling, 61 women had moved out of Lilongwe, 2 women had died due to reasons that were unrelated to our study, 6 women refused to participate, and the remaining 12 women were contacted but were unavailable to participate.

Table F.1: Who were Available for the Counseling Session?

| | All | Counselled | Not Counselled | Difference |
|---|---|---|---|---|
| Age (years) | 26.12 | 26.21 | 25.20 | -1.01 |
| Total no. of children at baseline (BL) | 2.01 | 2.02 | 1.90 | -0.12 |
| Desired no. of children at BL | 3.50 | 3.50 | 3.50 | 0.00 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.65 | 0.65 | 0.67 | 0.02 |
| Education: Secondary | 0.32 | 0.32 | 0.30 | -0.02 |
| Education: Higher | 0.02 | 0.02 | 0.01 | -0.00 |
| Currently working (1 = yes) | 0.57 | 0.57 | 0.49 | -0.08 |
| Age at first cohabitation (years) | 18.05 | 18.06 | 18.05 | -0.01 |
| Current use of FP (1 = yes) | 0.85 | 0.85 | 0.85 | 0.00 |
| Current FP method: Injectables | 0.51 | 0.51 | 0.57 | 0.07 |
| Current FP method: Implants | 0.35 | 0.35 | 0.30 | -0.06 |
| Top attribute: Effectiveness | 0.53 | 0.53 | 0.57 | 0.04 |
| Weight given to top attribute | 16.54 | 16.46 | 17.40 | 0.94 |
| Wants to switch methods (1 = yes) | 0.37 | 0.35 | 0.52 | 0.17** |
| Husband supports FP (1 = yes) | 0.90 | 0.91 | 0.82 | -0.09* |
| Using a Long-Acting Method at BL (1 = yes) | 0.75 | 0.75 | 0.77 | 0.01 |
| Husband Satisfied with Woman's Current Method (1 = yes) | 0.87 | 0.86 | 0.88 | 0.01 |
| Observations | 770 | 701 | 69 | 770 |

Notes: During the counseling session, 770 women who were interviewed at the baseline were asked if they were available for counseling, among whom 701 women were available for counseling and 69 women did not receive the counseling session. The variable currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. Using a Long-Acting Methods takes 1 if the woman was using IUDs/implants/injectables at the baseline. *** 1%, ** 5%, * 10%.

of injectables at the baseline.

### F.0.3 *Who visited the Good Health Kauma Clinic?*

Of the 701 women who were available for the counseling session and received the counseling intervention, a total of 67 women visited the Good Health Kauma Clinic and received at least one family planning service (e.g. started a method, refilled a method, switched to another method, received treatment for side effects, among others) by endline. In comparing women who visited the Kauma Clinic and those women who were offered the opportunity to visit the Kauma Clinic but did not go, women who visited the clinic were 13 p.p. (mean: 0.85) more likely to be using a contraceptive method at baseline, 16 p.p. more likely to be on injectables at baseline, and 23 p.p. less likely to be using implants than women who did not go to the Kauma Clinic (Table F.3, panel 1). For women who did not visit the Good Health Kauma Clinic over the service period, some visited other clinics and health providers to receive family planning. We compare women who reported having visited any clinic (including Kauma) in the past month with those who did not visit any clinic (Table F.3, panel 2), and find similar results to those found in the first Panel.

### F.0.4 *Differential Attrition by Intervention Arm*

Figure A.1 presents the final analytical sample for analyses. Out of the initial sample of 782 women, 107 women attrited from the sample. Among them, 81 women were not reached for counseling, and 26 women did not consent to participate in the follow-up survey.

Among the 107 women who attrited from the initial sample, we compare their baseline covariates to determine whether these variables differ across the intervention arms. From Table F.4, women who attrited from the partner invitation sample were marginally less likely to be using injectables at baseline compared to those women who were not assigned to the partner invitation group and who were also lost to follow-up. However, we do not find significant differences along any other observable covariates between attritors from the partner invitation arms and those from the non-partner invitation arms.

Table F.2: Partner Invitation Compliers

| | All | Compliers | Non-Compliers | Difference |
|---|---|---|---|---|
| Age (years) | 26.29 | 25.64 | 26.54 | 0.90 |
| Total no. of children at baseline (BL) | 2.08 | 2.00 | 2.11 | 0.11 |
| Desired no. of children at BL | 3.47 | 3.48 | 3.46 | -0.02 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.65 | 0.70 | 0.63 | -0.06 |
| Education: Secondary | 0.32 | 0.29 | 0.33 | 0.05 |
| Education: Higher | 0.02 | 0.01 | 0.02 | 0.01 |
| Currently working (1 = yes) | 0.57 | 0.56 | 0.57 | 0.00 |
| Age at first cohabitation (years) | 18.03 | 17.56 | 18.21 | 0.65* |
| Current use of FP (1 = yes) | 0.85 | 0.88 | 0.84 | -0.03 |
| Current FP method: Injectables | 0.49 | 0.40 | 0.52 | 0.11 |
| Current FP method: Implants | 0.38 | 0.44 | 0.35 | -0.09 |
| Top attribute: Effectiveness | 0.52 | 0.48 | 0.53 | 0.05 |
| Weight given to top attribute | 16.52 | 16.15 | 16.66 | 0.51 |
| Wants to switch methods (1 = yes) | 0.32 | 0.32 | 0.32 | -0.00 |
| Husband supports FP (1 = yes) | 0.91 | 0.89 | 0.92 | 0.02 |
| Using a Long-Acting Method at BL (1 = yes) | 0.76 | 0.77 | 0.75 | -0.02 |
| Husband Satisfied with Woman's Current Method (1 = yes) | 0.87 | 0.85 | 0.88 | 0.03 |
| Observations | 401 | 112 | 289 | 401 |

Notes: Among 701 women who received a counseling session, 401 women were assigned to the partner invitation group, among which 112 male partners participated. Currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. The variable Using a Long-Acting method at BL takes 1 if the woman was on injectables/implants/IUDs at the baseline. The variable husband satisfied with woman's current contraceptive method is constructed using a question from baseline that how satisfied women's male partner was with their current mthod. This variable takes 1 if her husband is very satisfied or somewhat satified with her current method use at baseline. *** 1%, ** 5%, * 10%.

Table F.3: Who Visited the Clinic?

| | All | Yes | No | Difference |
|---|---|---|---|---|
| **Visited the Good Health Kauma Clinic?** | | | | |
| Age (years) | 26.21 | 25.69 | 26.27 | 0.58 |
| Total no. of children at baseline (BL) | 2.02 | 2.10 | 2.01 | -0.09 |
| Desired no. of children at BL | 3.50 | 3.49 | 3.50 | 0.01 |
| Education: None | 0.01 | 0.03 | 0.01 | -0.02 |
| Education: Primary | 0.65 | 0.61 | 0.65 | 0.04 |
| Education: Secondary | 0.32 | 0.34 | 0.32 | -0.02 |
| Education: Higher | 0.02 | 0.01 | 0.02 | 0.00 |
| Currently working (1 = yes) | 0.57 | 0.61 | 0.57 | -0.04 |
| Age at first cohabitation (years) | 18.06 | 17.44 | 18.12 | 0.68* |
| Current use of FP (1 = yes) | 0.85 | 0.97 | 0.84 | -0.13** |
| Current FP method: Injectables | 0.51 | 0.65 | 0.49 | -0.16* |
| Current FP method: Implants | 0.35 | 0.15 | 0.38 | 0.23*** |
| Top attribute: Effectiveness | 0.53 | 0.58 | 0.52 | -0.06 |
| Weight given to top attribute | 16.46 | 16.18 | 16.49 | 0.31 |
| Wants to switch methods (1 = yes) | 0.35 | 0.39 | 0.34 | -0.05 |
| Husband supports FP (1 = yes) | 0.91 | 0.91 | 0.91 | 0.00 |
| Using a Long-Acting Method at BL (1 = yes) | 0.75 | 0.79 | 0.75 | -0.04 |
| Husband Satisfied with Woman's Current Method (1 = yes) | 0.86 | 0.84 | 0.87 | 0.02 |
| Observations | 701 | 67 | 634 | 701 |
| **Visited Any Clinic?** | | | | |
| Age (years) | 26.25 | 26.03 | 26.33 | 0.30 |
| Total no. of children at baseline (BL) | 2.03 | 2.10 | 2.00 | -0.10 |
| Desired no. of children at BL | 3.49 | 3.49 | 3.49 | -0.00 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.64 | 0.63 | 0.65 | 0.02 |
| Education: Secondary | 0.33 | 0.34 | 0.32 | -0.01 |
| Education: Higher | 0.02 | 0.03 | 0.01 | -0.01 |
| Currently working (1 = yes) | 0.57 | 0.54 | 0.59 | 0.04 |
| Age at first cohabitation (years) | 18.06 | 17.86 | 18.14 | 0.28 |
| Current use of FP (1 = yes) | 0.86 | 0.91 | 0.83 | -0.08** |
| Current FP method: Injectables | 0.50 | 0.72 | 0.41 | -0.31*** |
| Current FP method: Implants | 0.35 | 0.11 | 0.46 | 0.35*** |
| Top attribute: Effectiveness | 0.53 | 0.59 | 0.51 | -0.08 |
| Weight given to top attribute | 16.45 | 17.00 | 16.24 | -0.76* |
| Wants to switch methods (1 = yes) | 0.35 | 0.44 | 0.31 | -0.13** |
| Husband supports FP (1 = yes) | 0.92 | 0.91 | 0.92 | 0.00 |
| Using a Long-Acting Method at BL (1 = yes) | 0.76 | 0.78 | 0.75 | -0.03 |
| Husband Satisfied with Woman's Current Method (1 = yes) | 0.86 | 0.82 | 0.88 | 0.05 |
| Observations | 682 | 187 | 495 | 682 |

Notes: Among the 782 women who were interviewed at the baseline, 701 women attended a counseling session, among whom 682 women received a follow-up interview either through phone surveys, home visit surveys, or clinic visit surveys. Currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. Using a Long-Acting Methods takes 1 if the woman was using IUDs/implants/injectables at the baseline. *** 1%, ** 5%, * 10%.

When comparing attritors across tailored counseling intervention arms, attritors from the tailored counseling were marginally more likely to attain primary school, marginally less likely to attain secondary school, and were marginally less likely to have a supportive partner. In general, and in a similar fashion to the partner invitation attrition analysis, we do not observe strong evidence of differential attrition across intervention arms.

Finally, we conduct a comparison of attritors to the analytic sample of non-attritors who were followed up at baseline to infer any potential observable characteristics that might be correlated with attrition (Table F.5). In general, attritors and non-attritors are similar across a number of characteristics, with attritors being slightly younger than non-attritors.

Table F.4: Summary Statistics of Attritors by Intervention Arms

| | All | Yes | No | Difference |
|---|---|---|---|---|
| **A. Partner Invitation Group** | | | | |
| Age (years) | 25.05 | 25.53 | 24.43 | -1.11 |
| Total no. of children at baseline (BL) | 1.83 | 1.88 | 1.77 | -0.12 |
| Desired no. of children at BL | 3.52 | 3.48 | 3.58 | 0.10 |
| Education: None | 0.01 | 0.02 | 0.00 | -0.02 |
| Education: Primary | 0.67 | 0.60 | 0.77 | 0.17 |
| Education: Secondary | 0.30 | 0.37 | 0.21 | -0.15 |
| Education: Higher | 0.02 | 0.02 | 0.02 | 0.00 |
| Currently working (1 = yes) | 0.52 | 0.50 | 0.55 | 0.05 |
| Age at first cohabitation (years) | 18.07 | 18.42 | 17.61 | -0.81 |
| Current use of FP (1 = yes) | 0.83 | 0.83 | 0.83 | -0.00 |
| Current FP method: Injectables | 0.58 | 0.47 | 0.72 | 0.25* |
| Current FP method: Implants | 0.29 | 0.33 | 0.23 | -0.10 |
| Top attribute: Effectiveness | 0.53 | 0.60 | 0.43 | -0.17 |
| Weight given to top attribute | 17.04 | 17.14 | 16.91 | -0.22 |
| Wants to switch methods (1 = yes) | 0.46 | 0.47 | 0.44 | -0.03 |
| Husband supports FP (1 = yes) | 0.84 | 0.86 | 0.82 | -0.04 |
| Observations | 107 | 60 | 47 | 107 |
| **B. Tailored Counseling Group** | | | | |
| Age (years) | 25.05 | 24.75 | 25.49 | 0.74 |
| Total no. of children at baseline (BL) | 1.83 | 1.75 | 1.95 | 0.20 |
| Desired no. of children at BL | 3.52 | 3.60 | 3.41 | -0.18 |
| Education: None | 0.01 | 0.02 | 0.00 | -0.02 |
| Education: Primary | 0.67 | 0.75 | 0.56 | -0.19* |
| Education: Secondary | 0.30 | 0.22 | 0.42 | 0.20* |
| Education: Higher | 0.02 | 0.02 | 0.02 | 0.01 |
| Currently working (1 = yes) | 0.52 | 0.55 | 0.49 | -0.06 |
| Age at first cohabitation (years) | 18.07 | 18.02 | 18.15 | 0.13 |
| Current use of FP (1 = yes) | 0.83 | 0.83 | 0.83 | 0.00 |
| Current FP method: Injectables | 0.58 | 0.62 | 0.51 | -0.10 |
| Current FP method: Implants | 0.29 | 0.27 | 0.31 | 0.04 |
| Top attribute: Effectiveness | 0.53 | 0.56 | 0.49 | -0.07 |
| Weight given to top attribute | 17.04 | 17.25 | 16.71 | -0.55 |
| Wants to switch methods (1 = yes) | 0.46 | 0.44 | 0.49 | 0.05 |
| Husband supports FP (1 = yes) | 0.84 | 0.77 | 0.95 | 0.18* |
| Observations | 107 | 64 | 43 | 107 |

Notes: Among 782 women who were interviewed at the baseline, 107 women attrited from the sample either at counseling or at the follow-up (through phone surveys, home surveys, or clinic visit surveys). Currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. *** 1%, ** 5%, * 10%.

Table F.5: Summary Statistics between Attritors and Non-Attritors

| | (1) All Women | (2) Non-Attritors | (3) Attritors | (4) Difference |
|---|---|---|---|---|
| Age (years) | 26.10 | 26.27 | 25.05 | 1.22** |
| Total no. of children at baseline (BL) | 2.00 | 2.03 | 1.83 | 0.20 |
| Desired no. of children at BL | 3.50 | 3.49 | 3.52 | -0.03 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.00 |
| Education: Primary | 0.65 | 0.64 | 0.67 | -0.03 |
| Education: Secondary | 0.32 | 0.33 | 0.30 | 0.03 |
| Education: Higher | 0.02 | 0.02 | 0.02 | -0.00 |
| Currently working (1 = yes) | 0.56 | 0.57 | 0.52 | 0.05 |
| Age at first cohabitation (years) | 18.04 | 18.04 | 18.07 | -0.03 |
| Current use of FP (1 = yes) | 0.85 | 0.86 | 0.83 | 0.03 |
| Current FP method: Injectables | 0.51 | 0.50 | 0.58 | -0.07 |
| Current FP method: Implants | 0.35 | 0.35 | 0.29 | 0.07 |
| Top attribute: Effectiveness | 0.53 | 0.53 | 0.53 | 0.00 |
| Weight given to top attribute | 16.54 | 16.46 | 17.04 | -0.58 |
| Wants to switch methods (1 = yes) | 0.37 | 0.35 | 0.46 | -0.10 |
| Husband supports FP (1 = yes) | 0.91 | 0.92 | 0.84 | 0.07* |
| Observations | 782 | 675 | 107 | 782 |

Notes: Among 782 women who were interviewed at the baseline, 107 women attrited from the sample either at counseling or at the follow-up (through phone surveys, home surveys, or clinic visit surveys). Currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. Column (1) shows the summary statistics for all 782 women, column (2) for the 675 non-attritors in the final sample, column (3) for the 107 attritors from baseline during subsequent stages, and column (4) displays the difference between column (2) and column (3). *** 1%, ** 5%, * 10%.

Table F.6: Group Comparisons by Level of Compliance with Partner Invitation

| | All | Partner Invitation | Partner Invitation Compliers | Partner Presence |
|---|---|---|---|---|
| Age (years) | 26.29 | 26.40 | 25.83 | 25.76 |
| Total no. of children at baseline (BL) | 2.05 | 2.11 | 2.04 | 2.07 |
| Desired no. of children at BL | 3.48 | 3.45 | 3.47 | 3.42 |
| Education: None | 0.01 | 0.01 | 0.01 | 0.01 |
| Education: Primary | 0.63 | 0.64 | 0.70 | 0.68 |
| Education: Secondary | 0.33 | 0.33 | 0.28 | 0.30 |
| Education: Higher | 0.02 | 0.02 | 0.01 | 0.01 |
| Currently working (1=yes) | 0.58 | 0.57 | 0.57 | 0.55 |
| Age at first cohabitation (years) | 18.06 | 18.04 | 17.54 | 17.54 |
| Current use of FP (1=yes) | 0.87 | 0.87 | 0.89 | 0.89 |
| Current FP method: Injectables | 0.50 | 0.49 | 0.40 | 0.42 |
| Current FP method: Implants | 0.36 | 0.38 | 0.44 | 0.44 |
| Top attribute: Effectiveness | 0.53 | 0.52 | 0.49 | 0.52 |
| Weight given to top attribute | 16.42 | 16.47 | 16.20 | 16.05 |
| Wants to switch methods (1 = yes) | 0.35 | 0.32 | 0.32 | 0.32 |
| Husband supports FP (1 = yes) | 0.92 | 0.91 | 0.88 | 0.89 |
| Using a Long-Acting Method at BL (1=yes) | 0.78 | 0.78 | 0.77 | 0.79 |
| Husband Satisfied with Woman's Current Method (1=yes) | 0.86 | 0.87 | 0.85 | 0.88 |
| Adoption of Methods | 0.04 | 0.04 | 0.04 | 0.04 |
| Switching of Methods | 0.09 | 0.11 | 0.18 | 0.15 |
| Discontinuation of Methods | 0.05 | 0.05 | 0.03 | 0.02 |
| Observations | 638 | 368 | 107 | 106 |

Notes: During the counseling session, 770 women who were interviewed at the baseline were asked if they were available for counseling, among whom 701 women were available for counseling and 69 women did not receive the counseling session. The variable currently working refers to women's work status at the baseline. First cohabitation age is the age at which women started to live with her (first) husband. Current FP method: Injectables / Implants represents the proportion of women who were using injectables / Implants at baseline among all current users of contraception. Weight to top attribute refers to the number of counters (out of 20 counters) the woman assigned to their top method attribute. Intention to switch methods is woman's answer to the question: if you had the choice to switch to another method, would you like to switch? Husband support FP is defined from the question: on a scale of 1 to 5, with 1 being strongly supportive and 5 being strongly opposed, how do you believe your husband feels towards using family planning methods? This variable takes 1 if her husband was strongly supportive or supportive of contraceptive use, and 0 otherwise. Using a Long-Acting Methods takes 1 if the woman was using IUDs/implants/injectables at the baseline. *** 1%, ** 5%, * 10%.

# G Robustness Checks

In Table 2 and Table 3, which present our main results for the two interventions, the dependent variables in Panel A and Panel D are constructed using women's "stated ideal method at follow-up." For women who were followed up by phone or through home visits, their follow-up stated ideal method is defined using their responses to the question, "If you could freely choose a contraceptive / family planning method, which method(s) would you like to use?" However, for the 67 women who visited the clinic during the one-month service period, this question was not directly asked but was instead inferred. Specifically, we define these women's follow-up stated ideal method to be the contraceptive method they started, refilled, or switched to by the end of their clinic visit. This is based on the consideration that 65 of 67 women who started, renewed, or switched to a method during their clinic visit reported that they had obtained the services and the methods they wanted during the exit interview. We do not assign a follow-up stated ideal method for the remaining two women who went to the clinic for ancillary services related to their current method (e.g. treatment of side effects), but not to actually switch methods or discontinue their method.

To check whether our results are driven by the women who visited the clinic, we restrict our analysis to the subsample of women who were either reached by phone or through home visits. Table G.1 and Table G.2 present the results from these analyses, and the estimates are largely in line with our main findings from Table 2 and Table 3.

Table G.1: Robustness Check: Treatment Effect of Tailored Counseling, Excluding Women who Visited the Kauma Clinic

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Tailored Counseling | 0.044 | 0.045 | 0.040 |
| | [0.041] | [0.042] | [0.042] |
| N | 592 | 592 | 592 |
| Control mean | 0.43 | 0.43 | 0.43 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Tailored Counseling | -0.003 | -0.004 | -0.003 |
| | [0.031] | [0.030] | [0.030] |
| N | 638 | 638 | 638 |
| Control mean | 0.18 | 0.18 | 0.18 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Tailored Counseling | 0.087** | 0.083** | 0.075** |
| | [0.040] | [0.039] | [0.039] |
| N | 638 | 638 | 638 |
| Control mean | 0.43 | 0.43 | 0.43 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Tailored Counseling | 0.082** | 0.080** | 0.070** |
| | [0.041] | [0.040] | [0.040] |
| N | 592 | 592 | 592 |
| Control mean | 0.56 | 0.56 | 0.56 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: The analysis is restricted to women who were reached by phone or through home visits at the follow-up. In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table G.2: Robustness Check: Treatment Effect of Partner Invitation, Excluding Women who Visited the Kauma Clinic

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Partner Invitation | -0.075** | -0.076** | -0.079** |
| | [0.041] | [0.041] | [0.042] |
| N | 592 | 592 | 592 |
| Control mean | 0.50 | 0.50 | 0.50 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Partner Invitation | 0.040* | 0.037 | 0.035 |
| | [0.030] | [0.030] | [0.030] |
| N | 638 | 638 | 638 |
| Control mean | 0.16 | 0.16 | 0.16 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Partner Invitation | -0.086** | -0.093*** | -0.084** |
| | [0.040] | [0.039] | [0.039] |
| N | 638 | 638 | 638 |
| Control mean | 0.53 | 0.53 | 0.53 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Partner Invitation | -0.023 | -0.029 | -0.026 |
| | [0.040] | [0.040] | [0.040] |
| N | 592 | 592 | 592 |
| Control mean | 0.62 | 0.62 | 0.60 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: The analysis is restricted to women who were reached by phone or through home visits at the follow-up. In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if a woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

# H Results by Women's Satisfaction with her Contraceptive Method Use at Baseline

For women who were satisfied with their method use at baseline, the partner invitation intervention significantly reduces their likelihood of changing their stated ideal method following counseling but has no observable effect on their method use over time (including adoption, switching, and discontinuation altogether). As a result of receiving the partner invitation intervention, these women who were satisfied with their baseline method use were strongly less likely to be discordant between their stated ideal method and method use at follow-up, plausibly because of women's *ex ante* satisfaction with their method use.

For women who were not satisfied with their method use at baseline, the partner invitation significantly increases their likelihood of changing their stated ideal method from pre-counseling to post-counseling by. 18.9 p.p. (control mean: 0.14), and by 20.1 p.p. from counseling to follow-up (control mean: 0.31). However, the partner invitation intervention has no effect on these women's method use over time. As can be seen from Panel B of Table H.2, these women who were not satisfied with their method use at baseline and who received the partner invitation intervention were strongly more likely to be discordant between their stated ideal method and method use at follow-up.

For women who were satisfied with their method use at baseline, the tailored counseling intervention significantly increases their likelihood of changing their stated ideal method following counseling but has no observable effect on their method use. Therefore, women who were satisfied with their baseline method use and who received the tailored counseling intervention were more likely to be discordant between their stated ideal method and method use at follow-up.

In contrast, among women who were not satisfied with their method use at baseline, the tailored counseling intervention significantly reduces their likelihood of changing their stated ideal method and increases their likelihood of adopting a new method; these women are no

Table H.1: Treatment Effect of the Partner Invitation, Among Women who are Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation | -0.065** | -0.104** | 0.006 | 0.024 | 0.011 |
| | [0.036] | [0.046] | [0.013] | [0.023] | [0.019] |
| N | 496 | 493 | 496 | 496 | 496 |
| Control mean | 0.24 | 0.51 | 0.01 | 0.06 | 0.04 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation | -0.105*** | -0.075** | -0.154*** | -0.089** | |
| | [0.045] | [0.045] | [0.044] | [0.045] | |
| N | 496 | 493 | 496 | 493 | |
| Control mean | 0.49 | 0.57 | 0.49 | 0.58 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table H.2: Treatment Effect of the Partner Invitation, Among Women who are Not Satisfied with Baseline Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Partner Invitation | 0.189** | 0.201* | 0.022 | 0.054 | -0.003 |
| | [0.103] | [0.130] | [0.060] | [0.109] | [0.042] |
| N | 59 | 59 | 59 | 59 | 59 |
| Control mean | 0.14 | 0.31 | 0.03 | 0.14 | 0.03 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Partner Invitation | 0.263** | 0.391*** | 0.388*** | 0.379*** | |
| | [0.127] | [0.121] | [0.116] | [0.112] | |
| N | 59 | 59 | 59 | 59 | |
| Control mean | 0.45 | 0.48 | 0.48 | 0.55 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table H.3: Treatment Effect of Tailored Counseling, Among Women who are Satisfied with Baseline Method

| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.080** | 0.095** | 0.004 | -0.007 | 0.002 |
| | [0.035] | [0.045] | [0.012] | [0.024] | [0.019] |
| N | 496 | 493 | 496 | 496 | 496 |
| Control mean | 0.15 | 0.39 | 0.02 | 0.07 | 0.04 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | 0.084** | 0.101** | 0.105*** | 0.082** | |
| | [0.044] | [0.045] | [0.044] | [0.045] | |
| N | 496 | 493 | 496 | 493 | |
| Control mean | 0.37 | 0.47 | 0.33 | 0.48 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

more likely to be discordant between their stated ideal method and method use at follow-up relative to women who did not receive tailored counseling.

Table H.4: Treatment Effect of Tailored Counseling, Among Women who are Not Satisfied with Baseline Method

| | A. Stated Ideal Method and Method Use | | | | |
|---|---|---|---|---|---|
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | -0.063 | -0.456*** | 0.075* | -0.132 | 0.029 |
| | [0.119] | [0.132] | [0.050] | [0.116] | [0.034] |
| N | 59 | 59 | 59 | 59 | 59 |
| Control mean | 0.23 | 0.64 | 0.00 | 0.23 | 0.00 |
| | **B. Discordance** | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | -0.072 | -0.082 | -0.042 | 0.042 | |
| | [0.147] | [0.150] | [0.148] | [0.147] | |
| N | 59 | 59 | 59 | 59 | |
| Control mean | 0.55 | 0.68 | 0.64 | 0.68 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

# I Results by Method Type

To further explore the underlying channels through which our interventions shaped women's method preferences and behavior, we conduct a disaggregated analysis of intervention impact by method. For each method, we examine the following five outcomes: 1) post-counseling stated ideal method, 2) follow-up method use, 3) concordance between post-counseling stated ideal method and follow-up method use, 4) follow-up stated ideal method, and 5) concordance between their stated ideal method and method use at follow-up[40].

We examine the impact of the partner invitation intervention on outcomes for each of the following methods: implants, injectables, pills, and other traditional methods (Rhythm / Withdrawal / Traditional), respectively. Results in Table I.1 show that women who were

[40]Details on how these variables were constructed are presented in Table A.1.

using a contraceptive method that were more generally preferred by male partners (namely, implants) were more likely to be concordant between their stated ideal method and method use at the follow-up. Furthermore, these women were more likely to consider this method as an ideal method at endline. In contrast, for women who were using a contraceptive method that were less favored by male partners (e.g. pills, other traditional methods), they were more likely to exhibit discordance between their stated ideal method and method use at follow-up. Furthermore, these women were significantly less likely to consider pills and other traditional methods as an ideal method at the endline. Details from the method-specific analyses are presented below.

### I.0.1 *Implants*

Results in Panel A of Table I.1 find no evidence of a significant impact of partner invitations on women's reported ideal method being implants following counseling. Moreover, we do not find any significant impact of partner invitations on women's use of implants at follow-up (Table I.1, Panel B), even though partners are most likely to cite implants as their most preferred contraceptive method (Table A.2).

Interestingly, the partner invitation intervention leads to a significantly higher level of concordance among women for implants. The first column of Panel C indicates that while partner invitations do not increase women's likelihood of reporting implants as their ideal method after counseling, the invitations increase uptake of implants by 7.7 p.p. (control mean: 0.17) at follow-up among women who reported implants as ideal immediately following counseling. This finding suggests that women who were encouraged to invite their partner to counseling were more likely to act on their stated preferences if their post-counseling ideal method was implants, which were also the most preferred method by male partners generally. To this end, it is likely that a woman's partner's preferences played a crucial role in shaping her eventually revealed preferences and behavior.

Findings from Panel D of Table I.1 also suggest that women who received a partner

invitation were 5.7 p.p. (control mean: 0.33) more likely to report implants as their ideal method. A further examination of concordance at follow-up in Panel E suggests that among women who were using implants at the follow-up, receiving a partner invitation increases their likelihood of reporting implants as their ideal method at follow-up by 6.1 p.p. (control mean: 0.12), suggesting that women's stated preference for contraception are changing to more effectively align with their partners' preferences.

### I.0.2 *Injectables*

We find similar, but smaller, results for injectables as we do for implants, which are the second most frequently preferred contraceptive method by male partners in our sample (Table A.2). We present our results in Column (2) of Table I.1. Our results in Panel A show that women who were assigned to the partner invitation arm were slightly more likely (6.6 p.p., control mean: 0.34) to report injectables as their ideal contraceptive method right after counseling. However, there is no significant impact of the partner invitation intervention on women's injectable use at follow-up (Panel B). Among women who were using injectables at follow-up, those assigned to the partner invitation arm were marginally more likely to have reported injectables as their ideal method (5.0 p.p., control mean: 0.22). Panel D of Table I.1 further shows that women who were assigned to the partner invitation arm were also slightly more likely to report injectables as ideal at follow-up (5.5 p.p., control mean: 0.31). Finally, Panel E finds that among women who were using injectables at follow-up, those who were invited to bring their partners to counseling were 4.3 p.p. more likely to report injectables as ideal at the same stage (control mean: 0.19).

Taken together, our findings on injectables serves as additional evidence that the invitation to bring male partners to counseling plays a role in shaping women's perceptions about contraceptive methods that they were already using. With this said, we note that the impact of partner invitations on women's injectable preferences and use are not as significant nor as salient as what we find for implants, which are the most preferred contraceptive method

by male partners.

### I.0.3 *Pills*

We find opposite results for pill use and preferences to those obtained for implants. We present our results in Column (3) of Table I.1. In Panels A and B of Table I.1, we find no indication of any significant impact of partner invitations on women's stated ideal method being pills following counseling. However, Panel C indicates that among women who reported pills as ideal at counseling, those who were assigned to the partner invitation arm were 3.2 p.p. less likely to be using pills at the follow-up (control mean: 0.05).

In Panel D, women who were assigned to the partner invitation arm were 4.8 p.p. less likely to report pills as their ideal method at follow-up (control mean: 0.09). Furthermore, Panel E shows that among women who were using pills at follow-up, those who were prompted with the choice to invite their partner were 3.7 p.p. less likely to report pills as their ideal method at follow-up (control mean: 0.06). These findings, if combined with our previous findings on partner preferences in Table A.2, suggests that women's preferences and subsequent behavior are also shaped by their partners' reported aversion to pills relative to implants and injectables. To this end, we observe evidence of substitution away from pills, both in terms of women's stated preferences and actual use, and towards implants and injectables, both of which are more aligned towards their partners' preferences for methods.

### I.0.4 *Rhythm Methods / Withdrawal / Other Traditional Methods*

Among our sample of 112 husbands, 6 percent of husbands reported their stated ideal method to be a traditional method, including the rhythm method (1 percent), withdrawal (4 percent), or other traditional methods (1 percent). Given the rather low levels of support among husbands for these three traditional methods, we expect to observe a smaller, dampening effect of the partner invitation on women's preferences for and use of these methods. Results in Column (4) of Table I.1 confirm our predictions. There is no impact of the partner invitation intervention on women's stated preferences for these methods following counseling

or on women's use of these methods at follow-up. Among women who were using these methods at the follow-up, partner invitations reduce women's likelihood of reporting them as their ideal contraceptive methods by 0.01 p.p.(control mean: 0.01, Panel E). To this end, we find a significantly higher discordance between women's preferences and method use at follow-up for women who were invited to bring their partners with them to counseling and who continued to use traditional methods of contraception.

Our disaggregated results by method type reveal that encouraging women to invite their partners to counseling compels women to report methods that their partners are more likely to prefer (in our case, partner preferences for implants and, to a lesser degree, injectables). To this end, women who were encouraged to invite their partner were more likely to be concordant between their stated ideal method and actual method use. In contrast, partner invitations to counseling are likely to inhibit women's reported preferences and use of methods that are not aligned with their partner's stated preferences (in our case, preferences for pills). For women who were using pills, being encouraged to invite their partners to counseling may reduce their likelihood of reporting pills as their ideal contraceptive method, and hence less likely to be concordant between their ideal method following counseling and their realized method use at follow-up.

Consistent with our findings for partners' preferences for contraceptive methods in Table A.2, men prefer implants and injectables to other methods, so their presence during counseling, or even perhaps their potential involvement in contraceptive decision-making outside of counseling, may compel women to change their preferences, and stated preferences in particular, to more closely resemble their partners' own preferences, potentially at the risk of crowding out women's own individual preferences for methods.

By the same token, we investigate the impact of the tailored counseling intervention on the same outcomes (Table I.2). We find tailored counseling to be particularly significant for shaping women's preferences around injectables, the most commonly used method in Malawi. In particular, women who received a tailored counseling session did not differ in

Table I.1: Treatment Effect of the Partner Invitation by Method Type

| | Implants | Injectables | Pills | Rhythm/Withdrawal/Traditional |
|---|---|---|---|---|
| **A. Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.011 | 0.066** | -0.020 | 0.006 |
| | [0.040] | [0.039] | [0.018] | [0.010] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.41 | 0.34 | 0.06 | 0.01 |
| **B. Follow-up Method: Method Above** | | | | |
| Partner Invitation | 0.030 | 0.014 | -0.023 | -0.016* |
| | [0.036] | [0.040] | [0.022] | [0.012] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.30 | 0.43 | 0.09 | 0.03 |
| **C. FUP method = Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.077*** | 0.050* | -0.032** | -0.002 |
| | [0.032] | [0.035] | [0.015] | [0.006] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.17 | 0.22 | 0.05 | 0.01 |
| **D. Follow-up Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.057* | 0.055* | -0.048*** | -0.008 |
| | [0.038] | [0.038] | [0.021] | [0.007] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.33 | 0.31 | 0.09 | 0.01 |
| **E. FUP Method = FUP Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.061** | 0.043* | -0.037*** | -0.011** |
| | [0.028] | [0.033] | [0.016] | [0.006] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.12 | 0.19 | 0.06 | 0.01 |

Notes: The dependent variable in Panel A indicates whether a woman's stated ideal method at the post-counseling stage is the method specified above. The dependent variable in Panel B indicates whether her method use at the follow-up is the method specified above. The dependent variable in Panel C takes 1 if both the post-counseling stated ideal method and the follow-up method use are the method specified above. The dependent variable in Panel D takes 1 if the follow-up stated ideal method is the method specified above. The dependent variable in Panel E takes 1 if both her stated ideal method and her method use at follow-up are the method specified above. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedasticity-robust standard errors are in brackets. *** 1%, ** 5%, * 10%.

their likelihood of choosing injectables as their stated ideal method after counseling, or the likelihood that they were using injectables at the follow-up. However, as can be seen from the third panel of Table I.2, among women who chose injectables as their stated ideal method at the post-counseling session, tailored counseling reduced their likelihood of using the method at follow-up by 5.4 p.p. (control mean: 0.29), which is marginally significant at the 10

Table I.2: Treatment Effect of Tailored Counseling by Method Type

| | Implants | Injectables | Pills | Rhythm/Withdrawal/Traditional |
|---|---|---|---|---|
| **A. Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.042 | 0.003 | -0.021 | 0.003 |
| | [0.040] | [0.038] | [0.018] | [0.010] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.44 | 0.39 | 0.06 | 0.01 |
| **B. Follow-up Method: Method Above** | | | | |
| Tailored Counseling | -0.003 | -0.037 | 0.006 | 0.002 |
| | [0.036] | [0.040] | [0.021] | [0.011] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.32 | 0.47 | 0.07 | 0.02 |
| **C. FUP Method = Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.030 | -0.054* | -0.002 | -0.002 |
| | [0.033] | [0.035] | [0.014] | [0.006] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.24 | 0.29 | 0.03 | 0.01 |
| **D. Follow-up Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.025 | -0.037 | 0.001 | 0.005 |
| | [0.038] | [0.038] | [0.020] | [0.006] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.38 | 0.37 | 0.06 | 0.00 |
| **E. FUP Method = FUP Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.037 | -0.090*** | 0.017 | 0.008** |
| | [0.029] | [0.033] | [0.014] | [0.005] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.18 | 0.27 | 0.02 | 0.00 |

Notes: The dependent variable in Panel A indicates whether a woman's stated ideal method at the post-counseling stage is the method specified above. The dependent variable in Panel B indicates whether her method use at the follow-up is the method specified above. The dependent variable in Panel C takes 1 if both the post-counseling stated ideal method and the follow-up method use are the method specified above. The dependent variable in Panel D takes 1 if the follow-up stated ideal method is the method specified above. The dependent variable in Panel E takes 1 if both her stated ideal method and her method use at follow-up are the method specified above. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedasticity-robust standard deviations are in brackets. *** 1%, ** 5%, * 10%.

percent level. Women who received a tailored counseling session were marginally, but not significantly, less likely to choose injectables as their stated ideal method at the follow-up session. Among women who were using injectables at follow-up, tailored counseling reduced their likelihood of considering the method as their stated ideal method by 9.0 p.p. at follow-up (control mean: 0.27).

# J Interaction Effects of the Two Interventions

Given our limited sample size, we estimated that we would *ex ante* lack statistical power to be able to detect interaction effects between the two interventions on our key outcomes, which we pre-specified in our study protocol (Karra and Zhang, 2020). For completeness, however, we present a fully interacted specification of our two interventions across key outcomes and by method type in Table J.1 and Table J.4. Findings from these tables generally support the conclusions that we have drawn from analyzing the interventions separately, although the estimates of intervention impact are generally less significant due to the wider confidence intervals that are obtained with our limited sample.

To more effectively understand how the two interventions may reinforce each other, we follow Athey et al. (2023) and investigate the stratified impact of partner invitations on our key outcomes among those women who were randomly assigned to the tailored counseling group and the standard, long counseling group, respectively. Interestingly, the positive impacts of partner invitations for implants are largely driven by the subgroup of women who were assigned to the tailored counseling group. We display the results of the intervention effect of the partner invitation effect among the tailored counseling group in Table J.2. In particular, for women who were administered a tailored counseling session and who chose implants as their ideal method right after counseling, partner invitations make them significantly more likely to be using implants at the follow-up. Furthermore, partner invitations make women more likely to report implants as their ideal contraceptive method at the follow-up, and exhibit concordance between their stated ideal method and method use at the follow-up session. These effects were driven by the tailored counseling group.

By the same token, the negative impacts of partner invitations for pills are also driven by the tailored counseling group of women. For women who were administered a tailored counseling session and who chose pills as their ideal contraceptive method right after the counseling session, partner invitations make them less likely to be using pills at the follow-

Table J.1: Interaction Effects of Tailored Counseling and Partner Invitation Interventions

| | (1) | (2) | (3) |
|---|---|---|---|
| **A: Change in Stated Ideal Method from Counseling to Follow-up** | | | |
| Tailored Counseling | 0.019 | 0.019 | 0.015 |
| | [0.065] | [0.065] | [0.065] |
| Partner Invitation | -0.081 | -0.082 | -0.079 |
| | [0.064] | [0.064] | [0.065] |
| Tailored Counseling × Partner Invitation | 0.022 | 0.024 | 0.021 |
| | [0.083] | [0.083] | [0.084] |
| N | 635 | 635 | 635 |
| Dep. mean | 0.45 | 0.45 | 0.45 |
| **B: Change in Method Use from Counseling to Follow-up** | | | |
| Tailored Counseling | -0.031 | -0.039 | -0.038 |
| | [0.048] | [0.047] | [0.047] |
| Partner Invitation | 0.006 | -0.002 | -0.004 |
| | [0.049] | [0.048] | [0.048] |
| Tailored Counseling × Partner Invitation | 0.057 | 0.066 | 0.066 |
| | [0.063] | [0.062] | [0.063] |
| N | 638 | 638 | 638 |
| Dep. mean | 0.18 | 0.18 | 0.18 |
| **C: Discordance: Post-Counseling Stated Ideal Method and Follow-up Method Use** | | | |
| Tailored Counseling | 0.064 | 0.051 | 0.041 |
| | [0.064] | [0.064] | [0.064] |
| Partner Invitation | -0.086* | -0.101* | -0.097* |
| | [0.064] | [0.063] | [0.063] |
| Tailored Counseling × Partner Invitation | 0.020 | 0.032 | 0.038 |
| | [0.083] | [0.081] | [0.082] |
| N | 638 | 638 | 638 |
| Dep. mean | 0.48 | 0.48 | 0.48 |
| **D: Discordance: Stated Ideal Method and Method Use at Follow-up** | | | |
| Tailored Counseling | 0.065 | 0.054 | 0.055 |
| | [0.064] | [0.063] | [0.063] |
| Partner Invitation | -0.058 | -0.071 | -0.059 |
| | [0.065] | [0.064] | [0.064] |
| Tailored Counseling × Partner Invitation | 0.053 | 0.065 | 0.051 |
| | [0.082] | [0.081] | [0.082] |
| N | 635 | 635 | 635 |
| Dep. mean | 0.57 | 0.57 | 0.57 |
| Balancing controls | | x | x |
| Area FE | | | x |

Notes: In Panel A, the dependent variable is a binary variable that indicates whether a woman's stated ideal method at counseling differs from her stated ideal method at follow-up. In Panel B, the dependent variable is a binary variable that indicates if the woman's method use at counseling differs from her method use at follow-up. In Panel C, the dependent variable is a binary variable that indicates if the woman's stated ideal method at counseling differs from her method use at follow-up. In Panel D, the dependent variable is a binary variable that indicates if the woman's method use differs from her stated ideal method at follow-up. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

up. Also, partner invitations make women less likely to report pills as their ideal method at the follow-up, or exhibit concordance at the follow-up session. These effects are exclusively driven by women who were assigned to the tailored counseling group. The findings suggest that a more targeted counseling session may have facilitated concordance in preferences for contraception between women and their male partners, although it is not clear exactly how concordance was achieved (and what may have been given up by either party to achieve concordance).

Analogously, we examine the impact of the tailored counseling intervention on key outcomes by method type among the subgroups of women who received and who did not receive partner invitations, respectively. The main estimates for the impact of tailored counseling on key outcomes by method type are presented in Table I.2. The results of the intervention effect of the tailored counseling intervention among the partner invitation group can be seen in Table J.3. Among women who were using injectables at follow-up, we find that tailored counseling induces them to be less satisfied with this contraceptive method; however, the choice to invite their partner to counseling was not exclusively driving this impact. Rather, this impact of tailored counseling on the concordance at the follow-up can be seen regardless of whether or not women were encouraged to invite their partners to counseling.

Table J.2: Treatment Effect of the Partner Invitation by Method Type, Among Women who were Assigned to Tailored Counseling

| | Implants | Injectables | Pills | Rhythm/Withdrawal/Traditional |
|---|---|---|---|---|
| **A. Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.036 | 0.051 | -0.041** | -0.005 |
| | [0.052] | [0.052] | [0.021] | [0.015] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.38 | 0.35 | 0.06 | 0.02 |
| **B. Follow-up Method: Method Above** | | | | |
| Partner Invitation | 0.055 | 0.033 | -0.035 | -0.032** |
| | [0.048] | [0.052] | [0.029] | [0.015] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.27 | 0.41 | 0.10 | 0.04 |
| **C. FUP method = Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.094** | 0.031 | -0.050*** | -0.011* |
| | [0.041] | [0.045] | [0.019] | [0.008] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.15 | 0.21 | 0.06 | 0.01 |
| **D. Follow-up Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.117*** | 0.033 | -0.057** | -0.017** |
| | [0.049] | [0.049] | [0.027] | [0.010] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.29 | 0.31 | 0.09 | 0.02 |
| **E. FUP Method = FUP Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.071** | 0.028 | -0.059*** | -0.017** |
| | [0.036] | [0.041] | [0.022] | [0.010] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.10 | 0.16 | 0.07 | 0.02 |

Notes: The dependent variable in Panel A indicates whether a woman's stated ideal method at the post-counseling stage is the method specified above. The dependent variable in Panel B indicates whether her method use at the follow-up is the method specified above. The dependent variable in Panel C takes 1 if both the post-counseling stated ideal method and the follow-up method use are the method specified above. The dependent variable in Panel D takes 1 if the follow-up stated ideal method is the method specified above. The dependent variable in Panel E takes 1 if both her stated ideal method and her method use at follow-up are the method specified above. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedasticity-robust standard errors are in brackets. *** 1%, ** 5%, * 10%.

Table J.3: Treatment Effect of Tailored Counseling by Method Type, Among Women who were Assigned to the Partner Invitation

| | Implants | Injectables | Pills | Rhythm/Withdrawal/Traditional |
|---|---|---|---|---|
| **A. Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.026 | 0.020 | -0.040** | -0.007 |
| | [0.052] | [0.051] | [0.020] | [0.014] |
| N | 368 | 368 | 368 | 368 |
| Control mean | 0.43 | 0.41 | 0.06 | 0.02 |
| **B. Follow-up Method: Method Above** | | | | |
| Tailored Counseling | 0.021 | -0.008 | -0.010 | -0.016* |
| | [0.049] | [0.052] | [0.026] | [0.012] |
| N | 368 | 368 | 368 | 368 |
| Control mean | 0.31 | 0.46 | 0.07 | 0.02 |
| **C. FUP Method = Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | 0.001 | -0.046 | -0.023** | -0.011* |
| | [0.046] | [0.046] | [0.013] | [0.008] |
| N | 368 | 368 | 368 | 368 |
| Control mean | 0.25 | 0.31 | 0.03 | 0.01 |
| **D. Follow-up Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | 0.032 | -0.037 | -0.007 | -0.005 |
| | [0.051] | [0.050] | [0.022] | [0.005] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.36 | 0.40 | 0.05 | 0.01 |
| **E. FUP Method = FUP Stated Ideal Method: Method Above** | | | | |
| Tailored Counseling | -0.018 | -0.072* | -0.008 | 0.000 |
| | [0.040] | [0.044] | [0.013] | [.] |
| N | 366 | 366 | 366 | 366 |
| Control mean | 0.19 | 0.28 | 0.02 | 0.00 |

Notes: The dependent variable in Panel A indicates whether a woman's stated ideal method at the post-counseling stage is the method specified above. The dependent variable in Panel B indicates whether her method use at the follow-up is the method specified above. The dependent variable in Panel C takes 1 if both the post-counseling stated ideal method and the follow-up method use are the method specified above. The dependent variable in Panel D takes 1 if the follow-up stated ideal method is the method specified above. The dependent variable in Panel E takes 1 if both her stated ideal method and her method use at follow-up are the method specified above. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedasticity-robust standard deviations are in brackets. *** 1%, ** 5%, * 10%.

Table J.4: Interaction Effects of Tailored Counseling and Partner Invitation Interventions, by Method Type

| | Implants | Injectables | Pills | Rhythm/Withdrawal/Traditional |
|---|---|---|---|---|
| **Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | -0.037 | 0.076 | 0.002 | 0.025** |
| | [0.064] | [0.061] | [0.029] | [0.011] |
| Tailored Counseling | -0.083* | 0.022 | 0.001 | 0.023** |
| | [0.063] | [0.061] | [0.030] | [0.012] |
| Partner Invitation × Tailored Counseling | 0.070 | -0.014 | -0.042 | -0.031* |
| | [0.082] | [0.080] | [0.036] | [0.019] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.41 | 0.34 | 0.06 | 0.01 |
| **Follow-up Method: Method Above** | | | | |
| Partner Invitation | -0.007 | -0.030 | -0.003 | 0.010 |
| | [0.059] | [0.064] | [0.032] | [0.015] |
| Tailored Counseling | -0.036 | -0.075 | 0.022 | 0.026* |
| | [0.058] | [0.064] | [0.035] | [0.018] |
| Partner Invitation × Tailored Counseling | 0.062 | 0.064 | -0.033 | -0.044** |
| | [0.076] | [0.082] | [0.043] | [0.022] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.30 | 0.43 | 0.09 | 0.03 |
| **FUP Method = Post-Counseling Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.046 | 0.054 | -0.007 | 0.012* |
| | [0.053] | [0.057] | [0.022] | [0.008] |
| Tailored Counseling | -0.047 | -0.037 | 0.018 | 0.012* |
| | [0.050] | [0.055] | [0.026] | [0.008] |
| Partner Invitation × Tailored Counseling | 0.048 | -0.017 | -0.042* | -0.024** |
| | [0.067] | [0.072] | [0.029] | [0.012] |
| N | 638 | 638 | 638 | 638 |
| Control mean | 0.17 | 0.22 | 0.05 | 0.01 |
| **Follow-up Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | -0.030 | 0.062 | -0.040 | 0.007 |
| | [0.063] | [0.062] | [0.033] | [0.006] |
| Tailored Counseling | -0.102** | -0.018 | 0.003 | 0.018** |
| | [0.061] | [0.061] | [0.037] | [0.010] |
| Partner Invitation × Tailored Counseling | 0.141** | -0.020 | -0.015 | -0.024** |
| | [0.080] | [0.079] | [0.043] | [0.012] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.33 | 0.31 | 0.09 | 0.01 |
| **FUP Method = FUP Stated Ideal Method: Method Above** | | | | |
| Partner Invitation | 0.034 | 0.015 | -0.002 | 0.001 |
| | [0.049] | [0.058] | [0.018] | [0.002] |
| Tailored Counseling | -0.051 | -0.100** | 0.045** | 0.017** |
| | [0.045] | [0.054] | [0.025] | [0.010] |
| Partner Invitation × Tailored Counseling | 0.038 | 0.025 | -0.056** | -0.018** |
| | [0.060] | [0.071] | [0.028] | [0.010] |
| N | 635 | 635 | 635 | 635 |
| Control mean | 0.12 | 0.19 | 0.06 | 0.01 |

Notes: The dependent variable in the first panel indicates if a woman's stated ideal method at the post-counseling stage is the method specified above. The dependent variable in the second panel indicates if her method use at the follow-up is the method specified above. The dependent variable in the third panel takes 1 if both her post-counseling stated ideal method and her follow-up method use are the method specified above. The dependent variable in the fourth panel takes 1 if her follow-up stated ideal method is the method specified above. The dependent variable in the fifth panel takes 1 if both her stated ideal method and her method use at follow-up are the method specified above. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedasticity-robust standard errors are in brackets. *** 1%, ** 5%, * 10%.

# K Results by Pre-Counseling Ideal Method and Top Method Attribute Concordance

Among the 366 women (out of the 638 women in the analytic sample) who were counseled and who were assigned to the tailored counseling intervention, a total of 264 women (72.1 percent) were counseled on the contraceptive method that they had identified to be their stated ideal method prior to counseling, indicating that their stated ideal method was concordant with their top method attribute and was therefore included in their method flipchart. For the remaining 102 women who were assigned to the tailored counseling session, their stated ideal method prior to counseling was discordant with their reported top method attribute and was therefore not included in the attribute-based method flipchart that they received as part of counseling.

Among women who were counseled on their pre-counseling stated ideal method, we find that women assigned to the tailored counseling arm were more likely to change their stated ideal method from pre-counseling to post-counseling and from pre-counseling to follow-up. In the meantime, women who were assigned to the tailored counseling arm were not more likely to change method use from counseling to follow-up and were therefore more likely to be discordant between their method use and stated ideal method at endline.

Among women who were not counselled on their pre-counseling stated ideal method, we find that those women who were assigned to the tailored counseling arm were less likely to be discordant between their method use and stated ideal method at follow-up.

Table K.1: Treatment Effect of Tailored Counseling, Among Women who were Counseled on their Ideal Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.036 | 0.065* | 0.001 | -0.008 | 0.018 |
| | [0.034] | [0.044] | [0.017] | [0.026] | [0.017] |
| N | 526 | 523 | 526 | 526 | 526 |
| Control mean | 0.16 | 0.41 | 0.04 | 0.10 | 0.03 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | 0.089** | 0.140*** | 0.112*** | 0.142*** | |
| | [0.043] | [0.042] | [0.042] | [0.042] | |
| N | 526 | 523 | 526 | 523 | |
| Control mean | 0.42 | 0.51 | 0.40 | 0.53 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

Table K.2: Treatment Effect of Tailored Counseling, Among Women who were Not Counseled on their Ideal Method

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | -0.170 | -0.383*** | 0.062* | 0.047 | -0.268** |
| | [0.172] | [0.159] | [0.041] | [0.114] | [0.152] |
| N | 112 | 112 | 112 | 112 | 112 |
| Control mean | 0.50 | 0.80 | 0.00 | 0.10 | 0.30 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | -0.124 | -0.126 | 0.054 | -0.139 | |
| | [0.163] | [0.188] | [0.163] | [0.180] | |
| N | 112 | 112 | 112 | 112 | |
| Control mean | 0.70 | 0.70 | 0.60 | 0.70 | |

Notes: Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

# L IV Analysis: Partner Participation in Counseling

While we are interested in identifying the causal effect of partner engagement on outcomes, we recognize that directly estimating this relationship will likely be biased due to potential unobservable selection into partner engagement. Specifically, women who chose to invite and attend counseling with their partners may be inherently different from women who attended counseling by themselves. By the same token, men who engage and participate in counseling, conditional on being invited, may be different than men who do not participate. As a means to account for potential endogeneity and unobservable selection into partner engagement, we conduct an instrumental variable (IV) analysis of the main effects of the partner invitation intervention on the same outcomes as in Table 3 and in the subgroup analyses of the partner invitation intervention, where we use the random assignment to partner invitation groups as an instrument for the partner's presence at counseling. Results from this IV analysis are presented in Table A.4 to Table A.8.

For the IV analysis to be valid, it must satisfy the following two criteria:

1. *Instrument relevance*, where the instrument (the randomized encouragement to invite partners to counseling) must be correlated with the endogenous variable being instrumented (partner participation in counseling); and

2. The *exclusion restriction*, whereby the effect of the instrument on the outcome(s) of interest must be entirely mediated through the endogenous variable being instrumented, and where there is no other path through which the instrument and outcome(s) of interest are related other than through the endogenous variable. In our case, the exclusion restriction requires that the intervention of encouraging women to invite their partners to counseling exerts an influence on the outcomes of interest exclusively through the partner's engagement in the counseling session.

While the IV estimates are consistent with the main results that we present in Table 3, these results may be hard to interpret because the exclusion restriction is unlikely to hold in

this context. Specifically, it may be the case that the counselors' encouragement of women to invite their partners may exert an effect on women's stated ideal method, method use, and concordance *independently of whether or not their partners actually attend counseling.* As a simple falsification test of the exclusion restriction, we re-run the ITT partner invitation analysis in Table 3, but we now include partner participation as a covariate in the models. If the effect between the invitation and outcome were, in fact, entirely mediated through partner participation, then the coefficient on the intervention when participation is included would be zero. As we see in Table A.9, however, the magnitude and significance of coefficients still remain even with inclusion of partner participation in counseling into the main regression, indicating that receipt of the partner invitation does not affect outcomes exclusively through the participation of the partner. Instead, encouraging women to invite their partner to counseling may have served as a signal that already exerted an effect on women's articulation of their stated and revealed preferences *independently* of their partner's participation in the counseling session. Given this likely violation of the exclusion restriction, we do not present the IV estimates as part of our main results.

# M The Effect of Tailored Counseling by Women's Prior Contraceptive Knowledge

For women who reported hearing of more than four contraceptive methods at baseline (the median number of contraceptive methods reported to be known to our sample), providing a tailored counseling session that was based on their most preferred contraceptive method attribute increased their likelihood of changing their stated ideal method over time by 10.3 p.p. (control mean: 0.43). Interestingly, current users with more prior knowledge of contraception were more likely to discontinue their current method use following receipt of the tailored counseling session. Given the change in women's stated ideal method and a lack of change in their actual behavior, these women were more likely to be discordant between their stated ideal method and actual method use at follow-up (Table M.1).

Table M.1: Treatment Effect of Tailored Counseling, Among Women with More Prior Contraceptive Knowledge

| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.058 | 0.103** | 0.021 | -0.020 | 0.031** |
| | [0.048] | [0.059] | [0.028] | [0.036] | [0.018] |
| N | 294 | 293 | 294 | 294 | 294 |
| Control mean | 0.18 | 0.43 | 0.05 | 0.10 | 0.02 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | 0.114** | 0.125** | 0.110** | 0.096** | |
| | [0.057] | [0.057] | [0.057] | [0.057] | |
| N | 294 | 293 | 294 | 293 | |
| Control mean | 0.39 | 0.52 | 0.38 | 0.55 | |

Notes: The analysis is conducted among women who heard of more than 4 contraceptive methods at baseline. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.

In contrast, for women who heard of four or fewer contraceptive methods at baseline, tailored counseling did not change their stated ideal method or method use relative to the standard counseling session, which may reflect the limited importance of salience and anchoring for their decision-making. For these women, who had less prior information, their preferences and subsequent choices may therefore be less likely be confounded, and they may in turn benefit more, from more extensive counseling (Table M.2).

Table M.2: Treatment Effect of Tailored Counseling, Among Women with Less Prior Contraceptive Knowledge

| | | | | | |
|---|---|---|---|---|---|
| **A. Stated Ideal Method and Method Use** | | | | | |
| | Change to Stated Ideal Method Between... | | Change in Method Use Between... | | |
| | Pre-Counseling and Post-Counseling | Counseling and Follow-Up | Counseling and Follow-Up (Adoption) | Counseling and Follow-Up (Switching) | Counseling and Follow-Up (Discontinuation) |
| Tailored Counseling | 0.043 | -0.000 | -0.006 | -0.005 | -0.017 |
| | [0.043] | [0.054] | [0.017] | [0.032] | [0.026] |
| N | 344 | 342 | 344 | 344 | 344 |
| Control mean | 0.17 | 0.42 | 0.03 | 0.10 | 0.06 |
| **B. Discordance** | | | | | |
| | Whether Method Use at FUP is Discordant with... | | Whether Method Use at Counseling is Discordant with... | | |
| | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | Stated Ideal Method after Counseling | Stated Ideal Method at FUP | |
| Tailored Counseling | 0.046 | 0.065 | 0.097** | 0.068 | |
| | [0.054] | [0.054] | [0.053] | [0.053] | |
| N | 344 | 342 | 344 | 342 | |
| Control mean | 0.46 | 0.51 | 0.43 | 0.51 | |

Notes: The analysis is conducted among women who heard of no more than 4 contraceptive methods at baseline. Balancing control variables include a woman's age, her contraceptive use at baseline, and whether her most valued attribute was contraceptive effectiveness. Area fixed effects are included in all specifications. Heteroskedastic-robust standard errors are presented in brackets. *** 1%, ** 5%, * 10%.