

Increasing condom usage by empowering young women: Results from a randomized controlled trial in Pakistan

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Key messages:

- Globally, there is a large unmet need for contraceptives, especially among women aged 20-24.
- Pakistan's population continues to grow rapidly and fertility decline has stagnated.
- We leverage low-cost logistics services to provide doorstep delivery of condoms to Pakistani households.
- We find that households with young women have the highest take-up of our doorstep condom delivery service.
- A well targeted policy leveraging fast growing local delivery services can potentially help close the gap of unmet need for contraceptives.

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Abstract

Pakistan's contraceptive uptake rate has stagnated and its fertility is the highest in South Asia, 3.5 children per woman, which may be driven by low contraceptive uptake. We hypothesize that behavioral biases are holding back demand for contraceptives. Specifically, in Pakistan it may not be normal to have the seemingly innocuous interaction to buy condoms, due to which demand is suppressed. We test our hypothesis using a randomized controlled trial in which our core intervention makes accessing condoms an event that induces less social anxiety through a free-of-cost anonymized phone-based door-step delivery of condoms. The control arm provides free shop-redeemable coupons to mimic business-as-usual condom buying. We find, contrary to what we hypothesized, that shop-redeemable coupons are more popular than the seemingly more discrete home delivery option. However, we find that home delivery of condoms is more popular among households with young women – a remarkable result given the patriarchal setting and the fact that the product is used by the male member in a couple. We conjecture that the home delivery option enabled young women to increase uptake of an important contraceptive product. We explain these findings as a combination of two things. First, this may be a case of diverging intergenerational preferences, where younger people are more familiar with ordering delivery to their home, while older people tend to be more comfortable with more traditional shop-based purchasing. Second, our shop-redeemable coupons may have reduced anxiety related to shop purchase by reducing the duration and intensity of the shop-interaction. Young women are the most relevant group to future global population size and it is critical to enable them to better manage their fertility. Our study suggests that targeting young women with a home-delivery option for access to condoms offers an effective way to increase uptake.

Introduction

Globally, more than 200 million women have an unmet need for contraception in developing countries which is a leading cause for 74 million unintended pregnancies every year (Sedgh et al 2016). Of these women, 20- to 24-year-olds present with the largest unmet demand (MacQuarrie 2014). A large population presents real negative welfare consequences (World Bank 1989, World Bank 2010). Specifically, high fertility results in substantial health risks for children and mothers including serious risks of mortality for both (Mahy 2003) and has real negative consequences for economic growth (Barro 1991). Can low-cost delivery services offer an effective way to increase contraceptive uptake? We attempt to answer this question using a randomized controlled trial in the city of Lahore, Pakistan.

Pakistan, has a population growth rate of 2% (World Bank) – the highest in South Asia and one of the highest in the world with a projected total population exceeding 300 million by the year 2050 (United Nations 2017). Consequently, reducing this high population growth rate is a high priority public policy issue and one that the Government of Pakistan is actively seeking to address (Khan et al. 2013). In Pakistan, women in the reproductive age of 19 to 45 years have an average fertility rate of 51 births per 1,000 women (UNFPA 2013). The contraceptive prevalence rate is amongst the lowest in the South Asia region, at just 26% (Pakistan Bureau of Statistics 2017), compared to a regional average above 50% (United Nations 2015). According to a recent report by UNFPA, women of reproductive age in Pakistan have an unmet need for family planning which has increased from 2.8% to 17.3% from 2012 to 2017 (Ahmed et al., 2019). There are frequent stock outs at sources of supply (Population Council 2016). Pharmacies are particularly prone to stock outs; for instance, at any given point in time across pharmacies, only 38% stock condoms and 29 percent stock OCPs in rural areas (Population Council 2016). Community health workers (CHWs) offer an alternate supply of contraceptives but also suffer from inconsistency in supply. This is particularly painful for poor consumers as they must then obtain contraceptives at a higher cost (cost in the form of their own time and money). Thus, there is a distinct challenge in the quality of access at typical sources of contraceptive supply. Finally, surveys on family

planning reveal that men and women strongly call for doorstep delivery of services (Population Council 2016). CHWs offer a pathway to this but the existing inconsistency of their interaction and supply of family planning materials and counseling means this is an unreliable pathway. An alternate option is needed to fill the demand for doorstep services.

The literature on family planning in Pakistan does not provide clear and rigorous evidence on the role that behavioral biases play in hampering contraceptive uptake. First, existing research on family planning suggests the need for privacy: there is demand for family planning but there is some degree of social anxiety surrounding it (Population Council 2016). Providing information, and perhaps even contraceptives, in a more private manner may enhance demand. The bulk of studies seem to center on improving access to information and a regular supply of contraceptives (Kavanaugh et al., 2008; Abdulghani et al., 2009; Rogan et al., 2010; Azmat et al., 2013). The combination of standard counseling and access is an important first step in understanding the low uptake of contraceptives by men and women. But success in improving uptake is mixed, with studies often finding limited increases in uptake for short time horizons. Traditional counseling interventions have limited success and new approaches are needed.

Atkunda et al (2018) test the use of vouchers for counseling and contraceptive services in Uganda. Simply providing vouchers bumps up contraceptive uptake of counseling services and earlier uptake of contraceptives. Innovative methods to deliver family planning counseling have also been tried, showing promise. Diez et al (2018) test community-based counseling which takes standard counseling procedures from the WHO and tailors them to more culturally specific variants delivered in a community space such as a library or community center. McCarthy et al (2019) use advances in communications technology to deliver counseling to target audiences through mobile phones. In this same vein, Stephenson et al (2011) use video messages (in a high-risk group of HIV positive couples). The benefits of phone and video

delivery are scalability. So, variations to the basic counseling format and its delivery have been tried, all with some degree of success.

However, the intervention space is very large in terms of information provision i.e. there are many potential informational deficiencies that can be addressed. Existing studies offer what can be called standard counselling i.e., advising potential contraceptive users about the benefits of birth-spacing and fewer children, while also providing information on where they can access these contraceptives. Female contraceptives often have non-trivial deployment (e.g. insertion of an intrauterine contraceptive device such as the copper-T requires a trained medical professional in a sterile clinical setting) and non-trivial potential side-effects such as bleeding, hair loss and weight-gain. There is little that has been done in this space. Ashraf et al (2014b) explore the role of intra-household bargaining by varying whether women are offered contraceptives in private or in front of their partners. When offered in private, without their husband's knowledge, women are more likely to take up and use contraceptives. This points to differing fertility goals between men and women in a fertile couple. Ashraf et al (2014b) leverage this idea to improve uptake by making the decision discrete by offering concealable contraceptives so that usage could also be kept private by women users. On the supply side, Ashraf et al (2014a) look at the motivation of health workers delivering condoms. Their field experiment in Zambia saw a significant increase in the sale of contraceptives through hair-stylists who worked as promoters of contraceptives in the community.

Our work explores a new channel: social anxiety around buying condoms. We hypothesize, young men in Pakistan are not trained to buy condoms i.e., it is not a normalized interaction, therefore, they hesitate from buying condoms. We test this hypothesis using a novel intervention that leverages home delivery services. To our knowledge, no one has explored this channel in the domain of family planning.

Materials and Methods

Study Sample

Our study site is an urban neighborhood located in Lahore, Pakistan, where our implementation partner, Family Planning Association of Pakistan, operates. We administered a community eligibility prior to deploying our intervention. Households were eligible for our study if they had a female of fertile age i.e., between the WHO specified ages of 18- and 49-years old, have less than five children at the time of survey and are not using any long-term method of contraception, such as IUCD, or a permanent method, such as sterilization. Using these criteria, we sampled within five sub-neighborhoods until we exhausted them, yielding a total sample of 1,128-households. The average age of men and women in our sample is 36 years and 31 years respectively. In terms of educational attainment, 97% of men and 94% of women in our sample have attended at least one year of schooling. Furthermore, 76.3% of couples in our sample have never used any family planning method and only 20.7% have ever used condoms.

Project Timeline

We administered a baseline survey in July 2019 to capture the socio-demographic characteristics of sample households. Households were randomly assigned to one of three experimental arms. Intervention activities were carried out in October and November 2019 wherein households were provided information leaflets and coupons to obtain condoms free-of-cost. The service provision of condoms, both at shops and through delivery, was initiated during the intervention phase and lasted till April 2020.

Experiment Structure

Couples were randomly allocated to one of the following three arms through randomization within a statistical software package (Stata 16) by the project team:

- *Treatment-1 Shop Coupons* (376 households): Couples allocated to this arm received six shop-coupons redeemable at local shops, each for one box containing six condoms (a six-pack box of condoms costs PKR 24 or less than USD 0.15). Along with this, they received verbal and printed instructions on how to redeem shop-coupons at specified local shops. A list of 14-shops along with their addresses was provided to all households in this arm.
- *Treatment-2 Discrete Conversation Delivery* (376 households): Couples allocated to this arm received six delivery-coupons redeemable via phone call, each coupon for one box containing six condoms. Along with this, they received verbal instructions specifically telling them that they need not do anything but simply read off their coupon number when they call to order condoms. They also received printed instructions on how to redeem their coupons via telephone call.
- *Treatment-3 Explicit Conversation Delivery* (376 households): Couples allocated to this arm received six delivery-coupons redeemable via phone call, each coupon for one box containing six condoms. Along with this, they received verbal instructions specifically telling them that when they call in, they must specify that they are ordering condoms along with reading off their coupon number. They also received printed instructions on how to redeem their coupons via telephone call. In addition, the call-responder at our end was instructed to use the word “condoms” during the order making conversation.

Intervention

One couple was recruited from each eligible household. The interventions centered on providing couples with coupons to get free condoms and the way in which those coupons could be redeemed (three modes of redemption).

Coupons and Coupon Distribution

Eligible couples were provided a set of six-coupons. The coupons looked as shown in figure A2 – a simple design that had the logo of our implementation partner, their name, the valid dates (coupons could be redeemed anytime between 1 October 2019 and 30 April 2020), a helpline number and a unique coupon code. Each coupon could be redeemed for a box containing six condoms of a local brand called *Josh*.

Health workers distributed coupons to assigned households along with provision of the relevant instructions on using the coupons. Health workers were equipped with smartphones loaded with our electronic survey to help manage implementation and worked in teams of two (one male and one female worker). We contacted households in two waves. In the first wave, our female health workers interacted with the female in the fertile couple, during day-time or typical work hours. In the second wave, our male-health workers interacted with the male in the fertile couple, after typical work hours. This allowed us to communicate with both members of a couple while accommodating local cultural norms i.e. having females speak with females and males speak with males about a culturally sensitive topic (contraceptives) taking into account the fact that male partners typically are unavailable during day-time hours as they are out for work. Thus, each household was visited twice by our health workers to ensure that we quite comprehensively targeted both members of the fertile couple.

We had three types of coupon redemption modes and for each type our health workers read a clearly worded script of instructions – prompted by our electronic survey – on how to redeem coupons along with handing over printed materials containing the same. Since households were preassigned to treatment status, each day our health workers would prepare in advance the coupon and relevant informational packet to hand over to the day's target set of couples. There were two types of printed instructions, either of which was bundled with the coupons (shown in figure A3) along with a general informational leaflet on family planning methods and services available at the local Family Health Hospital (figure A4).

The coupon code and its structure were crucial to our implementation. Each coupon code had two components (see the right-hand side of the coupon in figure A2). The first four-digits specified the coupon-book. So, all six- coupons that were part of the bundle or book handed to one couple had the same coupon-book code. The next four digits were randomly generated (but totally unique to a coupon). This enabled us to carefully match each couple to a coupon-book and, by extension, the six-coupons our workers handed over to them since we had soft copies of all our coupons. When handing over a coupon book to a couple, the worker confirmed the coupon-book number and entered it in our electronic survey, thus recording which couple got which coupons. Using this, we were able to pin point which coupon was given to which couple, which is links coupon redemption to specific couples in our sample.

Modes of Coupon Redemption

We distributed the following types of coupons depending on the experimental arm a household was allocated to:

- **Shop-coupons:** These coupons could be redeemed at a specified set of 14 locally recruited grocery stores and pharmacies. Producing this coupon at one of our recruited locations would allow a coupon holder to get a box of condoms free of cost. Coupons were paper-based and had to be physically redeemed at a participating location. The list of locations and instructions were provided to the couple in their informational packet. These instructions were also paired with a leaflet that specified this sequence of actions (panel (a) of figure A3).
- **Discrete conversation delivery-coupons:** The discrete delivery instructions conveyed to both members of the couple that they simply needed to call the number shown on a coupon, read off their coupon number to have it verified and, upon coupon verification, a delivery-rider would be dispatched immediately to their location to deliver an unmarked envelope containing a six-pack box of condoms. They were told that there was no cost to the couple for this. It was emphasized that the interaction was totally anonymous i.e. at no point would the caller be identified by name.

More importantly, they were told that telephonic conversation will be kept discrete i.e. neither the caller nor our delivery person will use the word “condoms” or suggest that condoms are being purchased. The discreteness of the conversation that they would have, should they choose to call, was emphasized. These instructions were also coupled with a leaflet that specified this sequence of actions (panel (b) of figure A3).

- **Explicit conversation delivery-coupons:** The explicit delivery instructions conveyed to couples were similar to the discrete delivery instructions i.e., emphasis on anonymity, zero-cost and procedure for delivery (calling, coupon number verification, and bike-rider delivery). The crucial difference was that the explicit delivery instructions emphasized that the coupon redeemer must specify that they are calling to order condoms i.e. the telephonic conversation to order will require that the person ordering condoms explicitly mention that they are ordering condoms. Moreover, our call responder was also prepped to bring up the fact that the caller was calling to have condoms delivered to make sure that the person ordering is aware of this in their call interaction. We ensured this by having the software prompt our delivery call receiver got. These instructions were also coupled with a leaflet that specified these actions (panel (c) of figure A3).

Shop Recruitment

We recruited 14 local pharmacies and grocery stores for our program. Shopkeepers were instructed to hand over a box of condoms to whoever produced a valid coupon free of any cost. We stocked our specific brand of condoms at each location. We started by depositing 20-boxes at each location, to be refreshed as needed. Our delivery worker polled shops regularly to check on redemptions, collecting coupons where they were handed in and checking on stock levels.

We also did a short survey of shopkeepers that had been recruited into our program. This was done in March 2020, toward the end of the intervention period. This short survey asked shopkeepers to characterize the interaction they had with customers that bought condoms from them.

Call Receipt and Delivery

The final component of our intervention package was receiving orders and delivering condoms (one-person performing both roles). Our field workers job was to receive calls from coupon-bearing customers, converse with them in specific scripted ways and deliver condoms.

Upon receiving a call, our worker verified coupon codes using a coupon codebook. Once verified, he would read out the appropriate script to the caller. If the caller was assigned to the shop coupon arm, the prompt our worker would suggest locations where the caller could redeem their coupon. If the caller was assigned to the discrete coupons arm, the worker closed out the conversation by asking to verify a delivery address (not mentioning the word “condoms”). Finally, if the caller was assigned to the explicit coupons arm, the worker would say out loud the provided script which very clearly suggested that the caller was calling to have condoms delivered and then finalize a delivery location with the caller.

Data

Our outcome is coupon redemption. This data was captured by two related administrative data streams. First, households in T1 redeemed their coupons at designated locations (local stores/pharmacies, and at the Family Health Hospital) where coupon redemption was captured. Second, data from T2 and T3 was collected by the field supervisor who delivered a single pack of condoms (one pack contains six condoms) to household door-step upon receiving a coupon associated request for delivery. Coupon redemption in all arms was captured electronically allowing us to match unique coupon codes with household identification numbers. This allowed us to track very specifically which households redeemed coupons.

Our outcome has three variations to it: total coupon redemptions, total unique households that ever redeemed a coupon and total delivery order events. An example to illustrate the differences between these variants is discussed in Appendix: Example to Illustrate Variations to Outcome.

Statistical Analysis

We use the following Ordinary Least Squares (OLS) regression specification to test the difference between store based and mobile coupon redemption rates,

$$y_i = \alpha + \beta_d T_i^d + \beta_e T_i^e + \mathbf{X}\boldsymbol{\gamma} + \varepsilon_i \quad (1)$$

Where y_i is coupon redemption for couple i , T_i^d indicates allocation to the mobile coupons treatment arm which will involve a discrete conversation (i.e. neither of the two parties will mention contraceptives) while placing an order, T_i^e indicates allocation to the mobile coupons which will involve an explicit conversation (i.e. both parties will explicitly mention that condoms are to be ordered) while placing an order. \mathbf{X} is a vector of characteristics captured at baseline. The coefficient β_d is an estimate of the difference in usage between the shop-treatment and discrete-treatment, while β_e is an estimate of the difference in usage between shop-treatment and explicit-treatment. The excluded category is the shop-treatment.

We also conduct mediation analysis to explore our results using the following OLS specification,

$$y_i = \alpha + \beta_d T_i^d + \beta_e T_i^e + \beta_{dx} T_i^d \times S_i + \beta_{ex} T_i^e \times S_i + \mathbf{X}\boldsymbol{\gamma} + \varepsilon_i \quad (2)$$

Where everything is as in equation (1) with the addition of interaction terms with characteristic S_i . β_{dx} is an estimate of the discrete conversation treatment and the presence of characteristic S_i , while β_{ex} is an estimate of the explicit conversation treatment and the presence of characteristic S_i . As before we provide

tests of difference between Treatment 2 and Treatment 3 coefficient estimates at the bottom of the table (and all subsequent tables).

Results

We provide summary statistics for our sample at baseline and a test for balanced allocation across treatment arms in Table 1. Of the original 1,128 households, we were not able to successfully recontact and offer services to 133 households due to lack of availability of the respondent while data from 11 households was not successfully captured or transmitted. This sample attrition was not measurably different across arms (table A3). We use an intent-to-treat analysis that uses the full sample.

Coupon Redemptions

We start with an analysis of coupon redemption by experimental arm using equation (1) specified above. Table 2 contains three pairs of specifications for the three versions of our outcome variable. The first in each pair presents a simple difference without baseline covariates, while the second specification in each pair includes baseline covariates. The immediate takeaway from table 2 is that the delivery service treatments are unpopular compared to the shop redeemed coupon (these results are visually represented in figure 1). First, we see that compared to about two-thirds of a coupon being redeemed by the average shop-coupon household, the average treatment-2 and treatment-3 household redeems about a half of a coupon less (specifications (1) and (2)). Next, on the extensive margin, we find that a household in both the delivery coupon arms (T2 and T3) are less likely than a shop coupon household (T1) to redeem – discrete conversation households (T2) are 9 percentage points less likely to redeem while explicit conversation households are 8 percentage points less likely to redeem compared to a mean of 12% in shop coupon households. The final pair of specifications compares order events by arm. Though the results are not statistically significant, we do note that the coefficients on both delivery arms are negative i.e., the average household in both the discrete and explicit conversation arms redeems fewer times than in the shop coupon treatment.

We also test the difference in coupon redemption between discrete conversation and explicit conversation arms; this is reported in the bottom of table 2 and subsequent tables. We find that the discrete conversation arm had lower uptake than the explicit conversation arm, though the results are not statistically significant.

Finally, we found that the likelihood of redeeming multiple coupons (i.e., all six in one go) was substantially higher in the shop-treatment despite suggesting to all households across all arms that they redeem one coupon at a time. Shop-treatment households redeemed all six of their coupons when they visited our registered shops on 38 occasions out of 47 redemption occasions, compared to just two times out of 25 redemption events for discrete-treatment and four times out of 39 redemption events for explicit-treatment.

Mediation Analysis

We conduct mediation analysis using equation (2) specified above.

Youth

First, we interact treatment terms with the age of the female (panel (a) in table 3) and male partners (panel (b) in table 3) in the fertile couple. We classify a female partner as young (30-years old or younger) and old (older than 30-years of age). The age cutoff coincides with the halfway point for the WHO defined healthy child bearing age range for women (15-years to 49-years old). We do the same for male partner's age to round out the analysis. The pattern that emerges is one where households with young women tend to redeem more using the delivery service i.e., the coefficients on the interaction terms are positive with high precision. The discrete conversation arm also seems to draw more coupon redemptions from households with young women.

Number of Children

Next, we analyze the impact of having more children – we use two measures of this: a binary set to one if there are more than three children in the household (panel (a) in table 4) and a continuous count of children in the household (panel (b) in table 4). If we focus on coupon redemption, it appears that households in the delivery arms with more children are more likely to redeem. If, instead, we focus on proportion of households that redeemed and redemption events (columns (3) to (6)), we find that the subgroup with more children tends not to use the home delivery options i.e., coefficients on the interactions across specifications are negative. We note that none of these coefficient estimates are significant at typical thresholds.

Level of Education

Finally, we interact treatment with being educated, for females (panel (a) in table 5) and males (panel (b) in table 5). Being educated is a binary variable set to one if the respondent had high-school or higher education. This binary variable for education is balanced across treatments; 77%, 72% and 74% for men and 72%, 70% and 72% for women in T1, T2 and T3 respectively. We hypothesize that households that have relatively better educated people might be more comfortable ordering using the delivery service. We find that the discrete coupon treatment seems less popular with the better educated female and male subgroups: the interaction term with the discrete and explicit delivery treatment terms are negative and significant across the three variations of outcome.

Discussion

We hypothesized that potential condom users would prefer the anonymity and discrete nature of the home delivery model. Instead, we find that shop redeemable coupon are more popular than the seemingly discrete and anonymous home-delivery service. One way to interpret our results is that we may have done the opposite of what we intended i.e., we inadvertently made the interaction in shops less anxiety-inducing when buying condoms. That is, by providing a coupon that they could redeem at a shop, the

redeeming individual's interaction in the shop is reduced to something far less stress inducing. The ideal comparison to help understand this would have been with a pure control arm where people procured condoms from shops without a coupon. We do not have data from such a pure control. However, using data from our survey of recruited shops, we find some evidence for the hypothesis that the nature of the shop interaction changed.

First, most shopkeepers report that coupon-bearing customers tend not to say anything when they come to their shop to redeem (panel (a) figure 5) and, in fact, that shopkeepers themselves do not say anything either (panel (b) figure 5). Additionally, shopkeepers report that coupon-bearing customers tend to use phrases that revolve around the coupon to indicate that they have come in to buy condoms rather than naming the product i.e., customers do not use the word "condoms" directly (figure 6). This again suggests that the coupon has helped shy customers find a way around having to ask for condoms directly when buying them. In contrast, non-coupon bearing customers say the name of the product or brand directly. This tells us that the typical, non-coupon bearing customer is different to the coupon-bearing customer. We have seemingly induced a shier buyer to come in and buy condoms through the anxiety-reducing device of a coupon.

Additionally, we find that the shop-treatment saw a much higher number of all-six or multiple coupon redemptions. Table 6 shows the proportion of recruited couples that redeemed multiple (two or more) or all-six coupons in one go across our treatment arms. Almost twice as many people in the shop-coupon arm redeemed multiple or all-six coupons in one-shot compared to the other treatments. We conjecture that the coupon redeeming individual in the shop-treatment arm wanted to reduce the number of "awkward" interactions to procure condoms in a shop by getting a large stockpile in a one-off interaction. Coupled with the evidence from shopkeeper data that seemingly shier customers seem to walk in bearing coupons, this does seem plausible.

Despite the general popularity of shop-coupons, we find that the home-delivery options are more popular among households with young women. This is a remarkable result given that Pakistan is a patriarchal society and that condoms are used by the male member of the couple. We conjecture that this result might be a case of changing intergenerational preferences i.e., younger people prefer and are more comfortable ordering home delivery more generally, thus may be more comfortable with home delivery of condoms – condoms are just another item they can have delivered at home. The combination of delivery and the relatively discrete nature of the conversation worked well for households with young women in them, as we see in panel (a) of table 3.

Building on the analysis in table 3, we study the usage of our three services among women of different age categories in table 7, highlighting in particular the category of women who have the highest unmet demand globally i.e., women between 20-24 years of age (MacQuarrie 2014). What we see is a distinct pattern across all three measures of service usage: women in the 20-24 year age category distinctly prefer our home delivery services as compared to the shop pick up. In all other age categories, the shop coupon is the preferred way to access condoms but for the 20-24 year old age category, it is overwhelmingly the discrete delivery option that is most preferred.

Additionally, we find a distinct temporal pattern in coupon redemptions. Specifically, we find that shop-coupons tended to be redeemed near the weekend (panel (a) of figure 7), while delivery coupons tended to be utilized more evenly throughout the week (panels (b) and (c) of figure 7). The shop-coupon redemption seems to be timed with existing patterns of shopping or is more planned i.e., if someone tends to go shopping for things on the weekend, they will redeem their shop-coupons then too. Delivery coupons are redeemed almost evenly across weekdays and weekends, which suggests that users of these tend to use them in a manner that is more in line with the intent of a delivery service i.e. for their more on-demand form, using them when they “feel” like and not in a rigidly planned manner. It seems that

those who have internalized the convenience of home delivery – young people, as we conjecture – are more likely to use it in its “truer” on-demand form.

To further analyze this pattern, we decompose the redemption timing pattern by whether the household has an older or a younger woman (figures 8). What we show in figure 8 is an age breakdown i.e., older and younger female households by day of week for each of the three outcome measures (panels (a), (b) and (c)). We find that shop coupons are less popular with younger women (the bars for older women are taller than those for younger women in panel a) and that the two delivery options are more popular with them (the bars for younger women are taller than those for older women in panel b and c), as expected. The feature that is most telling about these graphs is that for older women we find a clear pattern of preferring the weekend for shop or delivery coupon redemptions, while there is no clear pattern for younger women. For the shop coupon, it seems younger women have a preference to redeem on the weekend, while for the discrete delivery coupon the pattern is reversed and redemptions occur mostly during the week. Thus, it seems younger women use the delivery services more and in a manner that seems to align with its intended use i.e., on-demand delivery rather than rigidly tied to typical patterns of shopping.

Taken together, our results have two important policy implications. First, for the group that globally has the highest unmet need i.e., women between 20-24 years of age, the option of discrete home-delivery of condoms is a worthwhile option to consider. As low-cost delivery services proliferate in the developing world (Singh 2019), including in Pakistan, there is a distinct opportunity to help meet the unmet need for this important age group of women.

Second, as we consider options to improve access to contraceptives, we must carefully calibrate programming oriented toward increasing contraceptive uptake. What was seemingly a discrete and low burden way of accessing condoms i.e., home delivery, was comparatively less popular. First, modern

approaches to increasing uptake such as home delivery require that they are targeted at the relevant group. In our case, this was young women – this group responded to the option of accessing condoms through a home delivery option. Thus, a program that leverages home-delivery should explicitly target young women. Second, we have suggestive evidence that the shop-coupon may have reduced the stress associated with buying condoms in a shop. By handing over a coupon, customers do not need to engage the shop attendant. This could suggest that one attractive policy for higher condom usage is to hand over coupons to households. As we had highlighted, the existing government run community health worker program in Pakistan does distribute condoms but has had challenges with consistency. Perhaps one easy way to overcome this is to simply have CHWs hand over coupons to households that enable them to acquire condoms from local shops, circumventing the logistical problem of stockouts faced by the CHW program.

Our study has three limitations. First, we do not have a pure control arm with which to compare the three treatments. In some sense the shop coupon treatment was intended to be a close comparator to business-as-usual ways to access condoms but, as we showed, we may have changed shop-based access. Therefore, we are not able to quantify whether any of the methods we did try generate a relative increase in uptake of condoms compared to business-as-usual ways of accessing condoms. Second, we measure coupon redemption but do not have direct measures of contraceptive use. We measured a short-term impact of our intervention in coupon redemption. A longer-term measure of the impact of our intervention would be actual fertility rates across our treatment arms. Third, our results pertain to a very specific context i.e., urban Pakistan. It is not clear that these results would apply to rural settings, for instance, which also have a large unmet need for contraceptives.

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Figures

Figure 1. Coupon Uptake: Delivery vs Shop Coupon

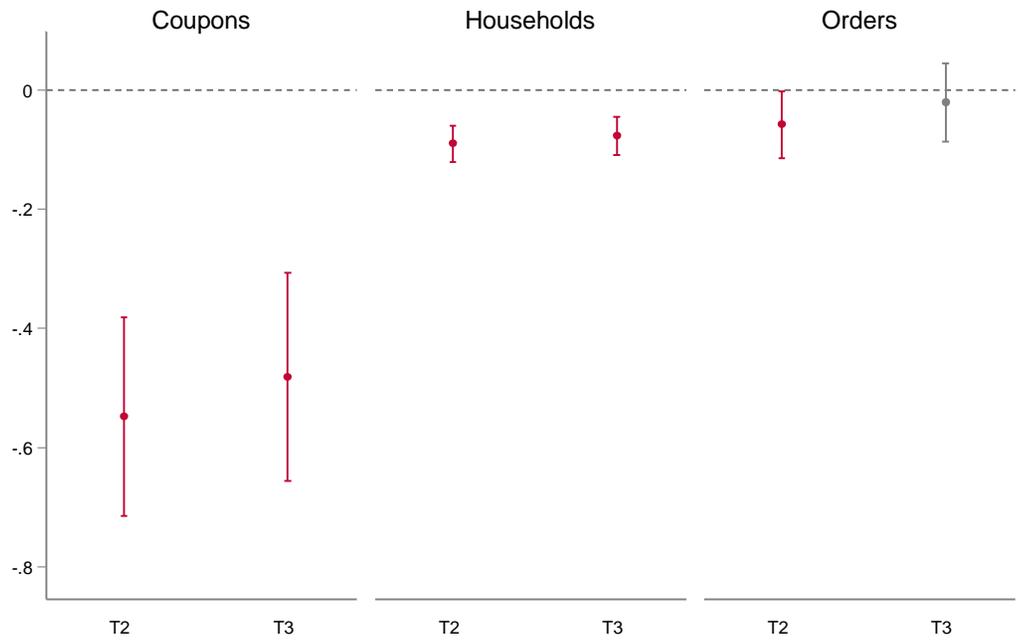
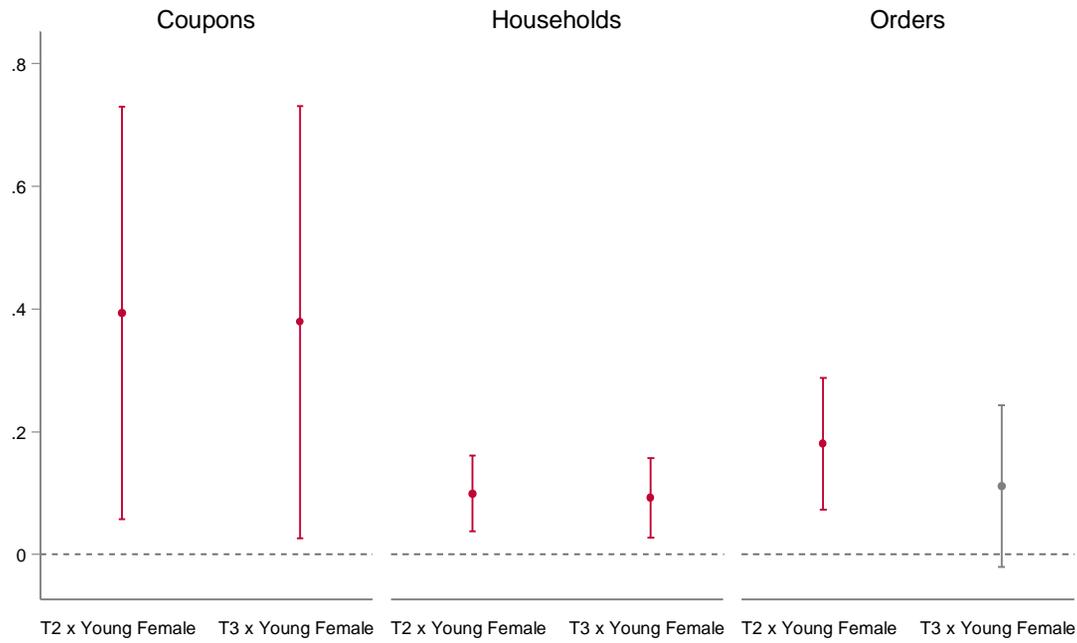


Figure 2. Coupon Uptake: Delivery vs Shop Coupon Interacted with Youth

(a) Young Female



(b) Young Male

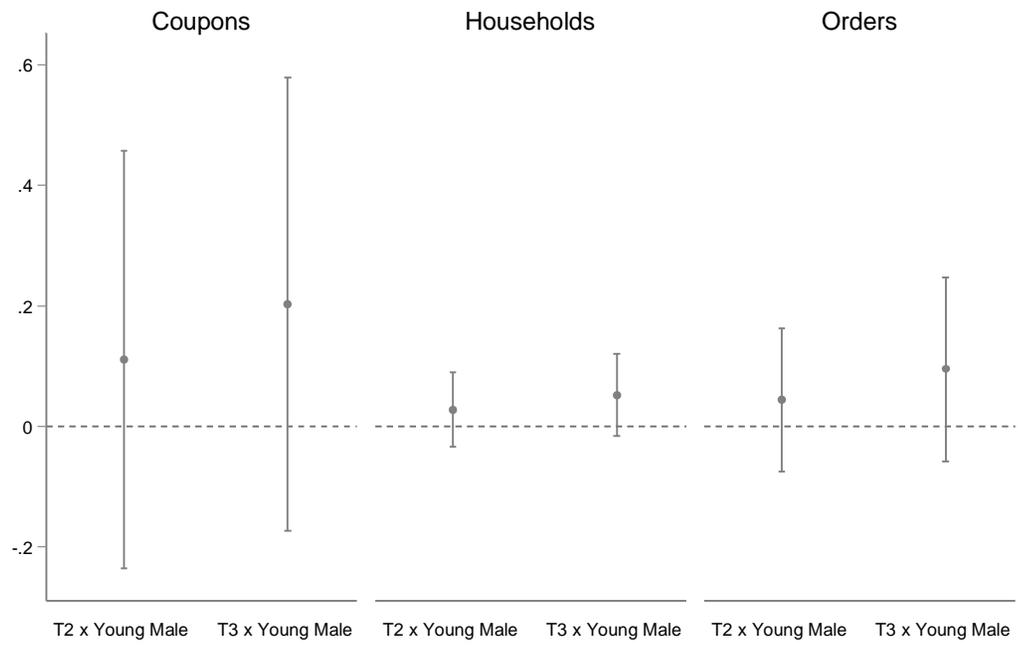
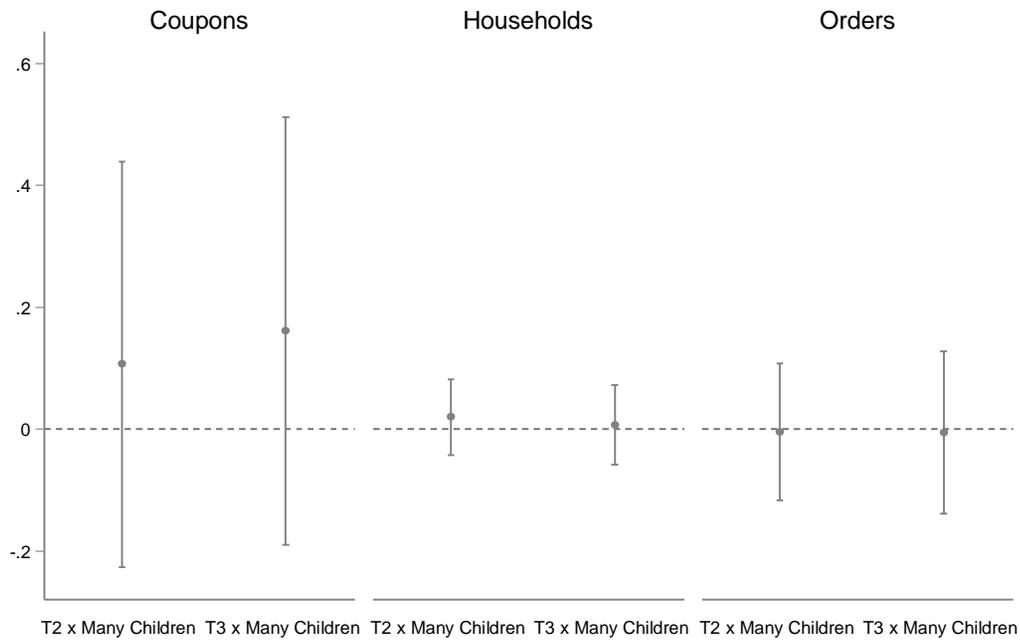


Figure 3. Coupon Uptake: Delivery vs Shop Coupon Interacted with Many Children

(a) Many Children (dichotomous)



(b) Number of Children (count)

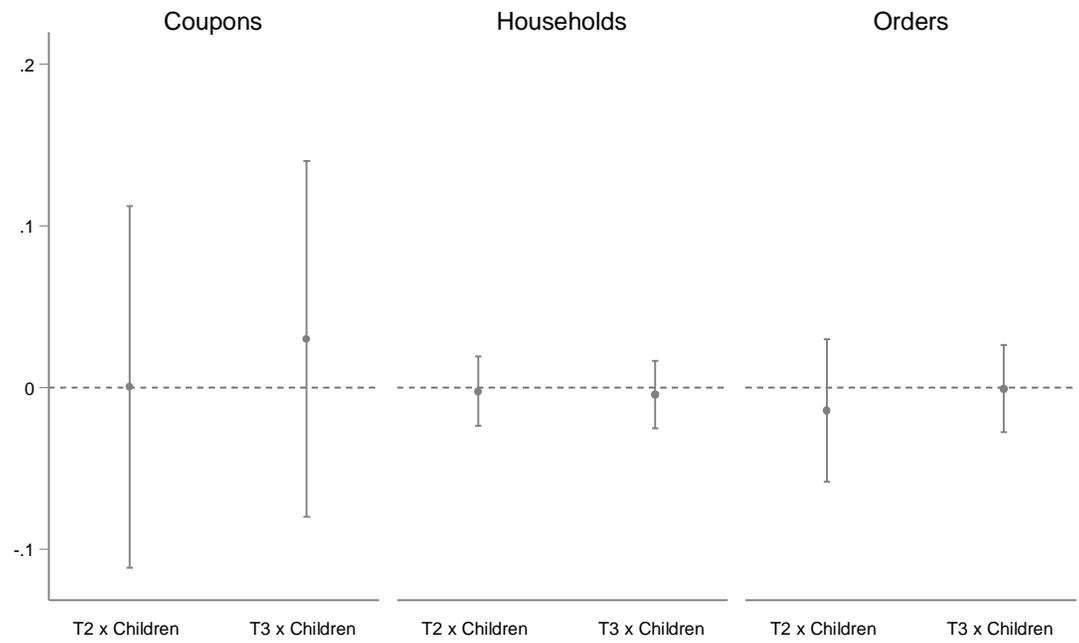
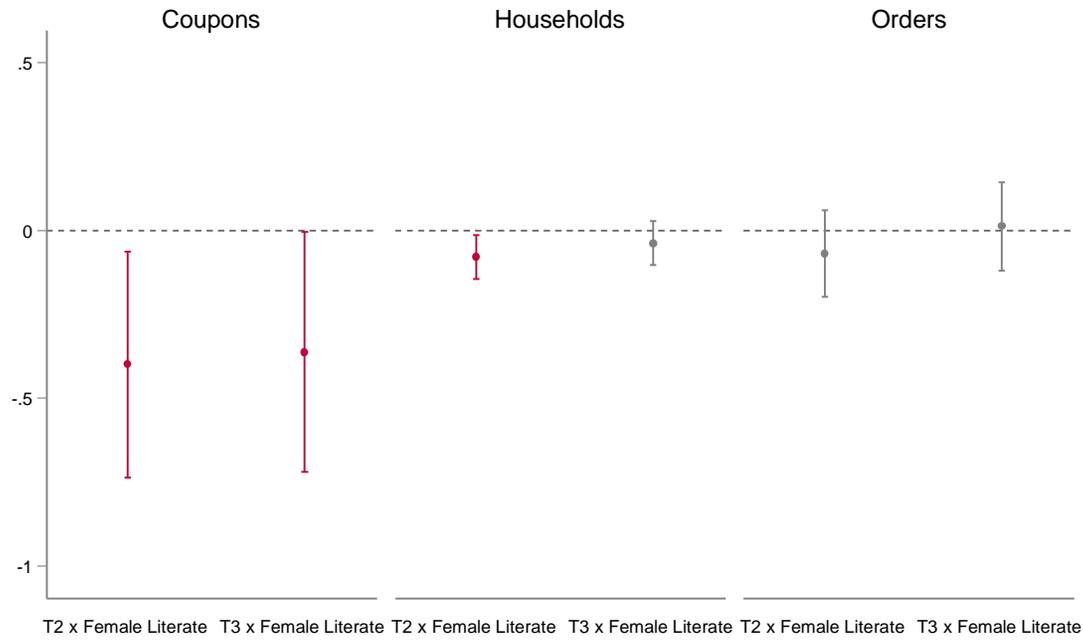


Figure 4. Coupon Uptake: Delivery vs Shop Coupon Interacted with Female Literacy

(a) Female Literacy



(b) Male Literacy

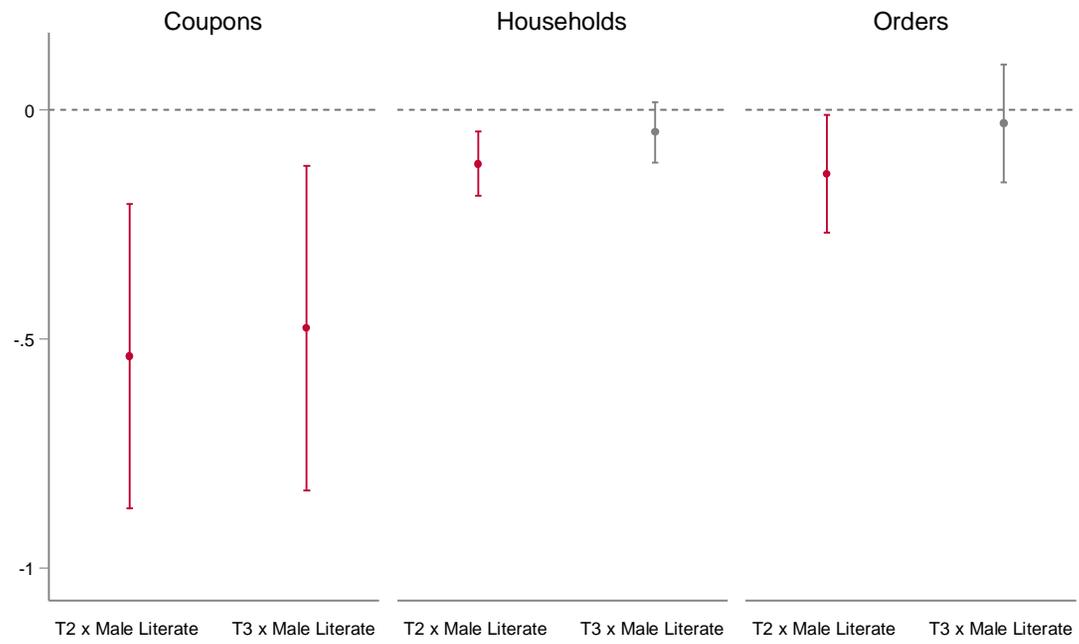
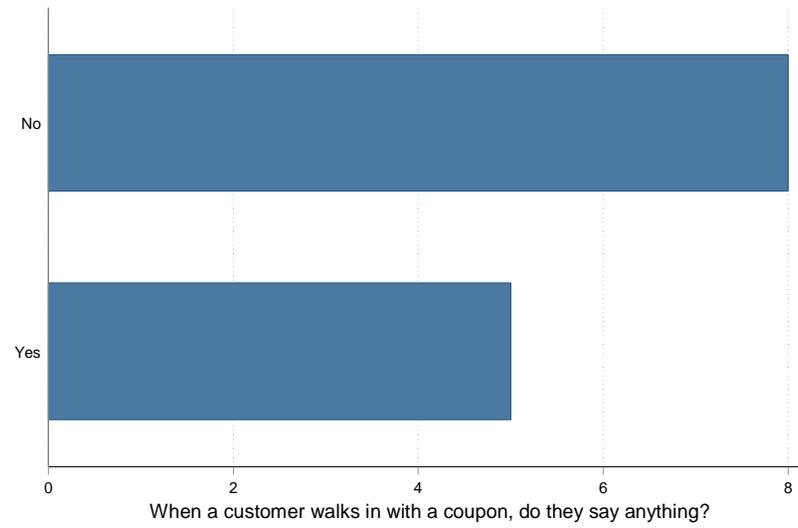


Figure 5. Shopkeeper-reported Level of Conversation

(a) Do customers say anything?



(b) Do shopkeepers say anything?

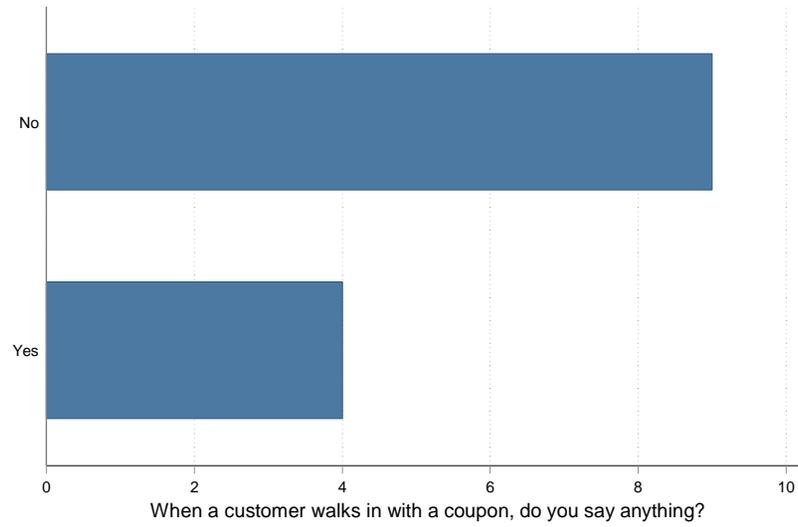


Figure 6. Use of Alternate Phrases by Customers Buying Condoms

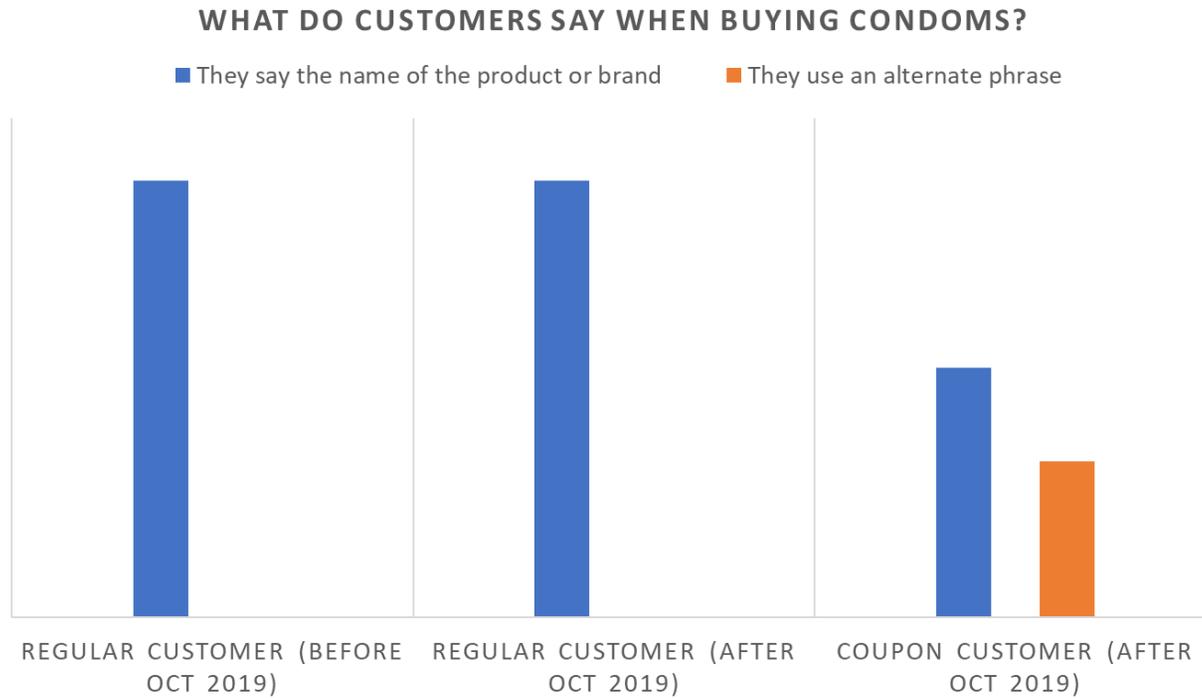
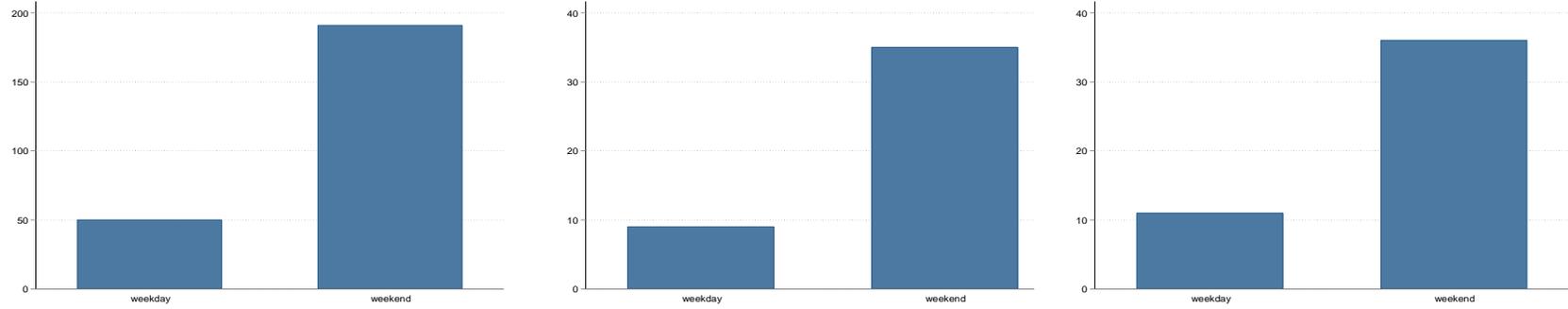
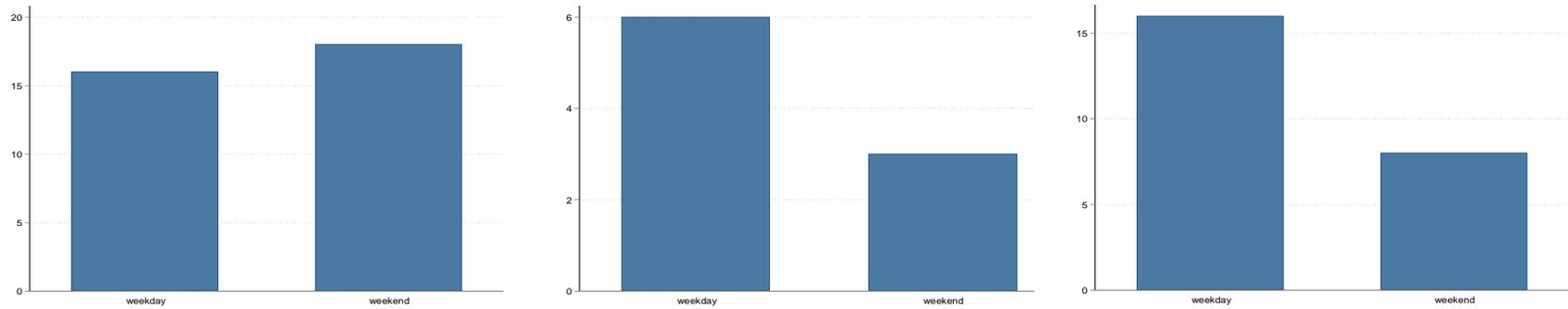


Figure 7. Coupon Redemption Timing Pattern

(a) Shop Coupons



(b) Discrete Conversation Home Delivery Coupons



(c) Explicit Conversation Home Delivery Coupons

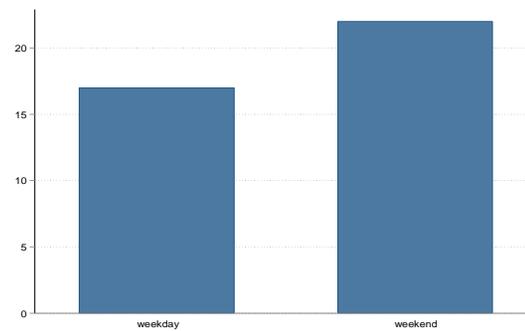
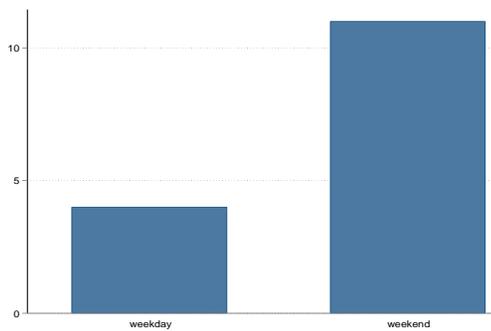
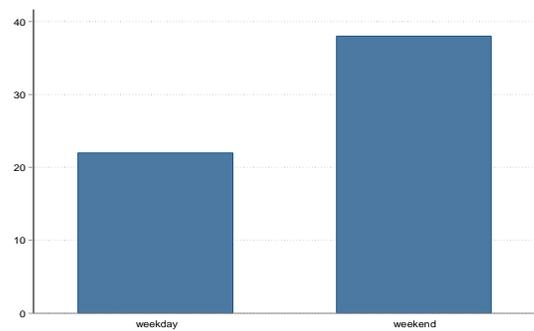
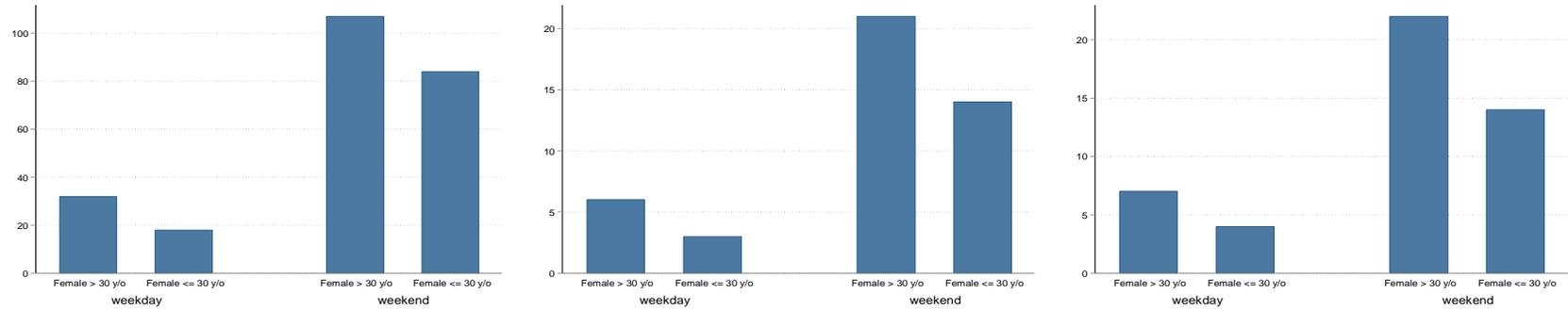
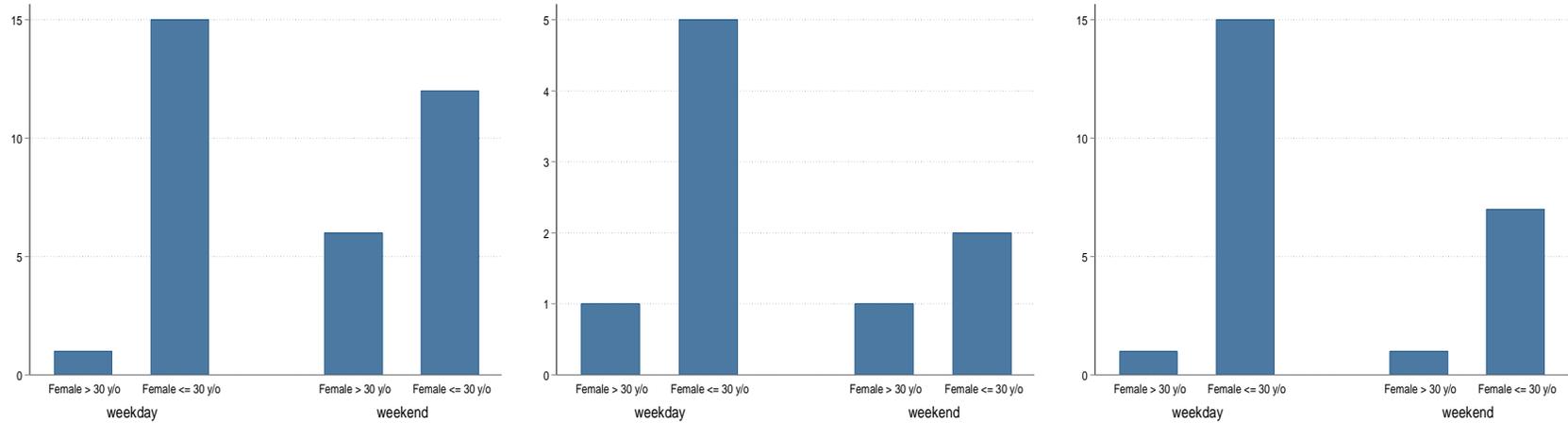


Figure 8. Coupon Redemption Timing Pattern

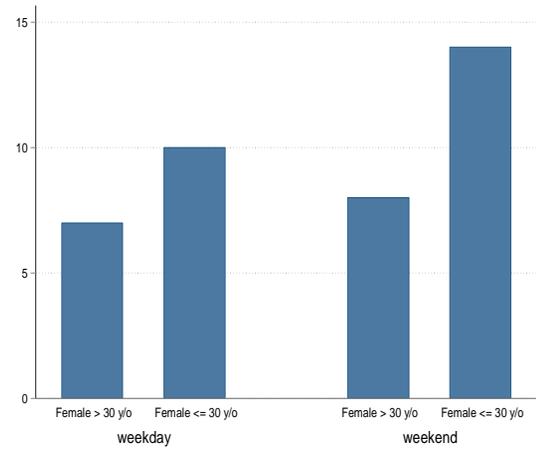
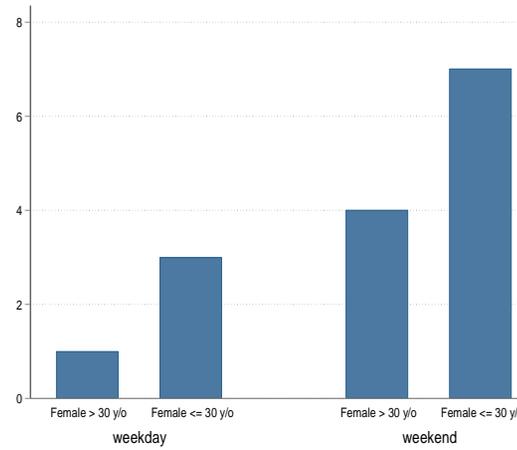
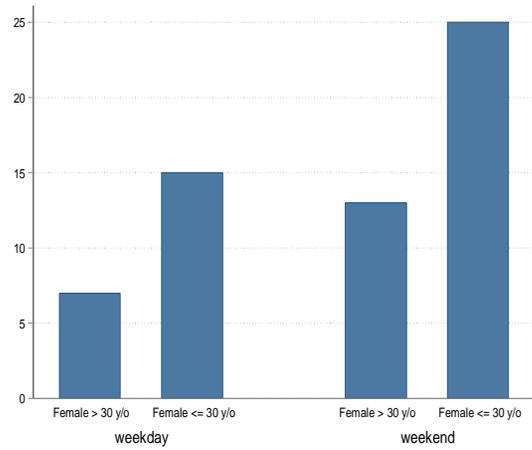
(a) Shop Coupons



(b) Discrete Conversation Home Delivery Coupons



(c) Explicit Conversation Home Delivery Coupons



Tables

Table 1. Balance Table

Variable	(1)		(2)		(3)		(4)		t-test	t-test	t-test
	N	Mean/S E	N	Mean/S E	N	Mean/S E	N	Mean/S E	Differenc e (1)-(2)	Differenc e (1)-(3)	Differenc e (2)-(3)
Total children	37 6	2.269 [0.071]	37 6	2.202 [0.075]	37 6	2.261 [0.070]	112 8	2.244 [0.042]	0.066	0.008	-0.059
Have at least one child	37 6	0.886 [0.016]	37 6	0.848 [0.019]	37 6	0.888 [0.016]	112 8	0.874 [0.010]	0.037	-0.003	-0.040
Father's age	37 6	36.005 [0.421]	37 6	35.952 [0.436]	37 6	36.617 [0.439]	112 8	36.191 [0.249]	0.053	-0.612	-0.665
Mother's age	37 6	31.199 [0.358]	37 6	31.120 [0.366]	37 6	31.609 [0.374]	112 8	31.309 [0.211]	0.080	-0.410	-0.489
Gender parity (0=same gender, 1=mixed gender/no children)	37 6	0.790 [0.021]	37 6	0.785 [0.021]	37 6	0.793 [0.021]	112 8	0.789 [0.012]	0.005	-0.003	-0.008
Age of youngest child	33 4	4.311 [0.220]	31 9	4.713 [0.227]	33 4	4.845 [0.229]	987	4.621 [0.130]	-0.402	-0.534	-0.132
Youngest child is a boy	33 4	0.524 [0.027]	31 9	0.539 [0.028]	33 4	0.527 [0.027]	987	0.530 [0.016]	-0.015	-0.003	0.012
Age of first child	33 3	8.678 [0.344]	31 9	9.283 [0.350]	33 4	9.387 [0.358]	986	9.114 [0.203]	-0.605	-0.709	-0.105
First child is a boy	33 3	0.462 [0.027]	31 9	0.539 [0.028]	33 4	0.515 [0.027]	986	0.505 [0.016]	-0.077	-0.053	0.024
Never used any FP method	37 6	0.777 [0.022]	37 6	0.782 [0.021]	37 6	0.731 [0.023]	112 8	0.763 [0.013]	-0.005	0.045	0.051
Have used condoms	37 6	0.210	37 6	0.191	37 6	0.221	112 8	0.207	0.019	-0.011	-0.029

		[0.021]		[0.020]		[0.021]		[0.012]			
Father is literate	37 6	0.963 [0.010]	37 6	0.971 [0.009]	37 6	0.981 [0.007]	112 8	0.972 [0.005]	-0.008	-0.019	-0.011
Mother is literate	37 6	0.949 [0.011]	37 6	0.939 [0.012]	37 6	0.955 [0.011]	112 8	0.948 [0.007]	0.011	-0.005	-0.016
Father is employed	37 6	0.981 [0.007]	37 6	0.984 [0.006]	37 6	0.984 [0.006]	112 8	0.983 [0.004]	-0.003	-0.003	0.000
Mother is employed	37 6	0.136 [0.018]	37 6	0.154 [0.019]	37 6	0.184 [0.020]	112 8	0.158 [0.011]	-0.019	-0.048	-0.029

The value displayed for t-tests are the differences in the means across the groups.

* indicates significance at the 1 percent critical level. None of the variables are significantly different at the 1% critical level.

Table 2. Coupon Uptake: Delivery vs Shop Coupon

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.55*** (0.10)	-0.53*** (0.10)	-0.09*** (0.02)	-0.09*** (0.02)	-0.06* (0.03)	-0.05 (0.03)
T3	-0.48*** (0.11)	-0.47*** (0.11)	-0.08*** (0.02)	-0.07*** (0.02)	-0.02 (0.04)	-0.01 (0.04)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.03	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13
Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.27	0.28	0.31	0.30	0.41	0.38

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Coupon Uptake: Delivery vs Shop Coupon Interacted with Youth

(a) Young Female

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.76*** (0.16)	-0.75*** (0.16)	-0.14*** (0.03)	-0.14*** (0.03)	-0.16*** (0.03)	-0.15*** (0.03)
T3	-0.68*** (0.16)	-0.68*** (0.16)	-0.13*** (0.03)	-0.13*** (0.03)	-0.08 (0.06)	-0.08 (0.06)
Female Young	-0.29 (0.19)	-0.24 (0.20)	-0.07** (0.03)	-0.06 (0.04)	-0.08** (0.04)	-0.06 (0.05)
T2 x Female Young	0.39* (0.20)	0.41** (0.21)	0.10*** (0.04)	0.10*** (0.04)	0.18*** (0.07)	0.19*** (0.07)
T3 x Female Young	0.38* (0.21)	0.40* (0.22)	0.09** (0.04)	0.10** (0.04)	0.11 (0.08)	0.12 (0.08)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.05	0.04	0.05	0.01	0.02
Mean	0.64	0.64	0.12	0.12	0.13	0.13

Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.28	0.30	0.25	0.27	0.14	0.13
p-value: T2 = T2 x Young Female	0.00	0.00	0.00	0.00	0.00	0.00
p-value: T3 = T3 x Young Female	0.00	0.00	0.00	0.00	0.14	0.12

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

(b) Young Male

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.58*** (0.13)	-0.57*** (0.13)	-0.10*** (0.02)	-0.09*** (0.02)	-0.07* (0.04)	-0.06 (0.04)
T3	-0.54*** (0.13)	-0.53*** (0.13)	-0.09*** (0.02)	-0.09*** (0.02)	-0.05 (0.05)	-0.04 (0.05)
Male Young	-0.16 (0.20)	-0.17 (0.22)	-0.04 (0.03)	-0.04 (0.04)	-0.05 (0.04)	-0.07 (0.05)
T2 x Male Young	0.11 (0.21)	0.12 (0.21)	0.03 (0.04)	0.03 (0.04)	0.04 (0.07)	0.04 (0.07)
T3 x Male Young	0.20 (0.23)	0.21 (0.23)	0.05 (0.04)	0.05 (0.04)	0.09 (0.09)	0.09 (0.09)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.03	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13

Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.58	0.56	0.70	0.67	0.66	0.63
p-value: T2 = T2 x Young Male	0.02	0.02	0.02	0.03	0.26	0.35
p-value: T3 = T3 x Young Male	0.02	0.02	0.01	0.02	0.24	0.28

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4. Coupon Uptake: Delivery vs Shop Coupon Interacted with Many Children

(a) Many Children (dichotomous)

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.59*** (0.14)	-0.58*** (0.14)	-0.10*** (0.02)	-0.10*** (0.02)	-0.06 (0.05)	-0.05 (0.05)
T3	-0.55*** (0.14)	-0.54*** (0.14)	-0.08*** (0.03)	-0.08*** (0.03)	-0.02 (0.05)	-0.01 (0.05)
Many Children	-0.09 (0.19)	-0.12 (0.20)	0.01 (0.03)	-0.00 (0.03)	0.02 (0.04)	0.00 (0.05)
T2 x Many Children	0.11	0.10	0.02	0.02	-0.00	-0.01

	(0.20)	(0.20)	(0.04)	(0.04)	(0.07)	(0.07)
T3 x Many Children	0.16	0.17	0.01	0.01	-0.01	-0.00
	(0.21)	(0.21)	(0.04)	(0.04)	(0.08)	(0.08)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.03	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13
Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.57	0.58	0.20	0.20	0.54	0.52
p-value: T2 = T2 x Many Children	0.03	0.03	0.03	0.04	0.62	0.66
p-value: T3 = T3 x Many Children	0.03	0.03	0.14	0.15	0.91	0.93

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

(b) Number of Children (count)

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.55*** (0.19)	-0.55*** (0.19)	-0.08*** (0.03)	-0.08** (0.03)	-0.03 (0.07)	-0.03 (0.07)
T3	-0.55*** (0.18)	-0.54*** (0.18)	-0.07** (0.03)	-0.07** (0.03)	-0.02 (0.05)	-0.02 (0.05)

Number of Children	-0.01 (0.06)	-0.02 (0.06)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)
T2 x Number of Children	0.00 (0.07)	0.00 (0.07)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.03)	-0.01 (0.03)
T3 x Number of Children	0.03 (0.07)	0.03 (0.07)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.02)	0.00 (0.02)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.03	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13
Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	1.00	0.97	0.36	0.34	0.93	0.89
p-value: T2 = T2 x #Children	0.03	0.03	0.06	0.06	0.90	0.87
p-value: T3 = T3 x #Children	0.02	0.02	0.15	0.15	0.75	0.74

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Coupon Uptake: Delivery vs Shop Coupon Interacted with Female Literacy

(a) Female Literacy

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
T2	-0.26 (0.16)	-0.25 (0.16)	-0.03 (0.03)	-0.03 (0.03)	-0.01 (0.07)	-0.01 (0.07)

T3	-0.22 (0.17)	-0.22 (0.18)	-0.05 (0.03)	-0.05 (0.03)	-0.03 (0.06)	-0.03 (0.06)
Female Literate	0.34* (0.19)	0.32* (0.19)	0.05 (0.03)	0.05 (0.03)	0.04 (0.04)	0.03 (0.05)
T2 x Female Literate	-0.40* (0.20)	-0.40** (0.20)	-0.08** (0.04)	-0.08** (0.04)	-0.07 (0.08)	-0.06 (0.08)
T3 x Female Literate	-0.36* (0.22)	-0.35 (0.22)	-0.04 (0.04)	-0.04 (0.04)	0.01 (0.08)	0.02 (0.08)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.03	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13
Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.75	0.79	0.55	0.49	0.78	0.79
p-value: T2 = T2 x Female Literate	0.68	0.66	0.52	0.48	0.67	0.69
p-value: T3 = T3 x Female Literate	0.70	0.72	0.87	0.84	0.75	0.72

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

(b) Male Literacy

VARIABLES	(1) Coupons	(2) Coupons	(3) Households	(4) Households	(5) Orders	(6) Orders
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T2	-0.14 (0.16)	-0.13 (0.16)	-0.00 (0.04)	0.00 (0.04)	0.05 (0.07)	0.05 (0.07)
T3	-0.11 (0.17)	-0.11 (0.18)	-0.04 (0.03)	-0.04 (0.03)	0.00 (0.06)	0.01 (0.06)
Male Literate	0.44** (0.18)	0.43** (0.18)	0.06* (0.03)	0.05 (0.04)	0.07** (0.04)	0.07* (0.04)
T2 x Male Literate	-0.54*** (0.20)	-0.55*** (0.20)	-0.12*** (0.04)	-0.12*** (0.04)	-0.14* (0.08)	-0.14* (0.08)
T3 x Male Literate	-0.48** (0.22)	-0.48** (0.22)	-0.05 (0.04)	-0.05 (0.04)	-0.03 (0.08)	-0.03 (0.08)
Observations	1,128	1,128	1,128	1,128	1,128	1,128
R-squared	0.04	0.05	0.04	0.04	0.00	0.01
Mean	0.64	0.64	0.12	0.12	0.13	0.13
Controls	NO	YES	NO	YES	NO	YES
p-value: T2 = T3	0.87	0.89	0.23	0.20	0.60	0.62
p-value: T2 = T2 x Male Literate	0.24	0.22	0.13	0.11	0.18	0.18
p-value: T3 = T3 x Male Literate	0.33	0.32	0.87	0.88	0.80	0.78

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Multiple Redemptions: Delivery vs Shop Coupon

VARIABLES	(1) 2 or more	(2) 2 or more	(3) 6 in a go	(4) 6 in a go
T2	-0.09*** (0.02)	-0.09*** (0.02)	-0.09*** (0.02)	-0.09*** (0.02)
T3	-0.08*** (0.02)	-0.08*** (0.02)	-0.08*** (0.02)	-0.08*** (0.02)
Observations	1,128	1,128	1,128	1,128
R-squared	0.04	0.04	0.04	0.04
Mean	0.11	0.11	0.10	0.10
Controls	NO	YES	NO	YES
p-value: T2 = T3	0.28	0.30	0.28	0.30

Robust standard errors in parentheses

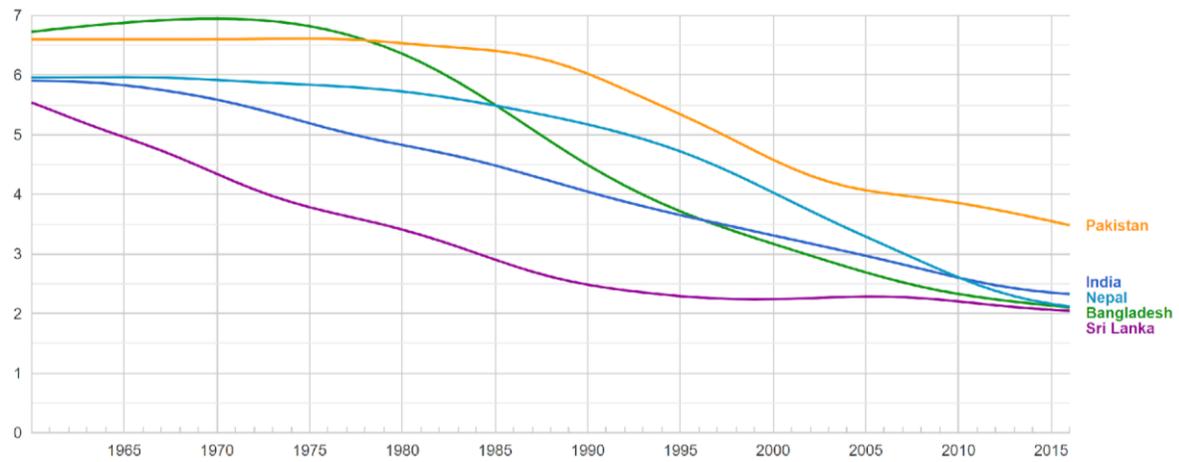
*** p<0.01, ** p<0.05, * p<0.1

Table 7. Service Usage by Women’s Age

	Women's Age	Shop		Discrete Delivery		Explicit Delivery	
		N	Mean	N	Mean	N	Mean
Coupons	16 - 19	6	0.00	13	0.00	6	0.00
	20 - 24	55	0.22	47	0.30	49	0.27
	25 - 29	102	0.71	95	0.07	90	0.22
	30 - 34	86	0.81	97	0.14	107	0.07
	35 - 39	67	0.75	72	0.00	54	0.11
	40 - 44	40	0.60	30	0.00	44	0.30
	45 - 49	20	0.65	22	0.00	25	0.04
Households	16 - 19	6	0.00	13	0.00	6	0.00
	20 - 24	55	0.04	47	0.09	49	0.06
	25 - 29	102	0.12	95	0.02	90	0.06
	30 - 34	86	0.15	97	0.04	107	0.02
	35 - 39	67	0.15	72	0.00	54	0.02
	40 - 44	40	0.10	30	0.00	44	0.07
	45 - 49	20	0.15	22	0.00	25	0.04
Orders	16 - 19	6	0.00	13	0.00	6	0.00
	20 - 24	55	0.04	47	0.30	49	0.16
	25 - 29	102	0.13	95	0.07	90	0.10
	30 - 34	86	0.17	97	0.04	107	0.07
	35 - 39	67	0.15	72	0.00	54	0.11
	40 - 44	40	0.10	30	0.00	44	0.18
	45 - 49	20	0.15	22	0.00	25	0.04

Appendix Figures

Figure A1. Regional Fertility Rates



Fertility rate in Pakistan and other regional countries. While most countries in the region saw rapid reductions in fertility and hover around the replacement level, Pakistan's fertility decline is markedly slower and much higher (3.6). [Data: World Bank. Visualization: Google]

Figure A2. Picture of Coupon



Figure A3. Informational Leaflets on Redeeming Coupons

(a) Shop redeemable coupon information leaflet



خاندانی منصوبہ بندی کے طریقے



مانع حمل کھانے والی گولیاں



پلاسٹک کا چھلہ (آئی یو سی ڈی)



مانع حمل ٹینک



ربڑ کا غلاف (کنڈوم)



ایمرجنسی مانع حمل گولیاں



نس بندی (مرد کا مانع حمل اپریشن)



تل بندی (عورت کا مانع حمل اپریشن)



ہمارے ہیلتھ ورکر نے آپ کو کوپن فراہم کیے ہیں۔
آپ ان کوپن کے ذریعے اپنی قریبی منظور شدہ دوکان
سے مفت کنڈوم حاصل کر سکتے ہیں۔

خاندانی منصوبہ بندی کے متعلق مشورے معلومات اور خدمات کیلئے
رابطہ کریں فیملی ہیلتھ ہسپتال

فیملی ہیلتھ ہسپتال 52-53 سوک سنٹر ڈی بلاک

جوہر ٹاؤن لاہور۔ فون نمبر 35172565-35202689

راہنما فیملی پلاننگ ایسوسی ایشن آف پاکستان



(a) Discrete conversation phone redeemable coupon information leaflet



خاندانی منصوبہ بندی کے طریقے



مانع حمل کھانے والی گولیاں



پلاسٹک کا چھلہ (آئی یوسی ڈی)



مانع حمل ٹیکہ



ربڑ کا غلاف (کنڈوم)



ایمرجنسی مانع حمل گولیاں



نس بندی (مرد کا مانع حمل اپریشن)



ئل بندی (عورت کا مانع حمل اپریشن)



ہمارے ہیلتھ ورکر نے آپ کو کوپن فراہم کیے ہیں۔
ان کوپن کے ذریعے آپ کسی بھی وقت اپنے گھر پر مفت ڈور کروا سکتے ہیں۔



پر کال کریں 0306 6502779



- 1) ہر کوپن کے اُپر ایک منفرد کوپن کوڈ لکھا ہوا ہے۔
- 2) ہمارے نمائندے کو کال کرے اور صرف کوپن کوڈ رجسٹر کروائیں۔
اور گھر کا پتہ بھی بتائیں
- 3) آپ کو کوپن کے متعلق کوئی معلومات فراہم کرنے کی ضرورت نہیں ہے۔



- 1) ہمارا نمائندہ آپ کو آپ کے گھر مفت کوپن مہیاں کر دے گا۔
- 2) کوپن کے پیک کو وصول کرتے وقت اپنا استعمال شدہ کوپن
ہمارے نمائندے کو دے دیں۔

خاندانی منصوبہ بندی کے متعلق مشورے معلومات اور خدمات کیلئے

رابطہ کریں فیملی ہیلتھ ہسپتال

فیملی ہیلتھ ہسپتال 52-53 سوک سنٹر ڈی بلاک

جوہر ٹاؤن لاہور۔ فون نمبر 35172565-35202689

راہنما فیملی پلاننگ ایسوسی ایشن آف پاکستان



(b) Explicit conversation phone redeemable coupon information leaflet

خاندانی منصوبہ بندی کے طریقے

 RAHNUMA

	مانع حمل کھانے والی گولیاں
	پلاسٹک کا چھلہ (آئی یوسی ڈی)
	مانع حمل ٹینک
	ریڑ کا غلاف (کنڈوم)
	ایمرجنسی مانع حمل گولیاں
	نس بندی (مرد کا مانع حمل اپریشن)
	تل بندی (عورت کا مانع حمل اپریشن)

ہمارے ہیلتھ ورکر نے آپ کو کوپن فراہم کیے ہیں۔
ان کوپن کے ذریعے آپ کسی بھی وقت اپنے گھر پر مفت ڈلور کروا سکتے ہیں۔

 پر کال کریں 0306 6502779

(1) ہر کوپن کے آپریٹک منفر کوپن کو رڈ لکھا ہوا ہے۔
(2) ہمارے نمائندے کو کال کرے اور صرف کوپن کو رڈ رجسٹر کروائیں۔
اور گھر کا پتہ بھی بتائیں۔
(3) ہمارے نمائندے کو کوپن کے آرڈر کی تفصیل بتائیں۔

 (1) ہمارا نمائندہ آپ کو آپ کے گھر مفت کوپن مہیا کر دے گا۔
(2) کوپن کے پیک کو وصول کرتے وقت اپنا استعمال شدہ کوپن ہمارے نمائندے کو دے دیں۔

خاندانی منصوبہ بندی کے متعلق مشورے معلومات اور خدمات کیلئے
رابطہ کریں فیملی ہیلتھ ہسپتال
فیملی ہیلتھ ہسپتال 53-52 سوک سنڈوی بلاک
جوہر ٹاؤن لاہور۔ فون نمبر 35172565-35202689

راہنما فیملی پلاننگ ایسوسی ایشن آف پاکستان

 RAHNUMA

Appendix Tables

Table A1. Sample Attrition

VARIABLES	(1) Attrition
T2	0.01 (0.02)
T3	-0.02 (0.02)
Observations	1,128
R-squared	0.00

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix: Example to Illustrate Variations to Outcome

The following example will help understand these variations. First, total coupon redemptions are all coupons redeemed per arm. In the example table below: Person-1 redeemed zero coupons, Person-2 redeemed five coupons (one coupon in Period-1 and four coupons in Period-3) and Person-3 redeemed four coupons (one coupon in Period-1 and three coupons in Period-2), for a total of nine coupons.

Second, we have total unique households that redeemed coupons. In our example, the total number of unique households that redeemed coupons is two out of the three; Person-1 does not redeem any coupons throughout while Person-2 and Person-3 do make orders.

The third and final measure is unique order events, which are the number of times orders were placed. In our example, we see that Person-1 has zero orders, Person-2 has two orders (one order of one coupon in Period-1 and one order of four coupons in Period-3) and Person-3 also has two orders (one order of one coupon in Period-1 and one order of three coupons in Period-2), for a total of four order events. Thus, there are three variations that emerge from our basic measure of coupon redemption.

Period	Coupons Redeemed		
	Person-1	Person-2	Person-3
1	0	1	1
2	0	0	3
3	0	4	0

